

## Personality and Social Psychology

# Body dissatisfaction assessed by the Photographic Figure Rating Scale is associated with sociocultural, personality, and media influences

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This study sought to investigate the convergent validity of a new measure of body dissatisfaction, namely the Photographic Figure Rating Scale (PFRS), in relation to media influence, celebrity worship, the Big Five personality factors, and respondent weight status. A total of 401 female undergraduates completed a battery of scales consisting of the PFRS, the third revision of the Sociocultural Attitudes Toward Appearance Scale (SATAQ-3), a measure of celebrity worship, a measure of the Big Five personality factors, and provided their demographic details. Results of a multiple regression showed that body dissatisfaction was most strongly predicted by two of the SATAQ-3 subscales and participant body mass index, although celebrity worship and Emotional Stability added incremental variance. Limitations of the current study are discussed in conclusion.

**Key words:** Body dissatisfaction; Photographic Figure Rating Scale; sociocultural influence; celebrity worship; Big Five.

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### INTRODUCTION

There is now a substantial body of research suggesting that anxiety about appearance is a “normative” experience among girls and women in the West (e.g., Cash, 2004; Cash & Pruzinsky, 2002; Rodin, Silberstein & Striegel-Moore, 1984; Smolak, 2006; Smolak & Levine, 1994) and increasingly in developing countries (e.g., Mellor, McCabe, Ricciardelli, Yeow, Daliza & Hapidzal, 2009; Swami, 2006). The high proportion of women who report that they are unhappy with their bodies is of particular concern because of the established relationship between symptoms of negative body image and the development of eating disorders (e.g., Neumark-Sztainer, Paxton, Hannan, Haines & Story, 2006; Stice, 2001; Stice & Shaw, 2002). In many cases, negative body image is also associated with poorer mental well-being (e.g., higher rates of depression; Keery, van den Berg & Thompson, 2004; Paxton, Neumark-Sztainer, Hannan & Eisenberg, 2006) and diminished confidence in interpersonal relationships (e.g., Cash, Maikkula & Yamamiya, 2004).

Given the key role that body dissatisfaction (typically defined as negative self-evaluations of one’s own body; Stice & Shaw, 2002) plays in the etiology of eating disorders and poor mental health, it is important to identify superior measures of the former. While a number of different techniques exist for the measurement of body dissatisfaction (see Thompson, 1990), the most common form involves the selection of a figure that best represents a woman’s perception of her own body size (e.g., Gardner, 2001; Glauret, Rhodes, Byrne, Fink & Grammer, 2009; Truby & Paxton, 2002; Williams, Gleaves, Cepeda-Benito, Erath & Cororve, 2001).

Although there are a number of such stimulus sets in existence, perhaps the most ecologically valid is the Photographic Figure Rating Scale (PFRS; Swami, Salem, Furnham & Tovée, 2008b),

which uses images of real women rather than line-drawings or computer-generated images. The PFRS, like its predecessors, depicts a range of women varying in body size from emaciated to obese (Swami *et al.*, 2008b). Female participants are asked to rate the figure that best represents their current body size and their ideal body size, and body dissatisfaction is then measured as a discrepancy score between current and ideal sizes. Initial work with the PFRS has shown that it has good test-retest reliability and high construct validity (Swami *et al.*, 2008b), and it is increasingly being used to measure both body dissatisfaction and the thin ideal in different cultural and sub-cultural contexts (e.g., Swami, Henderson, Custance & Tovée (in press); Swami, Salem, Furnham & Tovée, 2008c; Swami, Steadman & Tovée, 2009a; Swami, Furnham, Chamorro-Premuzic *et al.*, in press).

Even so, tests of the convergent validity of the PFRS with a range of psychological dimensions remain limited. As a contribution to the literature, therefore, the present study sought to examine the associations between body dissatisfaction as measured using the PFRS and sociocultural attitudes toward appearance, celebrity worship, and the Big Five personality factors. Examining the convergent validity of the PFRS also ties in with recent work seeking to identify the sociocultural and individual difference determinants of body image and body dissatisfaction (e.g., Grogan, 2007; McCabe & Ricciardelli, 2003; Smolak, Murnen & Thompson, 2005). In the following sections, we briefly discuss the variables used in the present study and their relationship with body image as documented in the extant literature.

### *Sociocultural attitudes toward appearance*

Driven by sociocultural theoretical models, much of the available research on body image has centered on the triad of media influences, peer pressure, and parental pressure (e.g., Clark &

Tiggemann, 2006; Halliwell & Harvey, 2006; Shroff & Thompson, 2006), with the former perhaps being the strongest focus of attention. Thus, several meta-analyses (e.g., Grabe, Ward & Hyde, 2008; Groesz, Levine & Murnen, 2002) and numerous studies (e.g., Durkin, Paxton & Sorbello, 2007; Humphreys & Paxton, 2004; McCabe & Ricciardelli, 2003; Monro & Huon, 2005) have highlighted the deleterious effects on body image of exposure to unrealistic media representations. In short, it is argued that the media present standards for body slenderness, physical attractiveness, and athleticism that can cause body dissatisfaction when they are internalized and to the extent that women feel unable to achieve those standards (Thompson, van den Berg, Roehrig, Guarda & Heinberg, 2004).

The most widely used scale that measures perceptions of media influence and the internalization of media portrayals of bodily ideals is the Sociocultural Attitudes Toward Appearance Questionnaire (Heinberg, Thompson & Stormer, 1995), now in its third revision (SATAQ-3; Thompson *et al.*, 2004). The SATAQ-3 is a 30-item scale that measures four related aspects of media influence: (1) Information (the extent to which various media are considered an important source of information about appearance); (2) Pressure (perceived pressure from various media to strive for ideals of attractiveness); (3) Internalization-General (the endorsement and acceptance of media messages concerning unrealistic aesthetic ideals); and (4) Internalization-Athlete (endorsement and acceptance of an athletic body ideal).

A number of studies have shown that the SATAQ-3 has high internal consistency, and good construct, discriminant, and predictive validity (e.g., Forbes, Jobe & Revak, 2006; Markland & Oliver, 2008; Thompson *et al.*, 2004), and it has also been translated into a number of different languages (e.g., Swami, 2009). Previous work has shown that the subscales of the SATAQ-3 are significantly associated with body image disturbance (Thompson *et al.*, 2004). For example, one study reported that Pressures and Internalization-General scores were significantly higher among eating disordered patients than college norms (Calogero, Davis & Thompson, 2004). Likewise, in the present study, we hypothesized that Pressures and Internalization-General subscale scores would be significantly associated with body dissatisfaction.

### *Celebrity worship*

While media influences have been widely studied in the body image literature, one particular aspect that remains under-researched concerns aspects of celebrity worship, or the idolization of celebrities as role models (Giles, 2002). The most prominent theoretical account of celebrity worship was proposed by McCutcheon, Lange, and Houran (2002), who postulated an "absorption-addiction" model to explain three increasingly extreme sets of cognitions associated with parasocial (or one-sided) relationships. In the first instance, "entertainment-social" celebrity worship reflects the social aspects of parasocial attachment, and is driven by an attraction to a favorite celebrity because of their perceived ability to entertain. For some individuals, a compromised identity structure may lead to "intense-personal" celebrity worship, or a psychological absorption with a celebrity. In extreme cases, this absorption may become addictive, leading to "borderline-pathological" attitudes and behaviours that

serve to maintain an individual's satisfaction with the parasocial attachment (Giles & Maltby, 2004; Maltby, Houran, Lange, Ashe & McCutcheon, 2002; McCutcheon *et al.*, 2002).

This body of work has conceptualized celebrity worship as a normal part of identity-development (e.g., Giles & Maltby, 2004; McCutcheon *et al.*, 2002), with possible effects on corporeal experiences including body image disturbance. Specifically, it has been suggested that a desire among respondents to look like idealized media icons may result in negative body image when those bodily ideals are not attained (see Greenwood, 2009). Indeed, some recent work has shown an association between celebrity worship and symptoms of body image or eating disorders (e.g., Greenwood, 2009; Shorter, Brown, Quinton & Hinton, 2008) and acceptance of cosmetic surgery (Swami, Taylor & Carvalho, 2009b). In the most relevant of these studies, Maltby, Giles, Barber, and McCutcheon (2005) reported a significant relationship between intense-personal celebrity worship and preoccupation with body shape. Based on this body of work, we hypothesized that there would be significant associations between intense-personal celebrity worship and body dissatisfaction.

### *The Big Five Personality Factors*

The association between body image and individual difference factors has received rather less interest compared with sociocultural factors, although there is now agreement that such factors play a role in shaping body beauty ideals and body dissatisfaction (e.g., Swami, Hadji-Michael & Furnham, 2008a). One set of individual difference factors that has been implicated in body image is the Big Five personality model, a hierarchical framework of personality with five bipolar factors (i.e., Agreeableness, Conscientiousness, Emotional Stability, Openness, and Extraversion). These factors represent personality at the broadest level of abstraction and reflect most individual differences in personality (Goldberg, 1993; McCrae & Costa, 1997).

The Big Five framework has been shown to have strong predictive ability in relation to a variety of real-world outcomes (Chamorro-Premuzic, 2007), including body image. The most consistent findings from this research suggests that Emotional Stability (the tendency not to experience negative emotional states) and Extraversion (the tendency to be gregarious, outgoing, and assertive) are negatively correlated with body dissatisfaction (e.g., Davis, Dionne & Lazarus, 1996; Davis, Shuster, Blackmore & Fox, 2004; Swami *et al.*, 2008a). In the present study, we expected to replicate these associations between body dissatisfaction and Emotional Stability and Extraversion, respectively.

### *The present study*

In summary, the present study sought to examine the convergent validity of the PFRS in relation to sociocultural attitudes toward appearance, celebrity worship, and the Big Five personality factors. Concurrently, our work also extends the extant research with its focus on the individual difference and sociocultural antecedents of body dissatisfaction. Importantly, our study includes both variables that have received widespread attention (sociocultural attitudes toward appearance) and those that have received

relatively scant coverage (celebrity worship and the Big Five personality factors) in the body image literature.

## METHOD

### Participants

The participants of this study consisted of 401 female undergraduates enrolled in various courses at a large university in Greater London (age range 18–50 years,  $M = 24.72$ ,  $SD = 5.87$ ). Most participants were of European Caucasian descent (63.6%), while others were of Asian descent (13.7%), African Caribbean descent (13.7%), or some other ancestry (9.0%). In total, 39.9% of participants self-reported as being atheists, while 23.9% were Christians, 12.5% were unsure of their religious beliefs, 8.7% were Muslims, and 15.0% were of some other religious background. In terms of marital status, 35.4% reported that they were single, 46.9% that they were in a relationship, 11.5% that they were married, and 6.2% that they were separated. Participants' body mass index (BMI) ranged from 14.53 to 31.64 kg/m<sup>2</sup> ( $M = 21.68$ ,  $SD = 3.49$ ).

### Materials

**Photographic Figure Rating Scale (PFRS; Swami et al., 2008b).** This scale is an advance on the Contour Drawing Figure Rating Scale (Thompson & Gray, 1995) and consists of 10 greyscale photographic figures of real women in front-view. As discussed by Swami et al. (2008b), the women in the images were captured in a set pose at a standard distance, wearing tight grey leotards and leggings, and had their faces obscured to avoid any influence of facial cues. Moreover, the PFRS is presented in gray scale so as to minimize the impact of ethnicity or skin tone. The images represent two women from each of the established BMI categories: emaciated (< 15 kg/m<sup>2</sup>), underweight (15–18.5 kg/m<sup>2</sup>), normal weight (18.5–24.9 kg/m<sup>2</sup>), overweight (25.0–29.9 kg/m<sup>2</sup>), and obese (> 30 kg/m<sup>2</sup>). In the present study, participants were asked to rate (1) the figure that most closely resembled their own bodies (current), and (2) the body they would most likely to possess (ideal). All ratings were made on a 10-point scale, with 1 representing the woman with the lowest BMI and 10 the woman with the highest BMI. A body dissatisfaction score was then computed by subtracting ideal ratings from current ratings. Previous work has shown that the PFRS has good test-retest reliability and high construct validity (Swami et al., 2008b).

**Sociocultural Attitudes Toward Appearance Questionnaire-3 (SATAQ-3; Thompson et al., 2004).** The SATAQ-3 is a 30-item scale measuring the multidimensional impact of sociocultural influences on body image along four dimensions (Information, Pressure, Internalization-General, and Internalization-Athlete). The four factors are internally reliable, with Cronbach's alpha coefficients generally exceeding 0.80 (e.g., Thompson et al., 2004). Items were rated on a 5-point Likert-type scale (1 = *Definitely disagree*, 5 = *Definitely agree*), and subscale scores were computed by taking the mean of items associated with each factor. In the present study, Cronbach's alpha coefficients were as follows: Information, 0.87; Pressure, 0.84; Internalization-General, 0.90, and; Internalization-Athlete, 0.93.

**Celebrity Attitude Scale (CAS; McCutcheon et al., 2002).** The CAS is a 34-item measure in which respondents are asked to indicate their attitude towards their favorite celebrity that they themselves have named. The CAS has a three-factor structure comprising Entertainment-social, Intense-personal, and Borderline-pathological. Items were rated on a 5-point scale (1 = *Strongly disagree*, 5 = *Strongly agree*) and subscale scores were computed by taking the mean of items associated with each component. Previous work has shown that CAS has good internal consistency and convergent validity (e.g., McCutcheon et al., 2002). In the present study, internal consistency (Cronbach's alpha) was high for all

three subscales: Entertainment-social, 0.89; Intense-personal, 0.91, and; Borderline-pathological, 0.87.

**Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow & Swann, 2003).** This is a brief scale for assessing the Big Five personality factors, which shows adequate convergent and discriminant validity, test-retest reliability, and patterns of external correlates (Gosling et al., 2003). Participants rated the extent to which a pair of traits (e.g., "Extraverted, enthusiastic") applied to them on a 7-point scale (1 = *Disagree strongly*, 7 = *Agree strongly*). Five items were reverse-coded, and two items were averaged to arrive at scores for each of the Big Five personality factors. Cronbach's alpha coefficients were as follows: Extraversion 0.52, Agreeableness 0.57, Conscientiousness 0.56, Emotional stability 0.50, and Openness to experience 0.51. Although these alphas are generally low, they were measured using only two items and are in line with norms (for a discussion, see Gosling et al., 2003).

**Demographics.** All participants provided their demographic details consisting of age, ethnicity, religion, marital status, height, and weight. The latter two items were used to calculate participants' BMI, as kg/m<sup>2</sup>.

### Procedure

Once ethical approval for this study was obtained from the relevant university ethics committee, three experimenters recruited participants opportunistically from various campus locations. The nature of the experiment was explained and, once participants provided informed consent, they were provided with a paper-and-pencil questionnaire, which they completed individually and anonymously. Once participants returned their completed questionnaires to the experimenter, they were verbally debriefed. All participants took part on a voluntary basis and were not remunerated for their time.

### Statistical analyses

All analyses were conducted on SPSS version 17.0. First, we examined bivariate correlations between body dissatisfaction, the SATAQ-3 subscales, the CAS subscales, the Big Five personality factors, and parametric participant demographics (age and BMI). We then conducted a multiple linear regression with body dissatisfaction as the dependent variable and all other variables as predictors. For these analyses, the alpha for significance was set at 0.05.

## RESULTS

### Bivariate correlations

Descriptive statistics ( $M$ s and  $SD$ s) for all variables and bivariate correlations are reported in Table 1. As can be seen, body dissatisfaction significantly and positively correlated with three of the SATAQ-3 subscales (Information, Pressures, and Internalization-General), two of the CAS subscales (Entertainment-social and Intense-personal), and BMI, and significantly and negatively correlated with the Big Five factors of Extraversion, Emotional Stability, and Openness.

### Multiple regressions

To examine which of the variables predicted body dissatisfaction, we conducted a multiple hierarchical regression with body dissatisfaction as the dependent variable. In order to see which psychometric variables predicted body dissatisfaction once women's body size has been taken into consideration, participant

Table 1. Descriptive statistics and bivariate correlations between body dissatisfaction, SATAQ-3 subscales, CAS subscales, the Big Five personality factors, age, and BMI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Body dissatisfaction		0.22**	0.42**	0.15**	0.02	0.12*	0.17**	0.06	-0.12*	0.02	0.01	-0.15**	-0.10*	0.01	0.39**
(2) SATAQ-3 Information			0.71**	0.74**	0.28**	0.38**	0.43**	0.07	-0.15**	-0.10*	0.11*	-0.31**	-0.24**	-0.13**	-0.09
(3) SATAQ-3 Pressures				0.61**	0.33**	0.45**	0.39**	0.27**	-0.15**	-0.05	0.09	-0.44**	-0.28**	-0.15**	0.01
(4) SATAQ-3 Internalization-General					0.30**	0.33**	0.60**	0.12*	-0.16**	-0.14**	0.06	-0.48**	-0.08	-0.17**	-0.17**
(5) SATAQ-3 Internalization-Athlete						-0.03	-0.01	-0.09	0.07	-0.06	-0.15**	-0.02	0.18**	0.11*	0.09
(6) CAS Entertainment-Social							0.77**	0.72**	-0.08	0.03	-0.03	-0.08	-0.44**	-0.17**	-0.19**
(7) CAS Intense-personal								0.55**	-0.08	-0.20**	-0.10*	-0.28**	-0.17**	0.13**	-0.27**
(8) CAS Borderline-pathological									0.10*	0.03	-0.07	-0.07	-0.16**	-0.17**	-0.08
(9) Extraversion										0.01	-0.21**	0.32**	0.47**	-0.02	0.21**
(10) Agreeableness											0.19**	0.16**	0.06	0.17**	0.25**
(11) Conscientiousness												0.04	-0.01	0.15**	0.01
(12) Emotional stability													0.09	0.24**	0.14**
(13) Openness														0.18**	0.04
(14) Age															0.16**
(15) BMI															
<i>M</i>	0.92	3.08	3.35	3.10	2.76	1.87	2.79	1.33	4.45	4.49	4.86	4.03	4.69	24.72	21.68
<i>SD</i>	1.29	0.52	0.77	0.51	0.77	0.65	1.08	0.37	1.47	1.21	1.45	1.36	1.36	5.87	3.49

Note: SATAQ-3 = Sociocultural Attitudes Towards Appearance Questionnaire (3rd revision); CAS = Celebrity Attitude Scale; BMI = Body Mass Index.

BMI was included on its own in the first block. SATAQ-3 subscale scores were then entered as predictor variables in the second block, CAS subscale scores in the third block, the Big Five personality factors in the fourth block, and participant age in the fifth block. The regression results (reported in Table 2) showed that BMI on its own accounted for 15.0% of the variance, SATAQ-3 variables accounted for 20.0% of the variance, the CAS variables 1.0% of the variance, and Big Five 1.0%. In the final model, the only significant predictors of body dissatisfaction were participant BMI, two SATAQ-3 subscales (Pressures and Internalization-General), Intense-personal celebrity worship, and Emotional Stability.

## DISCUSSION

The primary aim of this study was to examine the convergent validity of the PFRS in relation to sociocultural attitudes toward appearance, celebrity worship, and the Big Five personality factors. Overall, the results of the current study supported our hypotheses, showing significant associations between body dissatisfaction, media influence, celebrity worship, and several of the Big Five personality factors. These results were largely supported by our regression analysis, which showed that the predictor variables together accounted for 37.0% of the variance in body dissatisfaction.

Overall, the direction of specific predictions in the present study supported our hypotheses and was in line with previous work. First, we found that the SATAQ-3 variables of Pressure and Internalization-General strongly predicted (positively) body dissatisfaction. This is in line with previous work showing that the SATAQ-3 has strong predictive validity in relation to measures of body image and that the Pressures and Internalization-General variables are the strongest such predictors (e.g., Thompson *et al.*,

2004). More generally, our results centrally implicate the mass media in developed societies in the promulgation of an unrealistically thin ideal and the subsequent body dissatisfaction experience by women as a result (Swami, 2007).

Second, our results showed that Intense-personal celebrity worship was a significant predictor (positively) of body dissatisfaction. These results support previous work showing a significant association between Intense-personal celebrity worship and preoccupation with body shape (Maltby *et al.*, 2005) and acceptance of cosmetic surgery (Swami *et al.*, 2009b). More generally, our results indicate a role for celebrity worship as a specific aspect of media influence that is associated with measures of body image. That is, the present results support the notion that corporeal experiences are shaped, in part at least, by media influences and (as a subset of that influence) the formation of parasocial relationships with celebrities.

Finally, and consistent with previous work (e.g., Davis *et al.*, 1996, 2004; Swami *et al.*, 2008a), our results showed that Emotional Stability was negatively associated with body dissatisfaction. On the other hand, although Extraversion was significant correlated with body dissatisfaction, it did not emerge as a significant predictor in our regression analysis. Moreover, it should be noted that the Big Five personality factors (like celebrity worship) only accounted for a small percentage of the variance in body dissatisfaction, suggesting that these factors may not have much real-world value in describing body dissatisfaction.

An important limitation of the present study was our reliance on female undergraduates, which limits our ability to generalize the present findings to other age groups or male populations. In particular, it may be useful to examine to what extent the same pattern of results hold among men, although it should also be noted that no version of the PFRS currently exists for use among men. In addition, at least one of our scales (i.e., the TIPI) showed

Table 2. Multiple hierarchical regression with body dissatisfaction as the dependent variable

Block	<i>F</i> (df)	Adj. <i>R</i> <sup>2</sup>	Item	st. $\beta$	<i>t</i>	<i>p</i>
1	72.16* (1, 399)	0.15	Body mass index	0.39	8.50	< 0.001
2	43.45* (5, 395)	$\Delta$ 0.20	Body mass index	0.40	9.52	< 0.001
			Information	0.04	0.66	0.512
			Pressures	0.51	8.60	< 0.001
			Internalization-General	0.18	4.03	< 0.001
			Internalization-Athlete	0.01	0.12	0.906
3	27.84* (8, 392)	$\Delta$ 0.01	Body mass index	0.41	9.08	< 0.001
			Information	0.01	0.17	0.863
			Pressures	0.49	7.68	< 0.001
			Internalization-General	0.18	3.89	< 0.001
			Internalization-Athlete	0.01	0.14	0.893
			Entertainment-Social	0.14	1.64	0.102
			Intense-Personal	0.15	2.45	0.015
			Borderline-Pathological	0.01	0.10	0.918
4	17.79* (13, 387)	$\Delta$ 0.01	Body mass index	0.41	9.12	< 0.001
			Information	< 0.01	0.03	0.980
			Pressures	0.48	6.86	< 0.001
			Internalization-General	0.18	3.48	< 0.001
			Internalization-Athlete	< 0.01	0.03	0.973
			Entertainment-Social	0.06	0.67	0.505
			Intense-Personal	0.15	2.20	0.029
			Borderline-Pathological	0.06	0.53	0.698
			Extraversion	-0.02	-0.36	0.718
			Agreeableness	< 0.01	0.05	0.960
			Conscientiousness	0.06	1.23	0.221
			Emotional Stability	-0.10	-2.06	0.040
			Openness	-0.05	-0.75	0.453
5	16.60* (14, 386)	$\Delta$ 0.00	Body mass index	0.41	8.93	< 0.001
			Information	< 0.01	0.11	0.914
			Pressures	0.48	6.84	< 0.001
			Internalization-General	0.18	3.60	< 0.001
			Internalization-Athlete	< 0.01	0.03	0.978
			Entertainment-Social	0.08	0.83	0.405
			Intense-Personal	0.15	2.27	0.024
			Borderline-Pathological	0.05	0.44	0.695
			Extraversion	-0.01	-0.21	0.833
			Agreeableness	< 0.01	0.13	0.900
			Conscientiousness	0.05	1.07	0.284
			Emotional Stability	-0.10	-2.17	0.031
			Openness	-0.04	-0.64	0.523
			Age	0.05	1.05	0.296

Note: \*  $p < 0.001$ .

only moderate internal consistency, and it will be important to replicate these results using more robust measures of the Big Five factors.

In similar vein, it may be useful for future work to use objective, rather than self-report, measures of key variables. In relation to height and weight data, for example, it may be useful to obtain objective measures, even though previous work has shown such self-report data to be reliable when respondent anonymity is ensured (Davis, 1990). Future work could also extend the current work by including a wider array of psychological measures, such as self-esteem, life satisfaction, and self-objectification. In addition, it may also be useful to examine the association of PFRS-related variables and other aspects of the tripartite model of body image, namely peer and family pressure.

In conclusion, our results lend support to the PFRS as an ecologically valid measure of body dissatisfaction among women.

Our results showed a role for pressure from the media, internalization of media messages, the Big Five personality factors, and celebrity worship in the development of negative body image. These results may have important practical implications for researchers and practitioners seeking to understand the psychological antecedents of body dissatisfaction. Specifically, our results suggest that the internalization of media influence may be the dominant predictor of body dissatisfaction, over and above such factors as personality and celebrity worship.

## REFERENCES

- Calogero, R. M., Davis, W. N. & Thompson, J. K. (2004). The sociocultural attitudes toward appearance questionnaire (SATAQ-3): Reliability and normative comparisons of eating disordered patients. *Body Image, 1*, 193–198.

- Cash, T. F. (2004). Body image: Past, present, and future. *Body Image, 1*, 1–5.
- Cash, T. F., Maikkula, C. L. & Yamamiya, Y. (2004). Baring the body in the bedroom: Body image, sexual schemas, and sexual functioning among college women and men. *Electronic Journal of Human Sexuality, 7*. Retrieved 27 April 2009, from <http://www.ejhs.org/volume7/bodyimage.html>.
- Cash, T. F. & Pruzinsky, T. (Eds.) (2002). *Body images: A handbook of theory, research, and clinical practice*. New York: Guilford Press.
- Chamorro-Premuzic, T. (2007). *Personality and individual differences*. Oxford: Blackwell.
- Clark, L. & Tiggemann, M. (2006). Appearance culture in 9 to 12 year old girls: Media and peer influences on body dissatisfaction. *Social Development, 15*, 628–643.
- Davis, C. (1990). Body image and weight preoccupation: A comparison between exercising and non-exercising women. *Appetite, 15*, 13–21.
- Davis, C., Dionne, M. & Lazarus, L. (1996). Gender-role orientation and body image in women and men: The moderating influence of neuroticism. *Sex Roles, 34*, 493–505.
- Davis, C., Shuster, B., Blackmore, E. & Fox, J. (2004). Looking good: Family focus on appearance and risk for eating disorders. *International Journal of Eating Disorders, 35*, 136–144.
- Durkin, S. J., Paxton, S. J. & Sorbello, M. (2007). An integrative model of the impact of exposure to idealized female images on adolescent girls' body satisfaction. *Journal of Applied Social Psychology, 37*, 1092–1117.
- Forbes, G. B., Jobe, R. L. & Revak, J. A. (2006). Relationships between dissatisfaction with specific body characteristics and the Sociocultural Attitudes Toward Appearance Questionnaire-3 and Objectified Body Consciousness Scale. *Body Image, 3*, 295–300.
- Gardner, R. M. (2001). Assessment of body image disturbance in children and adolescents. In J. K. Thompson & L. Smolak (Eds.), *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment* (pp. 193–214). Washington, DC: American Psychological Association.
- Giles, D. C. (2002). Parasocial interaction: A review of the literature and a model for future research. *Media Psychology, 4*, 279–302.
- Giles, D. C. & Maltby, J. (2004). The role of media figures in adolescent development: Relations between autonomy, attachment, and interest in celebrities. *Personality and Individual Differences, 36*, 813–822.
- Glauert, R., Rhodes, G., Byrne, S., Fink, B. & Grammer, K. (2009). Body dissatisfaction and the effects of perceptual exposure on body norms and ideals. *International Journal of Eating Disorders, 43*, 42–49.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*, 26–34.
- Gosling, S. D., Rentfrow, P. J. & Swann, W. B. Jr (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*, 504–528.
- Grabe, S., Ward, L. M. & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460–476.
- Greenwood, D. (2009). Idealized TV friends and young women's body concerns. *Body Image, 6*, 97–104.
- Groesz, L. M., Levine, M. P. & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders, 31*, 1–16.
- Grogan, S. (2007). *Body image: Understanding body dissatisfaction in men, women, and children* (2nd edn). London: Routledge.
- Halliwel, E. & Harvey, M. (2006). Examination of a sociocultural model of disordered eating among male and female adolescents. *British Journal of Health Psychology, 11*, 235–248.
- Heinberg, L. J., Thompson, J. K. & Stormer, S. (1995). Development and validation of the Sociocultural Attitudes Toward Appearance Questionnaire. *International Journal of Eating Disorders, 17*, 81–89.
- Humphreys, P. & Paxton, S. J. (2004). Impact of exposure to idealized male images on adolescent boys' body image. *Body Image, 1*, 253–266.
- Keery, H., van den Berg, P. & Thompson, J. K. (2004). An evaluation of the Tripartite Influence Model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image, 1*, 237–251.
- Maltby, J., Giles, D. C., Barber, L. & McCutcheon, L. E. (2005). Intense-personal celebrity worship and body image: Evidence of a link among female adolescents. *British Journal of Health Psychology, 10*, 17–32.
- Maltby, J., Houran, J., Lange, R., Ashe, D. & McCutcheon, L. E. (2002). Thou shalt worship not other gods – unless they are celebrities: The relationship between celebrity worship and religious orientation. *Personality and Individual Differences, 32*, 1157–1172.
- Markland, D. & Oliver, E. J. (2008). The Sociocultural Attitudes Towards Appearance Questionnaire-3: A confirmatory factor analysis. *Body Image, 5*, 116–121.
- McCabe, M. P. & Ricciardelli, L. A. (2003). Sociocultural influences on body image and body changes among adolescent boys and girls. *Journal of Social Psychology, 143*, 5–26.
- McCrae, R. R. & Costa, P. T. Jr (1997). Personality trait structure as a human universal. *American Psychologist, 52*, 509–516.
- McCutcheon, L. E., Lange, R. & Houran, J. (2002). Conceptualization and measurement of celebrity worship. *British Journal of Psychology, 93*, 67–87.
- Mellor, D., McCabe, M., Ricciardelli, L., Yeow, J., Daliza, N. & Mohd. Hapidzal, N. F. (2009). Sociocultural influences on body dissatisfaction and body change behaviors among Malaysian adolescents. *Body Image, 6*, 121–128.
- Monro, F. & Huon, G. (2005). Media-portrayed idealized images, body shame, and appearance anxiety. *International Journal of Eating Disorders, 38*, 85–90.
- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Haines, J. & Story, M. (2006). Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescent Health, 39*, 244–251.
- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. & Eisenberg, M. E. (2006b). Body dissatisfaction prospectively predicts depressive symptoms and low self-esteem in adolescent girls and boys. *Journal of Child and Adolescent Clinical Psychology, 35*, 539–549.
- Rodin, J., Silberstein, L. & Striegel-Moore, R. (1984). Women and weight: A normative discontent. *Nebraska Symposium on Motivation, 32*, 267–307.
- Shorter, L., Brown, S. L., Quinton, S. J. & Hinton, L. (2008). Relationships between body-shape discrepancies with favored celebrities and disordered eating in young women. *Journal of Applied Social Psychology, 38*, 1364–1377.
- Shroff, H. & Thompson, J. K. (2006). The tripartite influence model of body image and eating disturbance: A replication with adolescent girls. *Body Image, 3*, 17–23.
- Smolak, L. (2006). Body image. In J. Worell & C. D. Goodheart (Eds.), *Handbook of girls' and women's psychological health: Gender and well-being across the lifespan. Oxford series in clinical psychology* (pp. 69–76). New York: Oxford University Press.
- Smolak, L. & Levine, M. P. (1994). Critical issues in the developmental psychopathology of eating disorders. In L. Alexander-Mott & D. B. Lumsden (Eds.), *Understanding eating disorders: Anorexia nervosa, bulimia nervosa, and obesity* (pp. 37–60). Philadelphia, PA: Taylor & Francis.
- Smolak, L., Murnen, S. K. & Thompson, J. K. (2005). Sociocultural influences and muscle building in early adolescent boys. *Psychology of Men and Masculinity, 6*, 227–239.
- Stice, E. (2001). A prospective test of the dual pathway model of bulimic pathology: Mediating effects of dieting and negative affect. *Journal of Abnormal Psychology, 110*, 124–135.
- Stice, E. & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research, 53*, 985–993.
- Swami, V. (2006). Female physical attractiveness and body image disorders in Malaysia. *Malaysian Journal of Psychiatry, 14*, 3–7.
- Swami, V. (2007). *The missing arms of Venus de Milo: Reflections on the science of physical attractiveness*. Brighton: The Book Guild.

- Swami, V. (2009). An examination of the factor structure of the Sociocultural Attitudes Towards Appearance Questionnaire-3 in Malaysia. *Body Image, 6*, 129–132.
- Swami, V., Furnham, A., Chamorro-Premuzic, T., Akbar, K., Gordon, N., Harris, T., Finch, J. & Tovée, M. J. (in press). More than skin deep? Personality information influences men's ratings of the attractiveness of women's body sizes. *The Journal of Social Psychology*.
- Swami, V., Hadji-Michael, M. & Furnham, A. (2008a). Personality and individual difference correlates of positive body image. *Body Image, 5*, 322–325.
- Swami, V., Henderson, G., Custance, D. & Tovée, M. J. (2010). *A cross-cultural investigation of men's judgments of female body weight in Britain and Indonesia*. Manuscript under review.
- Swami, V., Salem, N., Furnham, A. & Tovée, M. J. (2008b). Initial examination of the validity and reliability of the female Photographic Figure Rating Scale for body image assessment. *Personality and Individual Differences, 44*, 1752–1761.
- Swami, V., Salem, N., Furnham, A. & Tovée, M. J. (2008c). The influence of feminist ascription on judgements of women's physical attractiveness. *Body Image, 5*, 224–229.
- Swami, V., Steadman, L. & Tovée, M. J. (2009a). A comparison of body size ideals, body dissatisfaction, and media influence between female track athletes, martial artists, and non-athletes. *Psychology of Sport and Exercise, 10*, 609–614.
- Swami, V., Taylor, R. & Carvalho, C. (2009b). Acceptance of cosmetic surgery and celebrity worship: Evidence of associations among female undergraduates. *Personality and Individual Differences, 47*, 869–872.
- Thompson, J. K. (1990). *Body image disturbance: Assessment and treatment*. New York: Pergamon.
- Thompson, J. K., van den Berg, P., Roehrig, M., Guarda, A. S. & Heinberg, L. J. (2004). The Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ-3): Development and validation. *International Journal of Eating Disorders, 35*, 293–304.
- Thompson, M. A. & Gray, J. J. (1995). Development and validation of a new body image assessment tool. *Journal of Personality Assessment, 64*, 258–269.
- Truby, H. & Paxton, S. J. (2002). Development of the children's body image scale. *British Journal of Clinical Psychology, 41*, 185–203.
- Williams, T. L., Gleaves, D. H., Cepeda-Benito, A., Erath, S. A. & Cororve, M. B. (2001). The reliability and validity of a group-administered version of the body image assessment. *Assessment, 8*, 37–46.

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