Predictors of attitudes toward cosmetic surgery among U.S. and Colombian college women: the roles of eating behaviors and demographic variables*

Predictivos de las actitudes hacia la cirugía cosmética entre mujeres universitarias colombianas y estadounidenses: los roles de las conductas de alimentación y de las variables demográficas

Preditivos das atitudes em relação à cirurgia cosmética entre mulheres universitárias colombianas e estadunidenses: os papeis das condutas de alimentação e das variáveis demográficas

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Abstract

Cross-cultural studies on eating behaviors and related constructs can identify cultural and social factors that contribute to eating disorder symptomatology. Eating disorders (EDs) are a major cause for concern in the U.S., and recent studies in Colombia have shown growing rates among their female population. In addition, cosmetic surgery procedures have been increasing rapidly in both the U.S. and Colombia, and preliminary research suggests a positive relation between disordered eating and endorsement of plastic surgery. In samples of college women from Colombia and the U.S., we investigated patterns of association between disordered eating variables and cosmetic surgery acceptance. Our approach utilized separate analyses for various subcomponents of disordered eating (to determine their unique associations with cosmetic surgery acceptance) while adjusting for potentially relevant covariates and examining cross-cultural patterns. Participants were students at an urban, public college in the U.S. (n=163) and an urban, private college in Colombia (n=179). Overall, our findings suggested that participants from Colombia with greater disordered eating were more likely to endorse cosmetic surgery for social reasons, while those from the U.S. were more likely to consider undergoing cosmetic surgery for personal reasons. Differing findings between the two samples may be due to cultural and social factors, which we delineate. These findings also have potential implications for presurgical counseling of cosmetic surgery candidates.

Keywords: attitudes, cosmetic surgery, eating disorders, women, United States of America, Colombia.

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Resumen

Los estudios transculturales sobre las conductas relacionadas con la alimentación pueden identificar los factores culturales y sociales que contribuyen a la sintomatología de los trastornos alimentarios (TCA). Los TCA son causa de preocupación en los Estados Unidos, y estudios recientes en Colombia han mostrado tasas de crecimiento entre la población femenina. Además, los procedimientos de cirugía estética se han incrementado rápidamente en los Estados Unidos y Colombia, e investigaciones preliminares sugieren una relación positiva entre los TCA y el respaldo de la cirugía plástica. En muestras de mujeres universitarias de Colombia y los Estados Unidos, se han investigado los patrones de asociación entre los trastornos de la alimentación y la aceptación de la cirugía cosmética. Nuestro enfoque utilizó análisis separados para los subcomponentes del consumo alimentario desordenado (para determinar asociaciones únicas con la aceptación de cirugía estética), ajustando covariables potencialmente pertinentes y examinando patrones transculturales. Los participantes fueron estudiantes de un colegio público urbano en los Estados Unidos (n = 163) y de un colegio privado urbano de Colombia (n = 179). En general, nuestros resultados sugieren que los participantes de Colombia con valores más altos en medidas del consumo alimentario desordenado eran más propensos a apoyar la cirugía estética por razones sociales, mientras que los de los Estados Unidos eran más propensos a considerar el someterse a la cirugía estética por razones personales. Resultados divergentes entre las dos muestras puede ser debido a factores culturales y sociales, que delinearemos. Estos resultados también tienen implicaciones potenciales para el asesoramiento prequirúrgico de los candidatos de cirugía estética.

Palabras clave: actitudes, cirugía cosmética, desórdenes de la alimentación, mujeres, Estados Unidos de América, Colombia.

Resumo

Os estudos transculturais sobre as condutas relacionadas com a alimentação podem identificar os fatores culturais e sociais que contribuem à sintomatologia dos transtornos alimentares (TCA). Os TCA são causa de preocupação nos Estados Unidos, e estudos recentes na Colômbia têm mostrado taxas de crescimento entre a população feminina. Além disso, os procedimentos de cirurgia estética se têm incrementado rapidamente nos Estados Unidos e na Colômbia, e pesquisadores preliminares sugerem uma relação positiva entre os TCA e o respaldo da cirurgia plástica. Em amostras de mulheres universitárias da Colômbia e dos Estados Unidos, se têm investigado os patrões de associação entre os transtornos da alimentação e a aceitação da cirurgia cosmética. Nosso enfoque utilizou análises separadas para os subcomponentes do consumo alimentar desordenado (para determinar associações únicas com a aceitação da cirurgia estética), ajustando covariáveis potencialmente pertinentes e examinando patrões transculturais. Os participantes foram estudantes de uma escola pública urbana nos Estados Unidos (n = 163) e de uma escola privada urbana da Colômbia (n = 179). Em geral, nossos resultados sugerem que os participantes da Colômbia com valores mais altos em medidas do consumo alimentar desordenado eram mais propensos a apoiar a cirurgia estética por razões sociais, enquanto os dos Estados Unidos eram mais propensos a considerar submeter-se à cirurgia estética por razões pessoais. Os resultados divergentes entre as duas amostras podem ser devido a fatores culturais e sociais, que delinearemos. Estes resultados também têm implicações potenciais para o assessoramento pré-cirúrgico dos candidatos de cirurgia estética.

Palavras chave: atitudes, cirurgia cosmética, desordens da alimentação, mulheres, Estados Unidos da América, Colômbia.

Introduction

Cross-cultural studies on eating behaviors can identify cultural and social factors that contribute to eating disorder (ED) symptomatology. Previous research has found that EDs and disordered eating behaviors are commonly observed in Westernized nations (Jung & Forbes, 2006; Rathner *et al.*, 1995). Prevalence rates of EDs, and their risk factors such as disordered eating behaviors, have increased in the United States (U.S.) in recent decades and are a major health concern among adolescent and young adult women (Tylka & Subich, 2002a). Recent studies in Colombia ha-

ve also shown growing rates of EDs among their female population (Angel, Vásquez, Chavarro, Martínez & García, 1997; Castrillón, Luna, & Aguirre-Acevedo, 2007; Castrillon, Luna, Avendaño and Pérez-Acosta, 2007). Fandiño, Giraldo, Martínez, Aux, and Espinosa (2007) observed that 39.7% of university students in Cali, Colombia showed a high probability of suffering from an ED at some time in their lives. Furthermore, in an ED prevalence study conducted at Universidad Nacional de Colombia in Bogota from July 1994 through December 1995, the prevalence of EDs was comparable to numbers reported in developed nations (Angel, Vásquez, Chavarro, Martínez & García, 1997).

Because EDs can have a profound negative impact on individuals' physical and psychological well-being and overall quality of life, a wide variety of biological, psychological, and sociocultural risk factors have been investigated (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Keel & Herzog, 2004; Stice, 2002). Although extant research is limited, recent research in the U.S. suggests that disordered eating behaviors may be associated with a general acceptance of cosmetic surgery. For example, Mazzeo, Trace, Mitchell, and Gow (2007) found that cosmetic surgery reality television contributed to higher levels of thin ideal internalization and lower self-esteem. These findings led the authors to suggest that cosmetic surgery reality television may contribute to disordered eating attitudes and behaviors (Mazzeo *et al.*, 2007). This may be due to shared features between disordered eating and the endorsement of cosmetic surgery such as body dissatisfaction, media exposure, perfectionistic traits, and cultural influences. In Colombian culture, beauty pageants feature women with physical attributes considered the most beautiful among Colombian women (Streicker, 1995). Some pageant contestants undergo cosmetic surgery to achieve the Colombian beauty ideal (Taussig, 2008), in turn increasing their chances of being crowned. This common practice may lead to an increase in overall acceptance of cosmetic surgery as a form of self-improvement among Colombian women.

Many college students hold favorable dispositions toward cosmetic surgery (Sarwer *et al.*, 2003), but this does not imply that they will actually undergo surgical procedures. Using the Acceptance of Cosmetic Surgery Scale (ACSS; Henderson-King, & Henderson-King, 2005), Swami, Chamorro-Premuzic, Bridges, and Furnham (2009) examined individual differences among U.S. college students that might predict the endorsement of a cosmetic surgery procedure. Consistent with previous findings (Brown *et al.*, 2007; Frederick, Lever & Peplau, 2007; Swami, *et al.*, 2008), women were more likely to consider cosmetic surgery than men. Additionally, lower self-ratings of physical attractiveness increased the likelihood of considering cosmetic surgery. The results also suggested that individuals who tended to conform to societal pressures might be more likely to change their appearance to avoid criticism.

Sarwer, Cash, Magee, Williams, Thompson, Roehrig *et al.* (2003) investigated experiences with and attitudes toward cosmetic surgery in a female college population at six U.S. universities. Past experiences with cosmetic surgery as well as long term and current views about cosmetic surgery were examined. The researchers also explored the relationship between body image and attitudes toward cosmetic surgery. Results indicated that 5% of participants had undergone a cosmetic surgery procedure, while 68% reported knowing someone who had undergone a cosmetic surgery procedure (Sarwer *et al.*, 2003). Also, 40% of participants reported that they would consider undergoing surgery in the near future, 48% would consider it in middle age, and 33% in their 60s. Participants generally held favorable attitudes toward cosmetic surgery. For example, 43% of participants agreed with the statement "people should do whatever they want to look good" while 32% disagreed (neutral responses were excluded). Romantic partners and financial considerations did not have a major influence on participants' interest in surgery. Less than 30% of participants reported that they would have cosmetic surgery if money was not an issue and only 5% reported that they would have surgery on the request of a romantic partner. In addition, there were significant positive correlations between attitudes toward cosmetic surgery responses and investment in appearance, the mass media's

influence on body image, and concern about being overweight (Sarwer *et al.*, 2003).

At present, it is unclear how EDs or disordered eating behavior and endorsement of cosmetic surgery procedures are associated, though available research suggests a relationship between positive attitudes toward cosmetic surgery and concern with appearance and being overweight (Sarwer *et al.*, 2003). While some research in this area has been conducted in the U.S. (Losee, Serletti, Kreipe, Caldwell, 1997; Mazzeo et al., 2007; McIntosh, Britt, & Bulik, 1994; Yates, Shisslak, Allender & Wolman, 1988), to our knowledge no studies have directly investigated the relation between disordered eating and acceptance of cosmetic surgery in Colombia despite strong pressures to conform to beauty ideals and compete in national pageants. Therefore, the primary goal of the present study was to explore the extent to which disordered eating behaviors predict acceptance and endorsement of cosmetic surgery in both U.S. and Colombian women. Specifically, we explored whether there were different patterns of association between disordered eating variables and cosmetic surgery acceptance among these groups. We sampled only women as they have traditionally shown a greater acceptance of cosmetic surgery (Brown, Furnham, Glanville, & Swami, 2007; Frederick, Lever, & Peplau, 2007; Swami, Arteche, Chamorro-Premuzic, Furnham, Stieger, Haubner *et al.*, 2008) and higher prevalence of EDs (National Eating Disorders Association, 2009) as compared to men. Furthermore, we sampled college students, as they are known to be highly vulnerable to experimentation with new dietary methods and exposure to western media ideals (Drewnowski & Popkin, 1997; Pan, Dixon, Himburg & Huffman, 1999), and will even try unproven approaches to weight loss such as purchasing weight-loss products advertised in spam e-mail (Fogel & Shlivko, 2010).

We utilized separate analyses for various subcomponents of disordered eating to determine their unique associations with cosmetic surgery acceptance in our Colombian and U.S. samples. We also included additional, potentially relevant variables including body mass index (BMI), as higher BMI has consistently been shown to be associated with higher levels of disordered eating (Clinton, Button, Norring & Palmer, 2004), religious affiliation, as previous research has suggested that for some, disordered eating behaviors may be associated with religious observance (Kim, 2007; Smith, Richards, & Maglio, 2004; Weinberger-Litman, Rabin, Fogel, & Mensinger, 2008), and relationship status, as research is mixed on whether living with a partner increases (Bussolotti, Fernandez-Aranda, Solano, Jimenez-Murcia, Turon & Vallejo, 2002) or decreases (Soest & Wichstrom, 2006) ED symptomatology. We hypothesized that disordered eating symptomatology as measured by the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), and Three-Factor Eating Questionnaire (TFEQ; Stunkard & Messick, 1985) would predict a greater acceptance of cosmetic surgery as measured by the Acceptance of Cosmetic Surgery Scale (ACSS; Henderson-King & Henderson-King, 2005). We did not make hypotheses regarding specific subcomponents of disordered eating (e.g., dieting, restraint, bulimic tendencies) or their relation to cosmetic surgery endorsement, as there was no extant research to guide such predictions. This exploratory study was the first to investigate disordered eating and related variables in relation to acceptance of cosmetic surgery using a cross-cultural research design.

Materials and Methods

Participants and Procedure

Participants included 342 female undergraduate students in two university settings. This did not include the data from participants over age 35 that were removed from all analyses to allow for a similar young adult age profile (1 student was excluded from the Colombia sample and 5 from the U.S. sample). Prior to completing the questionnaires, both student samples were provided with instructions regarding the nature and duration of the study and the informed consent process. Participation was voluntary and confidential and all data were collected as part of two IRB-approved protocols that were setting specific. All participants provided written informed consent and the study took approximately 45 minutes to complete.

Data collection for the U.S. sample took place in a psychology laboratory, in various undergraduate classrooms, and at popular places around the campus. For their participation, students received credit in partial fulfillment of an introductory psychology class requirement or extra credit from their course instructors. For participants in Colombia, the questionnaires were administered in classrooms at the beginning or end of the class period. These students received instructions in Spanish by the primary investigator. Additional data were collected by approaching students in the school cafeteria and library. The Colombian students were not compensated for their participation.

Participants provided basic demographic information and completed measures of disordered eating and acceptance of cosmetic surgery. For the purpose of the present study, a group of bilingual students from the U.S. university translated the demographic sheet, Acceptance of Cosmetic Surgery Scale (ACSS; Henderson-King & Henderson-King, 2005), and the Three-Factor Eating Questionnaire (TFEQ; Stunkard & Messick, 1985). One student performed the initial translation of the questionnaires into Spanish (as recommended by Brislin, 1970), and a second student independently back translated the Spanish questionnaires into English. Lastly, a committee of two students assisted the primary investigator with revisions of the Spanish questionnaire. Revisions were made to the Spanish protocol to achieve semantic equivalence with the original English version. All independent translators were unfamiliar with the nature of the study and did not participate beyond the translation/back translation process. The Eating Attitudes Test (EAT-26; Garner & Garfinkel, 1979) used in this study was previously translated to Spanish and validated in a Colombian sample (Castrillon Moreno, Luna, & Aguirre-Acevedo, 2007).

Measures and Scoring

Demographics

Participants provided information about their age, sex, race/ethnicity (e.g., Black, White, Native American, Pacific Islander, Asian, Hispanic), religious orientation (e.g., Muslim, Catholic, Christian, Jewish, Hindu, Protestant, or Other), and relationship status (Single, Married, Divorced, Living in a marriage-like relationship). For our analyses, race/ethnicity comparisons were not performed as all participants from Colombia identified as Hispanic; religion was dichotomized as Catholic versus all the other categories, and relationship status was dichotomized as single/divorced versus all the other categories. Additionally, participants provided their weight (pounds for U.S. and kilograms for Colombia), and height (inches for U.S. and centimeters for Colombia). Height and weight values for the Colombian participants were converted to inches and pounds. Body Mass Index (BMI) was calculated using self reported weight and height using the following formula: (703*weight [in lbs.]/height [in inches]^2).

Acceptance of Cosmetic Surgery Scale (ACSS; Henderson-King & Henderson-King, 2005)

The ACSS is a 15-item scale that measures the acceptance of cosmetic surgery for social and intrapersonal reasons (Henderson-King & Henderson-King, 2005). The ACSS has three subscales: (1) Intrapersonal, which assesses whether an individual would have cosmetic surgery for its self-oriented benefits, e.g., "Cosmetic surgery can be a big benefit to people's self-image;" (2) Social, which measures whether an individual would undergo cosmetic surgery for social reasons, e.g., "I would seriously consider having cosmetic surgery if my partner thought it was a good idea;" and (3) Consider, which assesses whether an individual would consider undergoing surgery for general reasons under various scenarios, e.g., "If I could have a surgical procedure done for free I would consider trying cosmetic surgery." Responses were reported on a 7-point scale (1 = strongly disagree, 7 = strongly agree), with higher scores indicative of greater endorsement of cosmetic surgery. Subscale scores were computed by taking the mean of items associated with each subscale. A total score referred to as Acceptance was computed by calculating the mean across all items. The ACSS has demonstrated high internal consistency, and Cronbach's alpha

across four validation studies ranged from .84 to .92 (Henderson-King, & Henderson-King, 2005). As noted above, the ACSS was translated into Spanish for purposes of the current study and scored in the same manner as the English version.

Eating Attitudes Test (EAT-26; Garner & Garfinkel, 1979)

The abbreviated EAT-26 was used to assess disordered eating and eating disorder symptomatology in the U.S. sample (Garner & Garfinkel, 1979). This measure is considered an effective screening tool in clinical and non-clinical populations (Mazzeo, 1999). The EAT consists of 26 items and three subscales of Dieting, Bulimia/Food Preoccupation, and Oral Control. Sample items include, "I am terrified about being overweight" (Dieting subscale); "I have the impulse to vomit after meals" (Bulimia subscale); and "I avoid eating when I am hungry" (Oral Control subscale). Participants rated responses on a continuous scale ranging from 1 (never) to 6 (always). Items rated as "never," "rarely," and "sometimes" were given a score of 0, whereas, responses of "often," "usually," and "always" were given a 1, 2, or 3, respectively. Higher scores are indicative of a greater presence of disordered eating and/or eating disorder symptomatology. The EAT-26 has good test-retest reliability, and high internal consistency (Carter & Moss, 1984; Garner, Olmstead, Polivy, & Garfinkel, 1984). The abbreviated Eating Attitudes Test modified (EAT-26-M) is the Spanish version of the EAT-26 used with the Colombian sample, and previously validated in a Colombian population (Castrillon Moreno, Luna, & Aguirre-Acevedo, 2007). Scoring procedures for the EAT-26-M were the same as those used for the EAT-26 for the U.S. sample (Garner & Garfinkel, 1979).

Three Factor-Eating Questionnaire (TFEQ; Stunkard & Messick, 1985)

The TEFQ is a 51-item measure of eating behaviors that consists of three subscales. The Restraint subscale consists of 21 items that measure restrictive eating as well as the intention to restrain eating and includes items such as, "I deliberately take small helpings as a means of controlling my weight." The Disinhibition subscale consists of 16 items that measure the ability to stop eating and to resist emotional or social cues when no longer hungry and includes items such as, "While on a diet, if I eat food that is not allowed, I often then splurge and eat other high calorie foods." The Hunger subscale, consists of 14 items that measure the ability to cope with the sensation of hunger and includes items such as, "I am always hungry enough to eat at any time." The first 36 items are true/false responses and the remaining items are answered with Likert-type scales with responses ranging from rarely (1) to always (4), or easy (1) to difficult (4). Each of the 51 items was scored as either 0 or 1; accordingly, total scores ranged from 0 to 51 with higher scores indicative of greater dietary disorder. The scale has demonstrated good validity and reliability. Cronbach's alpha for the Restraint, Disinhibition and Hunger subscales have been reported as .93, .91, and .85, respectively (Stunkard & Messick, 1985). As noted above, the TFEQ was translated into Spanish for purposes of the current study and scored in the same manner as the English version.

Statistical Analyses

Descriptive statistics were calculated for all variables. Multiple regression analyses were used to determine the variables associated with the outcome of acceptance of cosmetic surgery. Six models were conducted for each of the three ACSS subscales and the total scale for both the U.S. and Colombia. Model 1 consisted of the independent variables of demographics (age, BMI, relationship status, religious orientation) and the Dieting subscale of the EAT. Model 2 consisted of the demographic variables of those in model 1 plus the Bulimia subscale of the EAT. Model 3 consisted of the demographic variables of those in model 1 plus the Oral Control subscale of the EAT. Model 4 consisted of the demographic variables of those in model 1 plus the Disinhibition subscale of the TFEQ. Model 5 consisted of the demographic variables of those in model 1 plus the Restraint subscale of the TFEQ. Model 6 consisted of the demographic variables of

those in model 1 plus the Hunger subscale of the TFEQ. SPSS version 18 was used for all analyses. When data were missing, cases were deleted listwise. This produced some variation in the number of cases used in different analyses.

Results

Descriptive Statistics

Participants from Colombia were 179 female, undergraduate students from an urban, private university in the city of Cartagena, ages 18 - 34 (M = 21.0, SD = 2.6). Participants from the U.S. were 163 female, undergraduate students from an urban, public university in New York City ages 19 - 35 (M = 22.7, SD = 3.6). BMI ranged from 16 - 33 (M = 21.1, SD = 3.1) for the Colombian participants, and ranged from 16.6 - 43.1 (M = 24.0, SD = 5.1) for the U.S. sample. The U.S. sample was diverse with 54% of participants identifying themselves as White, 19% as Black, 11% as Asian, and 15% as "other" or "do not know." Additionally, 13% of participants identified themselves as Hispanic. Given the demographic composition of the region, all participants from Colombia were considered Hispanic. Seventeen percent of U.S. participants were either married or living together, while 38% of Colombia participants fit this criterion. In terms of religious orientation, 70% of Colombia participants identified themselves as Catholic, while only 21% of U.S. participants identified themselves as Catholic.

Demographic Analyses

As shown in Table 1, with regard to demographic variables, ANOVA showed that there was significantly greater mean age and BMI among those from the U.S. as compared to those from Colombia. Pearson chi-square analyses showed a greater percentage of those single/divorced from the U.S. and a greater percentage indicating their religion as not Catholic. With regard to the EAT subscales, ANOVA showed that there were significantly greater mean scores among those from the U.S. on the Dieting subscale while Oral Control subscale mean scores were significantly lower among those from the U.S. With regard to the TFEQ, both the Disinhibition and Restraint subscale mean scores were significantly greater among those from the U.S. than those from Colombia. With regard to the ACSS, ANOVA showed that mean scores for the U.S. sample were significantly lower for the total Scale as well as the Social and Consider subscales as compared to the Colombian sample.

Multiple Regression Analyses

Table 2 shows linear regression analyses for the ACSS Total scale. Among those from the U.S., greater Dieting, Bulimia, and Disinhibition were

Table 1. Demographic analyses

Variable	*U.S. M (SD) or % (Frequency) (n=163)*	*Colombia M (SD) or % (Frequency) (n=179)*	*p-value*
Age	22.67 (3.63)	21.0 (2.58)	<0.001
BMI	23.99 (5.09)	21.14 (3.09)	<0.001
Relationship status			
Married/living together	16.7% (27)	38.0% (68)	<0.001
Single/divorced	83.3% (135)	62.0% (111)	
Religious status			
Other	78.8% (126)	29.8% (53)	<0.001
Catholic	21.3% (34)	70.2% (125)	
Dieting-EAT	6.70 (6.91)	3.52 (5.34)	<0.001
Bulimia-EAT	0.96 (2.25)	1.10 (1.91)	0.10
Oral Control-EAT	1.73 (2.43)	2.87 (3.31)	<0.001
Disinhibition-TFEQ	6.06 (3.29)	4.88 (2.69)	0.001
Restraint-TFEQ	9.95 (5.57)	7.64 (4.57)	<0.001
Hunger-TFEQ	5.40 (2.96)	5.75 (3.05)	0.31
ACSS Total	3.21 (1.51)	3.85 (1.53)	<0.001
Intrapersonal-ACSS	4.02 (1.61)	3.89 (1.68)	0.46
Social-ACSS	2.32 (1.43)	3.46 (1.74)	<0.001
Consider-ACSS	3.29 (2.02)	4.17 (1.66)	<0.001

Note: All values are mean values, except when percentage indicated. Age and BMI show regular values while p-value is for the logarithmic transformed values due to skewness. SD=standard deviation, BMI=Body Mass Index, EAT= Eating Attitudes Test, TFEQ=Three-Factor Eating Questionnaire, ACSS=Acceptance of Cosmetic Surgery Scale

Source: Property of the Authors.

significantly associated with greater ACSS Total scores. In addition, greater Hunger approached significance (p=0.07). None of the demographic variables in any of the 6 models were significantly associated with ACSS total scores. Among those from Colombia, similar significant patterns occurred for the ACSS total and Dieting and Bulimia. The only model in which any demographic variable was significant included Restraint as a predictor where greater age was independently associated with greater ACSS total scores among the Colombian sample only.

ACSS Intrapersonal Subscale

Table 3 shows linear regression analyses for the Intrapersonal subscale of the ACSS. Among those from the U.S., a similar pattern occurred as for the ACSS total scale. Greater Dieting, Bulimia, Disinhibition, and Hunger were all significantly associated with greater Intrapersonal scores. Additionally, lower BMI was found to be a predictor of greater Intrapersonal scores in 5 of the 6 models. Among those from Colombia, greater Dieting subscale scores approached significance (p=0.06). No associations were found for Bulimia, Restraint, or any of the other eating variables. With regard to the demographic variables, in the model including Restraint, older age was significantly associated with greater intrapersonal scores and being single/divorced approached significance (p=0.07). In addition, no associations occurred for BMI.

ACSS Social Subscale

Table 4 shows linear regression analyses for the Social subscale of the ACSS. Among those from the U.S., greater Bulimia and Disinhibition scores were significantly associated with greater Social scores. No other disordered eating or demographic variables were significant. Among those from Colombia, a broader pattern of significance occurred where 4 of the 6 disordered eating variables including the Dieting, Bulimia, Disinhibition, and Restraint subscales were significantly associated with greater Social scores. Similarly, to the U.S. sample, no demographic variables were significant.

Table 2. Analyses for the Acceptance of Cosmetic Surgery Total Scale among U.S. and Colombian University Students

Variable	*ACSS Total*					
U.S. sample	*(n=153)*	*(n=155)*	*(n=154)*	*(n=149)*	*(n=125)*	*(n=132)*
Constant	4.31 (3.33)	4.44 (3.20)	4.81 (3.34)	2.87 (3.38)	2.27 (3.71)	1.07 (3.63)
Age	1.36 (2.14)	0.90 (2.10)	1.40 (2.13)	2.26 (2.12)	1.80 (2.27)	2.70 (2.39)
BMI	-2.35 (1.50)	-1.77 (1.46)	-2.34 (1.56)	-2.57 (1.60)	-1.30 (1.76)	-1.40 (1.75)
Relationship (Single/divorced)	-0.24 (0.35)	-0.29 (0.34)	-0.25 (0.35)	0.02 (0.36)	-0.15 (0.38)	-0.14 (0.39)
Religious status (Catholic)	0.35 (0.31)	0.30 (0.30)	0.32 (0.31)	0.39 (0.31)	0.29 (0.34)	0.27 (0.32)
Dieting-EAT	0.67 (0.29)*	---	---	---	---	---
Bulimia-EAT	---	1.22 (0.43)**	---	---	---	---
Oral Control-EAT	---	---	-0.42 (0.41)	---	---	---
Disinhibition-TFEQ	---	---	---	0.12 (0.04)**	---	---
Restraint-TFEQ	---	---	---	---	0.04 (0.03)	---
Hunger-TFEQ	---	---	---	---	---	0.09 (0.05)#
Colombia sample	(n=148)	(n=155)	(n=158)	(n=139)	(n=112)	(n=151)

Variable	*ACSS Total*					
U.S. sample	*(n=153)*	*(n=155)*	*(n=154)*	*(n=149)*	*(n=125)*	*(n=132)*
Constant	-2.30 (4.48)	-1.41 (4.12)	-2.11 (4.14)	-4.61 (4.54)	-7.74 (5.27)	-4.12 (4.66)
Age	2.77 (2.73)	1.38 (2.57)	1.16 (2.59)	4.04 (2.86)	7.32 (3.14) *	2.54 (2.92)
BMI	1.45 (2.41)	2.32 (2.17)	3.09 (2.23)	2.00 (2.48)	0.95 (2.72)	3.33 (2.23)
Relationship (Single/divorced)	0.34 (0.28)	0.30 (0.27)	0.29 (0.26)	0.23 (0.28)	0.48 (0.31)	0.24 (0.27)
Religious status (Catholic)	-0.05 (0.28)	-0.001 (0.27)	-0.01 (0.27)	-0.06 (0.29)	-0.05 (0.32)	-0.17 (0.28)
Dieting-EAT	0.78 (0.36) *	---	---	---	---	---
Bulimia-EAT	---	0.90 (0.44) *	---	---	---	---
Oral Control-EAT	---	---	0.33 (0.36)	---	---	---
Disinhibition-TFEQ	---	---	---	0.07 (0.05)	---	---
Restraint-TFEQ	---	---	---	---	0.06 (0.03)#	---
Hunger-TFEQ	---	---	---	---	---	0.04 (0.04)

Note: B = beta, SE=standard error, BMI=Body Mass Index, EAT=Eating Attitudes Test, TFEQ=Three-Factor Eating Questionnaire, ACSS=Acceptance of Cosmetic Surgery Scale

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Source: Property of the Authors.

Table 3. Analyses for the Intrapersonal Subscale of the Acceptance of Cosmetic Surgery Scale among U.S. and Colombian University Students

Variable	*ACSS Intrapersonal*					
U.S. sample	*(n=153)*	*(n=155)*	*(n=154)*	*(n=149)*	*(n=125)*	*(n=132)*
Constant	8.51 (3.49)*	8.68 (3.39)*	9.02 (3.50)*	7.32 (3.65)*	6.77 (3.94)#	5.94 (3.80)
Age	1.12 (2.25)	0.58 (2.22)	1.36 (2.23)	1.75 (2.30)	2.21 (2.42)	2.81 (2.50)
BMI	-4.55 (1.57)**	-3.90 (1.55)*	-4.69 (1.63)**	-4.59 (1.73)**	-4.49 (1.87)*	-4.52 (1.84)*
Relationship (Single/divorced)	-0.33 (0.37)	-0.37 (0.36)	-0.30 (0.37)	-0.11 (0.39)	-0.03 (0.40)	-0.19 (0.41)
Religious status (Catholic)	0.31 (0.33)	0.30 (0.32)	0.33 (0.32)	0.37 (0.33)	0.26 (0.36)	0.37 (0.34)
Dieting-EAT	0.66 (0.03)*	---	---	---	---	---
Bulimia-EAT	---	1.01 (0.45)*	---	---	---	---
Oral Control-EAT	---	---	-0.70 (0.43)	---	---	---
Disinhibition-TFEQ	---	---	---	0.10 (0.04)*	---	---
Restraint-TFEQ	---	---	---	---	0.04 (0.03)	---
Hunger-TFEQ	---	---	---	---	---	0.098 (0.05)*
Colombia sample	*(n=148)*	*(n=155)*	*(n=158)*	*(n=139)*	*(n=112)*	*(n=151)*
Constant	-2.41 (4.89)	-1.06 (4.51)	-1.88 (4.48)	-4.76 (4.95)	-9.14 (5.80)	-3.66 (5.11)

Variable	*ACSS Intrapersonal*					
Age	3.01 (2.97)	1.36 (2.82)	1.09 (2.80)	3.89 (3.11)	7.67 (3.45)*	2.55 (3.20)
BMI	1.26 (2.62)	2.08 (2.38)	2.92 (2.41)	2.54 (2.70)	1.71 (3.00)	3.11 (2.44)
Relationship (Single/divorced)	0.46 (0.30)	0.38 (0.29)	0.37 (0.28)	0.27 (0.31)	0.63 (0.34)#	0.35 (0.29)
Religious status (Catholic)	0.01 (0.31)	0.05 (0.30)	0.07 (0.30)	-0.04 (0.32)	-0.12 (0.36)	-0.11 (0.31)
Dieting-EAT	0.76 (0.39)#	---	---	---	---	---
Bulimia-EAT	---	0.61 (0.49)	---	---	---	---
Oral Control-EAT	---	---	0.40 (0.39)	---	---	---
Disinhibition-TFEQ	---	---	---	0.01 (0.06)	---	---
Restraint-TFEQ	---	---	---	---	0.05 (0.04)	---
Hunger-TFEQ	---	---	---	---	---	0.001 (0.05)

Note: B = beta, SE=standard error, BMI=Body Mass Index, EAT=Eating Attitudes Test, TFEQ=Three-Factor Eating Questionnaire, ACSS=Acceptance of Cosmetic Surgery Scale

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Source: Property of the Authors.

Table 4. Analyses for the Social Subscale of the Acceptance of Cosmetic Surgery Scale among U.S. and Colombian University Students

Variable	*ACSS Social*					
U.S. sample	*(n=153)*	*(n=155)*	*(n=154)*	*(n=149)*	*(n=125)*	*(n=132)*
Constant	3.44 (3.18)	3.66 (3.02)	3.80 (3.15)	1.73 (3.16)	0.84 (3.51)	0.11 (3.49)
Age	0.04 (2.05)	-0.25 (1.98)	0.03 (2.01)	0.99 (1.99)	0.27 (2.15)	1.17 (2.30)
BMI	-1.01 (1.43)	-0.77 (1.38)	-1.00 (1.47)	-1.16 (1.50)	0.88 (1.66)	0.29 (1.69)
Relationship (Single/divorced)	-0.14 (0.34)	-0.18 (0.32)	-0.15 (0.33)	0.08 (0.33)	-0.27 (0.36)	-0.16 (0.37)
Religious status (Catholic)	0.28 (0.297)	0.25 (0.28)	0.28 (0.29)	0.32 (0.29)	0.18 (0.32)	0.13 (0.31)
Dieting-EAT	0.45 (0.28)	---	---	---	---	---
Bulimia-EAT	---	1.10 (0.40)**	---	---	---	---
Oral Control-EAT	---	---	-0.28 (0.38)	---	---	---
Disinhibition-TFEQ	---	---	---	0.12 (0.04)**	---	---
Restraint-TFEQ	---	---	---	---	0.01 (0.02)	---
Hunger-TFEQ	---	---	---	---	---	0.07 (0.04)
Colombia sample	*(n=147)*	*(n=154)*	*(n=157)*	*(n=138)*	*(n=111)*	*(n=150)*
Constant	-2.35 (4.99)	-0.71 (4.61)	-1.46 (4.71)	-3.78 (5.10)	-2.24 (6.08)	-2.98 (5.36)
Age	4.56 (3.04)	2.27 (2.87)	2.02 (2.95)	4.97 (3.20)	6.61 (3.62)	3.09 (3.36)
BMI	-0.76 (2.68)	0.56 (2.43)	1.55 (2.53)	-0.03 (2.78)	-3.05 (3.13)	1.62 (2.56)

Variable	*ACSS Social*					
Relationship (Single/divorced)	0.13 (0.31)	0.07 (0.30)	0.06 (0.30)	0.04 (0.32)	0.23 (0.36)	0.01 (0.31)
Religious status (Catholic)	0.02 (0.32)	0.07 (0.30)	0.01 (0.31)	0.04 (0.33)	0.21 (0.38)	-0.17 (0.33)
Dieting-EAT	1.22 (0.40)**	---	---	---	---	---
Bulimia-EAT	---	1.57 (0.50)**	---	---	---	---
Oral Control-EAT	---	---	0.30 (0.41)	---	---	---
Disinhibition-TFEQ	---	---	---	0.12 (0.06)*	---	---
Restraint-TFEQ	---	---	---	---	0.10 (0.04)*	---
Hunger-TFEQ	---	---	---	---	---	0.07 (0.05)

Note: B = beta, SE=standard error, BMI=Body Mass Index, EAT=Eating Attitudes Test, TFEQ=Three-Factor Eating Questionnaire, ACSS=Acceptance of Cosmetic Surgery Scale

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Source: Property of the Authors.

ACSS Consider Subscale

Table 5 shows linear regression analyses for the Consider subscale of the ACSS. Among those from the U.S., greater Dieting, Bulimia, and Disinhibition scores were significantly associated with greater Consider scores. Greater Restraint scores approached significance (p=0.08). No demographic variables were significantly associated with greater Consider scores. Among those from Colombia, there was a very different pattern than among those from the U.S. No disordered eating variables were significantly associated with greater Consider scores. With regard to demographic variables, greater BMI was significant in the model including Hunger and approached significance in the models including Bulimia (p=0.09) and Oral Control (p=0.052). In addition, greater age was significant in the model including Restraint.

Table 5. Analyses for the Consider Subscale of the Acceptance of Cosmetic Surgery Scale among U.S. and Colombian University Students

Variable	*ACSS Consider*					
U.S. sample	*(n=153)*	*(n=155)*	*(n=154)*	*(n=149)*	*(n=125)*	*(n=132)*
Constant	0.95 (4.37)	0.96 (4.25)	1.58 (4.41)	-0.46 (4.42)	-0.81 (4.78)	-2.84 (4.67)
Age	2.92 (2.81)	2.38 (2.78)	2.81 (2.81)	4.06 (2.78)	2.91 (2.93)	4.14 (3.08)
BMI	-1.47 (1.96)	-0.65 (1.94)	-1.33 (2.06)	-1.97 (2.10)	-0.29 (2.26)	0.02 (2.26)
Relationship (Single/divorced)	-0.24 (0.46)	-0.32 (0.45)	-0.30 (0.46)	0.10 (0.47)	-0.16 (0.49)	-0.09 (0.50)
Religious status (Catholic)	0.46 (0.41)	0.34 (0.40)	0.35 (0.40)	0.47 (0.40)	0.43 (0.44)	0.30 (0.42)
Dieting-EAT	0.89 (0.38)*	---	---	---	---	---
Bulimia-EAT	---	1.54 (0.57)**	---	---	---	---
Oral Control-EAT	---	---	-0.28 (0.54)	---	---	---
Disinhibition-TFEQ	---	---	---	0.13 (0.05)*	---	---

Variable	*ACSS Consider*					
Restraint-TFEQ	---	---	---	---	0.06 (0.03)#	---
Hunger-TFEQ	---	---	---	---	---	0.09 (0.06)
Colombia sample	*(n=148)*	*(n=155)*	*(n=158)*	*(n=139)*	*(n=112)*	*(n=151)*
Constant	-1.60 (4.92)	-1.88 (4.49)	-2.53 (4.47)	-4.64 (5.00)	-11.17 (5.80)#	-5.10 (4.98)
Age	0.43 (3.00)	0.29 (2.80)	0.09 (2.80)	2.96 (3.14)	7.34 (3.46)*	1.70 (3.12)
BMI	3.69 (2.64)	4.06 (2.37)#	4.71 (2.41)#	3.33 (2.73)	4.04 (3.00)	5.08 (2.38)*
Relationship (Single/divorced)	0.39 (0.31)	0.39 (0.29)	0.39 (0.28)	0.35 (0.31)	0.54 (0.34)	0.33 (0.29)
Religious status (Catholic)	-0.11 (0.31)	-0.06 (0.29)	-0.06 (0.30)	-0.10 (0.32)	-0.19 (0.36)	-0.17 (0.30)
Dieting-EAT	0.34 (0.40)	---	---	---	---	---
Bulimia-EAT	---	0.58 (0.48)	---	---	---	---
Oral Control-EAT	---	---	0.35 (0.39)	---	---	---
Disinhibition-TFEQ	---	---	---	0.07 (0.06)	---	---
Restraint-TFEQ	---	---	---	---	0.02 (0.04)	---
Hunger-TFEQ	---	---	---	---	---	0.05 (0.05)

Note: B = beta, SE=standard error, BMI=Body Mass Index, EAT=Eating Attitudes Test, TFEQ=Three-Factor Eating Questionnaire, ACSS=Acceptance of Cosmetic Surgery Scale

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Source: Property of the Authors.

Discussion

Although various nations, including the U.S. and Colombia, have seen dramatic increases in the incidence of both EDs and cosmetic surgery procedures in recent decades (Angel *et al*., 1997; Castrillon et al., 2007; Tylka & Subich, 2002), it is unclear whether there is a relation between these tendencies. Research in this area is lacking in both countries, and it is therefore difficult to determine which factors, cultural and otherwise, are at play. In samples of young women from the U.S. and Colombia, we examined whether specific disordered eating behaviors would predict the acceptance of cosmetic surgery while considering other conceptually related variables. We also sought to account for differing patterns of findings between the two samples based on cultural and social factors.

Group Differences in Demographic Variables
Young women in our U.S. sample had higher BMIs than Colombia participants. Higher BMI levels may lead to body dissatisfaction (McLaren, Kuh, Hardy & Gauvin, 2004), in turn initiating disordered eating behavior and possibly a desire to undergo cosmetic surgery to achieve an idealized physical appearance. Additional results revealed that the U.S. sample was significantly older than the Colombia sample (though both samples only included women aged 35 and below). This may be due to increased enrollment of older individuals at public institutions of higher learning in the U.S. (Association of American Colleges and Universities, 2001).

Relationship status may influence one's desire for physical self-improvement. In our study, the majority of U.S. and Colombia participants were single, though members of the Colombia sample were more likely to be in a relationship as compared to their U.S. counterparts. This is an interesting finding given that the Colombia sample was also significantly younger. Regardless, relationship status did not significantly predict attitudes toward cosmetic surgery in any of our analyses. Consistent with Colombia's predominantly Catholic roots,

the majority of the Colombia participants were Catholic. By contrast, only 21% of individuals from the U.S. sample self-identified as Catholic. This difference in religious affiliation did not affect our predictions about cosmetic surgery acceptance.

Group Differences in Eating Behaviors

In terms of eating behaviors, the U.S. sample reported a greater tendency toward disordered eating – with significantly higher scores on three disordered eating subscales (Disinhibition, Restraint, and Dieting), while the Colombia sample scored higher only on Oral Control. Disinhibition is a measure of ones' ability to stop eating and resist social or emotional cues when no longer hungry (Stunkard, & Messick, 1985). Participants in the U.S. sample reported more difficulty resisting environmental cues to eat and may be more likely to overeat. This may be due to environmental factors in the U.S., including a tendency toward large portion sizes and the idea that when it comes to food that "more is better" (Hill & Peters, 1998; Rozin, Kabnick, Pete, Fischler & Shields, 2003). Additionally, Colombia is a developing nation, and its citizens have less access to resources than one would normally find in the U.S. (Heath & Binwanger, 1996). Therefore, it is possible that culturally different attitudes toward food consumption are driving the observed higher Disinhibition scores. It is not surprising that the U.S. sample also showed higher scores on the Restraint subscale, given previous reports that some restrained eaters are likely to lose control and overeat in particular situations (Stunkard & Messick, 1985). The U.S. sample also had significantly higher Dieting scores, perhaps reflective of the numerous "fad diets" in the U.S. (Cohen, Perales, & Steadman, 2005). Surprisingly, the Colombia sample had higher scores on Oral Control, a measure of the ability to resist eating when hungry, an unexpected finding given the higher scores observed in the U.S. sample on Restraint and Disinhibition. Further research is necessary to elucidate this seemingly contradictory finding. With regard to all of these findings, it is important to note that we did not assess for or assign clinical eating disorder diagnoses.

Group Differences in Cosmetic Surgery Variables

The Colombia participants reported a greater acceptance of cosmetic surgery overall, with significantly higher scores on the ACSS Total, Social, and Consider subscales as compared to the U.S. sample. One possibility is that cosmetic procedures among beauty pageant contestants influence women from Cartagena, Colombia to accept cosmetic surgery procedures for themselves. Further research is needed to determine if the same findings hold true for other Colombian cities and pageant-oriented societies. It is also possible that the lower costs of cosmetic surgery procedures relative to the U.S. are driving these findings (Warf, 2010).

Regression Analyses

ACSS Total Scale

Higher scores on the Bulimia and Dieting subscales of the EAT as well as greater Disinhibition on the TFEQ were significant predictors of cosmetic surgery endorsement in the U.S. sample. For the Colombia sample, higher Dieting and Bulimia scores on the EAT were significant predictors. Additionally for the Colombia sample in the model that included the Restraint subscale of the TFEQ, increasing age was associated with greater overall endorsement of plastic surgery procedures. As hypothesized, these results reveal the importance of various aspects of self-reported eating disturbances in predicting a tendency toward endorsement of plastic surgery. Overall, participants in the U.S. and Colombia with higher scores on similar disordered eating variables tended to endorse cosmetic surgery. Jung and Lee (2006) suggested that across two cultures, women's dieting behaviors can be predicted based on their levels of body dissatisfaction. Thus, similar scores on the Dieting and Bulimia subscales may be due to similar levels of body dissatisfaction between the two samples. In future research we hope to uncover the degree to which specific aspects of disordered eating alone or in combination differentially contribute to the

endorsement of cosmetic surgery. Such research would employ variables known to be associated with disordered eating such as depression, anxiety, self-esteem, body dissatisfaction, and thin ideal internalization. With regard to the finding of increased age associated with higher endorsement of cosmetic surgery in the Colombia sample in the model that included restrained eating, we do not have any particular explanation for this finding. This may be an artifact of this sample, especially since the age ranges were relatively restricted to young adults. In contrast to reports that showed a link between EDs and marital status and relationship status (Bussolotti *et al.*, 2002; Soest & Wichstrom, 2006), neither were predictive of plastic surgery acceptance in the current study. These previous studies focused on clinical patients and not college students, which may account for the differing findings.

ACSS Intrapersonal Subscale

Overall, U.S. participants with higher disordered eating scores were more likely to endorse cosmetic surgery for intrapersonal reasons in the models that included significance for disorder eating variables of Dieting, Bulimia, Disinhibition, and Hunger. Higher scores on the Intrapersonal subscale are reflective of a greater endorsement of cosmetic surgery for personal reasons (i.e., "Cosmetic surgery can be a big benefit to people's self image" and "It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look"). The same was not observed in the Colombian sample where none of the disordered eating variables predicted scores on the Intrapersonal subscale and only Dieting approached significance.

An additional finding in the U.S. sample was that in almost all of the disordered eating models, lower BMI was associated with greater endorsement of cosmetic surgery for personal reasons. This might be reflective of cultural standards of beauty, which endorse very low body weights in conjunction with contradictory physical traits such as large breasts. In 2001 the most common form of plastic surgery among young women in the U.S. was breast augmentation (Didie & Sarwer, 2003). One could speculate that young U.S. women with eating issues and low weight view having large breasts as desirable despite also striving for an otherwise thin frame. These findings are consistent with Didie and Sarwer's (2003) results, which suggested that female breast augmentation candidates in the U.S. were motivated to seek surgery due to their own feelings about their breasts and not due to external sources, such as romantic partners or socio-cultural factors. Cultural factors may help explain why participants in the Colombia sample with higher disordered eating scores did not endorse cosmetic surgery for personal reasons. Colombia is a patriarchal society, in which men may objectify women (Ochoa, 2007). According to Seppä (2001), in patriarchal societies women learn to view themselves through the heterosexual male perspective. It is therefore possible that Colombian women's reasons for undergoing plastic surgery do not stem from personal attempts to improve their self-image or esteem, but rather to conform to their distinct cultural expectation of beauty. Future research might address this specific hypothesis.

ACSS Social Subscale

An interesting finding among Colombian participants was that greater levels of disordered eating predicted a greater acceptance of cosmetic surgery for social reasons in the models that included Dieting, Bulimia, Disinhibition, and Restraint, with these disordered eating variables significantly associated with greater scores on the Social subscale. Greater scores on the Social subscale are reflective of a greater endorsement of cosmetic surgery for social reasons (i.e., "If it would benefit my career I would think about having plastic surgery" and "I would seriously consider having cosmetic surgery if I thought my partner would find me more attractive"). For the U.S. sample, endorsement of cosmetic surgery for social reasons only occurred in the Bulimia and Disinhibition models, with significance for only these particular eating disordered variables. These findings are consistent with those previously reported by Swami *et al.* (2009), that individuals who tend to conform to societal pressures are also more likely to alter their appearance in order to avoid criticism. Perhaps depictions of

thin women in Colombian beauty pageants, which women are bombarded with constantly, are driving these results in the Colombia sample. It is clear that Colombian women with disordered eating tendencies are choosing reasons other than intrapersonal for cosmetic surgery, instead favoring cosmetic surgery for the benefits it can bring socially and professionally.

ACSS Consider Subscale

Among U.S. participants, greater levels of disordered eating (Dieting, Bulimia, and Disinhibition) were predictive of greater cosmetic surgery in general and in specific contexts (i.e., "In the future, I could end up having some kind of cosmetic surgery," and "If I could have a surgical procedure done for free I would consider trying cosmetic surgery"). There were no significant disordered eating variables among the Colombia sample in analyses for the Consider subscale. Henderson-King and Henderson-King (2005) explained that although some individuals may generally accept cosmetic surgery, this does not mean they are willing to undergo the cosmetic procedures themselves. This appears to be the case among the Colombia participants. Although Colombia is well known for its affordable rates on cosmetic surgeries, it appears that among their university students, a consideration of actually undergoing surgical procedures is not as salient. In future research it will be important to assess not only attitudes toward cosmetic surgery but also the likelihood of actually undergoing specific procedures and the perceived benefits, limitations, and factors associated with making surgery a realistic option.

Limitations, Ideas for Future Research, and Conclusions

Some limitations of the present study warrant mention. The correlational approach taken prohibited us from making any inferences about the directionality of our findings. In addition, there was a potential difference in socioeconomic status between our samples. The Colombia participants were from a private university, whereas, the U.S. participants were part of a large public university. This may have affected the degree to which socioeconomic influences determined attitudes toward cosmetic surgery and overall eating behaviors. However, since the Colombian students were drawn from a private university, the majority of the participants were from middle to higher socioeconomic status (Dueñas, 2007), comparable to many U.S. college students.

Including additional measures to the present study could have strengthened the findings that disordered eating behavior and cosmetic surgery are associated. For instance, limited research has shown that body dissatisfaction, self-esteem, depression, and anxiety may drive some ED patients to undergo cosmetic surgery procedures (Kreipe *et al.*, 1997; McIntosh *et al.*, 1994; Meningaud *et al.*, 2001). Furthermore, women who experience body dissatisfaction tend to have greater acceptance of cosmetic surgery, particularly if they feel they have not met socially accepted standards of beauty (Henderson-King & Henderson-King, 2005). Among the ED population, body dissatisfaction is thought to be a core feature of and risk factor in ED development (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). The present study did not include measures of psychopathology or body dissatisfaction, and doing so might clarify or alter the predictive patterns observed in relation to acceptance of cosmetic surgery. Finally, it is possible that the translation of the Spanish instruments was not comparable to standard Colombian dialect. It is often difficult, if not impossible, to determine whether an instrument has been adequately translated and this concern is often raised when considering cross-cultural studies (Brislin, 1970; Douglas & Craig, 2007; Geisinger, 1994). The EAT-26 was the only measure previously validated in a Colombian sample. Although the students did not report any difficulties in understanding the test questions, further validation of our instruments is warranted.

Despite these limitations, this study elucidated important differences in eating behaviors and attitudes toward cosmetic surgery between young women in the U.S. and Colombia. Differing findings between the two samples may be due to cultural and social factors, which we have begun

to delineate. Future studies may clarify these results by including other relevant variables such as the effects of media, psychopathology, or unique aspects of Colombian culture (e.g., numerous annual beauty pageants) on a tendency to endorse cosmetic surgery. It would also be important to gather data from males, a population at increasing risk for body image problems and EDs (Franco, Tamburrino, Carroll, & Bernal, 1988). According to the American Academy of Cosmetic Surgery (2006) a procedural survey held between 2002 and 2006 revealed a 3% increase of men who opted to have cosmetic surgery. In future work we plan to investigate the relationship between attitudes toward cosmetic surgery and eating behaviors in men and compare the findings to those observed in our female participants.

In conclusion, young women from Colombia with greater disordered eating were more likely to endorse cosmetic surgery for social reasons, while those from the U.S. were more likely to consider undergoing cosmetic surgery for personal reasons. There is a need to expand research in this area not only to establish similarities between cultures, but also to aid clinicians in developing effective treatments for individuals afflicted with eating disorders, particularly when cultural factors play a role in symptom development. According to Yates, Shisslak, Allender, and Wolman (1988) the bulimic patient's decision to undergo cosmetic surgery might ameliorate any underlying depression but this improvement will likely be temporary. The intervening step of diagnosing or detecting eating disorders may help prevent individuals from undergoing surgical procedures they may ultimately regret. To this end, it is our hope that this research may inform pre-operative psychological evaluations of individuals in both the U.S. and Colombia who plan to undergo life altering and potentially dangerous cosmetic procedures.

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