Psychological Reports, 2009, 105, 461-471. © Psychological Reports 2009

PSYCHOMETRIC PROPERTIES OF THE FRENCH ADAPTATION OF THE MULTIDIMENSIONAL BODY SELF RELATIONS QUESTIONNAIRE–APPEARANCE SCALES[1, 2]

AURÉLIE UNTAS, MICHÈLE KOLECK, AND NICOLE RASCLE

Université Victor Segalen Bordeaux 2

XAVIER BORTEYROU

Université de Franche Comté

Summary.—The present study investigated the psychometric properties of the French adaptation of the Multidimensional Body Self Relations Questionnaire–Appearance Scales, a widely used instrument in body image research. The questionnaire is composed of five subscales: Appearance Orientation, Appearance Evaluation, Overweight Preoccupation, Self-classified Weight, and the Body Areas Satisfaction Scale. Exploratory factor analyses were conducted on a sample of 765 subjects for the first two subscales. As expected, the analyses yielded two factors: Appearance Orientation and Appearance Evaluation. Internal consistencies ranged between .66 and .88 and test-retest reliabilities ranged between .78 and .85 for the five subscales. Appearance evaluation and the Body Areas Satisfaction Scale showed good convergent validity with the Body Image Questionnaire. Validity was supported by comparing scores for sex, for groups according to body mass index (underweight, normal weight, overweight, and obese), and by exploring the influence of social desirability.

Body image has been a topic of interest for several decades. According to Cash and Pruzinsky (2002), body image is a multidimensional construct related to perceptions, thoughts, and feelings about the body and bodily experiences. Many measures have been developed to evaluate different aspects of this construct (Thompson & van den Berg, 2002).

The Multidimensional Body Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990) is a self-report inventory that assesses peoples' attitudes toward the different aspects of body image. In its initial version, the Body Self Relations Questionnaire contained 294 items. Subsequent versions eliminated or replaced items and in 1990, Brown, *et al.* investigated the factor structure of the 54-item form. They found a 7-factor solution identical for males and females. The factors included Appearance Evaluation, Appearance Orientation, Fitness Evaluation, Fitness Orientation, Health Evaluation, Health Orientation, and Illness Orientation.

[1]Address correspondence to Aurélie Untas, Université Victor Segalen Bordeaux 2, Laboratoire de Psychologie "Santé et Qualité de Vie" EA 4139, 3 ter Place de la Victoire, 33 076 Bordeaux Cedex, France or e-mail (aurelie.untas@u-bordeaux2.fr).

[2]French adaptation of the MBSRQûAS available upon request to A. Untas.

DOI 10.2466/PR0.105.2.461-471

Three special subscales were added later to construct the Multidimensional Body Self Relations Questionnaire. The three subscales are Body Areas Satisfaction Scale, the Overweight Preoccupation scale, and the Self-Classified Weight scale.

As many body image researchers are especially interested in the appearance-related subscales, it is common to find studies using the short version of the questionnaire: the MBSRQ–Appearance Scales (MBSRQ–AS). This inventory is composed of 34 items which consist of five subscales: Appearance Evaluation (overall satisfaction with appearance, 7 items), Appearance Orientation (overall investment in appearance, 12 items), Overweight Preoccupation (fat anxiety, weight vigilance, dieting, and eating restraint, 4 items), Self-Classified Weight (self-perception of weight, 2 items), and the Body Areas Satisfaction Scale (satisfaction with different aspects and areas of the body, 9 items). The items are rated on a 5-point Likert-type scale: some items evaluate agreement (from 1: Definitely disagree to 5: Definitely agree), while others assess frequency (from 1: Never to 5: Very often) or satisfaction (from 1: Very dissatisfied to 5: Very satisfied). The Self-Classified Weight scale has a specific response format and the possible answers are 1: Very underweight, 2: Somewhat underweight, 3: Normal weight, 4: Somewhat overweight, and 5: Very overweight.

The five subscales of the MBSRQ–AS generally have good psychometric qualities (Cash, 2000; Cash & Pruzinsky, 2002): the internal consistency ranges from .70 to .89 and 1-mo. test-retest reliability ranges from .74 to .91. The scale has been used in numerous studies focusing on obesity (Grilo, Wilfley, Brownell, & Rodin, 1994; Foster, Wadden, & Vogt, 1997), eating disturbance (Gringras, Fitzpatrick, & McCargar, 2004), body image therapy, and plastic and cosmetic surgery (Bolton, Pruzinsky, Cash, & Persing, 2003; Ching, Thoma, McCabe, & Antony, 2003).

French questionnaires assessing body image in a multidimensional way are lacking in the literature. The most used self-report is a French scale named the Body Image Questionnaire developed by Bruchon-Schweitzer (1990). Recently, the Body Shape Questionnaire was adapted and validated in French (Rousseau, Knotter, Barbe, Raich, & Chabrol, 2005). Short tools measuring investment in appearance and weight concerns are especially needed. The MBSRQ–AS appeared to be appropriate to meet these requirements. Therefore, a French adaptation was developed and the psychometric properties were investigated. The current study presents this validation: factor structure of the items evaluating Appearance Evaluation and Appearance Orientation, internal consistency, test-retest reliability, and convergent and discriminant validity of the five subscales.

Method

Subjects and Recruitment

The scale was administered to a wide sample composed of 772 people (189 men, 583 women). Ages ranged from 18 to 61 years ($M = 32.5$; $SD = 13.4$). It was decided to include obese and overweight people because body image is an important variable to consider in this population (Schwartz & Brownel, 2004).

The sample was recruited in two ways. Students and university staff of the social sciences department were asked to take part in a study on body image through verbal and e-mail announcements. All of the participants were asked if any of their relatives would also be interested in taking part. A second mode of recruitment concerned obese people. It was done via verbal announcements in a plastic surgery unit at a Bordeaux hospital and in two nonprofit associations for the obese. No payment was offered and participation was voluntary.

All of the subjects were informed that their responses would remain anonymous. After providing their consent, they were asked to complete the measures.

The mean ages and sex distribution are presented in Table 1. No additional demographic information was gathered.

TABLE 1

Number, Mean Scores and Standard Deviations For Age, Body Mass Index and the Five Subscales of the MBSRQ–AS

Group	Total Sample		Underweight		Normal Weight		Overweight		Obesity	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Women, *N*	583		32		404		59		88	
M age (*SD*)	33.3	13.4	25.4	7.0	31.4	12.6	41.6	15.7	39.5	12.8
BMI (*SD*)	24.6	7.0	17.9	0.50	21.3	1.66	26.9	1.47	37.5	6.38
Appearance orientation	3.65	0.59	3.52	0.54	3.66	0.56	3.54	0.61	3.78	0.72
Appearance evaluation	3.08	0.78	3.59	0.43	3.25	0.70	2.69	0.55	2.41	0.90
Overweight preoccupation	2.70	0.92	1.80	0.62	2.61	0.90	3.11	0.76	3.22	0.89
Self-classified weight	3.46	0.71	2.63	0.42	3.22	0.46	3.92	0.40	4.63	0.46
Body Areas Satisfaction Scale	3.06	0.59	3.44	0.38	3.14	0.58	2.81	0.49	2.50	0.48
Men, *N*	182				132		50			
M age (*SD*)	31.0	13.3			28.6	11.9	37.1	14.8		
BMI (*SD*)	23.6	2.5			22.2	1.6	26.6	1.2		
Appearance orientation	3.14	0.74			3.15	0.77	3.14	0.66		
Appearance evaluation	3.46	0.66			3.57	0.58	3.18	0.79		
Overweight preoccupation	1.98	0.77			1.85	0.77	2.34	0.71		
Self-classified weight	3.09	0.58			2.89	0.53	3.61	0.35		
Body Areas Satisfaction Scale	3.39	0.55			3.47	0.55	3.20	0.55		

Measures

The MBSRQ–AS was translated and adapted into French according to published recommendations (Vallerand, 1989; Hambleton, Merenda, & Spielberger, 2005). A forward and backward translation procedure was used. First, one professional translator translated the MBSRQ–AS from English to French. A back translation was then applied by a second professional translator. The two translations of the MBSRQ–AS were then evaluated by three professionals: a bilingual speaker, a methodologist, and a psychologist specializing in body image. The group examined the translations and the clarity of the French items. They discussed and corrected discrepancies and evaluated whether appropriate cultural adaptations had to be made. Finally, the French adaptation was tested with a small group of 20 persons. All the items were easily understood and it was decided not to make any changes in this adaptation. The MBSRQ–AS was then administered to our sample of 772 people. To evaluate test-retest reliability, 53 participants completed the questionnaire twice within a 1-mo. interval.

Body Mass Index (BMI) was evaluated by self-reported height and weight. The sample was divided into four groups: underweight (BMI less than 18.5), normal weight (BMI between 18.5 and 25), overweight (BMI between 25 and 30), and obesity (BMI over 30). Because there were only five participants in the sample of underweight men and two participants in the sample of obese men, it was decided to exclude these seven participants. The final sample was composed of 765 participants (see Table 1).

The Body Image Questionnaire (Bruchon-Schweitzer, 1990) was administered to 71 participants. This French scale consists of 19 items with a 5-point response format. It has good psychometric properties and yields a global Body Satisfaction score (Koleck, Bruchon-Schweitzer, Cousson-Gélie, Gilliard, & Quintard, 2002). The internal consistency for the sample (Cronbach coefficient alpha) was .77, which was a little lower than that reported by Koleck, *et al.* (2002).

The Social Desirability Scale of Crowne and Marlowe (1960) was completed by 132 participants to explore the influence of social desirability. The scale is composed of 33 items with a dichotomous format. The internal consistency for the present sample was .80 (Kuder-Richardson's index).

Procedure

The MBSRQ–AS is a collection of subscales: two of them result from the factor analysis of the original questionnaire (Appearance Evaluation and Appearance Orientation) and three of them are included to assess other related aspects of body image (Overweight Preoccupation, Self-Classified Weight and Body Areas Satisfaction Scale). The latter were never pro-

posed or intended as distinctive dimensions vis-à-vis the original Body Self Relations Questionnaire scales. Therefore, in the current study, it was decided to investigate only the factor structure of the two subscales belonging to the original Body Self Relations Questionnaire. Exploratory factor analyses with maximum likelihood and oblique rotations were performed. Internal consistency and 1-mo. test-retest reliability were evaluated for the five subscales.

Convergent validity was measured using the Body Image Questionnaire. In the current study, positive correlations were expected between the two satisfaction subscales of the MBSRQ–AS (Appearance Evaluation and Body Areas Satisfaction Scale) and the Body Satisfaction scale of the Body Image Questionnaire. Discriminant validity was tested with the Social Desirability scale. A nonsignificant correlation was expected between the five subscales of the MBSRQ–AS and Social Desirability.

Regarding group comparisons, sex differences were expected, as women generally report more dissatisfaction with their physical appearances and more concerns with weight and appearance. Previous studies showed a link between overweight or obesity and body satisfaction and weight concerns (Schwartz & Brownell, 2004). If differences between groups categorized by BMI were observed, they should support the validity of the French adaptation of the MBSRQ–AS. According to the literature, participants with normal weight would be more satisfied with their appearances and less preoccupied about their weight than overweight or obese subjects (Muth & Cash, 1997; Franzoi & Koelher, 1998; Cash & Pruzinsky, 2002; Schwartz & Brownell, 2004; Iqbal, Shahnawaz, & Alam, 2006).

Pearson r correlations were used to test temporal stability and convergent and discriminant validity. Analyses of variance were used to make group comparisons.

Results

Factor Structure

To test the factor structure of the MBSRQ–AS, exploratory factor analyses with maximum likelihood and oblique rotation were conducted on the whole sample. According to Cattell's Scree Test (1966), two factors were extracted. These factors explained 42.3% of the total variance (Table 2). The first factor corresponded to the Appearance Orientation scale of the MBSRQ–AS and explained 20% of the variance. The second factor corresponded to the Appearance Evaluation scale of the MBSRQ–AS and explained 22.3% of the variance. All of the 19 items had notable loadings on one of these factors (greater than .35). There was no significant correlation between the two factors ($r = -.03$). As an indication, the same analyses were performed on four subsamples: men, women, and participants

of normal weight or overweight/obese. Participants who were overweight and obese were treated together to provide a sufficient number for analysis. Every analysis yielded two factors, Appearance Evaluation and Appearance Orientation. These results are presented in Tables 2 and 3.

TABLE 2

EXPLAINED VARIANCE AND LOADINGS OF 19 ITEMS ON THE TWO FACTORS FOR TOTAL SAMPLE, MEN, AND WOMEN

Item	Total Sample		Men		Women	
	F1	F2	F1	F2	F1	F2
Explained variance	20%	22.3%	27.4%	18.3%	20.3%	18.6%
1. Notice how I look	−.03	**.74**	**.78**	−.02	.02	**.70**
2. Buy clothes to look my best	.07	**.65**	**.74**	.11	.15	**.54**
3. Have a body that is sexually appealing	**.72**	.07	.12	**.81**	**.70**	.11
5. Like my looks	**.73**	−.14	−.03	**.61**	**.74**	−.09
6. Check appearance	.01	**.50**	**.69**	.10	.02	**.44**
7. Spend time getting ready	−.04	**.52**	**.72**	.06	−.02	**.46**
9. Be considered good-looking	**.62**	.18	.16	**.67**	**.62**	.22
10. Important always to look good	.09	**.72**	**.75**	.02	.15	**.73**
11. Use of grooming products	.04	**−.47**	**−.36**	−.05	−.02	**−.44**
12. Way the person looks without clothes	**.70**	−.16	−.15	**.63**	**.69**	−.06
13. Be self-conscious of my grooming	−.09	**.58**	**.56**	−.17	−.04	**.60**
14. Wear whatever is handy	−.06	**−.66**	**−.77**	−.09	−.14	**−.54**
15. Way clothes fit the person	**.66**	.02	.20	**.50**	**.68**	.08
16. Don't care about what people think	.19	**−.51**	**−.56**	.07	.19	**−.44**
17. Take special care with hair grooming	−.03	**.47**	**.43**	−.03	.04	**.42**
18. Dislike my physique	**−.81**	.14	.10	**−.80**	**−.81**	.06
19. Feel physically unattractive	**−.82**	.00	.08	**−.81**	**−.83**	−.10
20. Never think about appearance	−.01	**−.54**	**−.66**	−.09	−.02	**−.46**
21. Try to improve physical appearance	−.02	**.64**	**.64**	−.04	.04	**.62**

Internal Consistency

Internal consistency (Cronbach coefficient alpha) was satisfactory for the Appearance Orientation ($\alpha = .84$), Appearance Evaluation ($\alpha = .88$), Overweight Preoccupation ($\alpha = .74$), and Self-Classified Weight ($\alpha = .85$) scales, but was quite low for the Body Areas Satisfaction Scale ($\alpha = .66$). The weakly correlated items of this subscale were face, hair, and upper torso.

Test-retest Reliability

Test-retest correlations were high for the five subscales Appearance Orientation ($r = .78$; $p < .001$), Appearance Evaluation ($r = .80$; $p < .001$), Overweight Preoccupation ($r = .87$; $p < .001$), Self-Classified Weight ($r = .92$; $p < .001$), and the Body Areas Satisfaction Scale ($r = .86$; $p < .001$).

Convergent and Discriminant Validity

Correlations between Body Image Questionnaire scores and the five subscales of the MBSRQ–AS showed that two subscales were significantly

TABLE 3
EXPLAINED VARIANCE AND LOADINGS OF 19 ITEMS ON THE TWO FACTORS FOR NORMAL WEIGHT AND OVERWEIGHT/OBESE GROUPS

Item	Normal Weight		Overweight and Obese	
	F1	F2	F1	F2
Explained variance	19.2%	16.5%	27.4%	20.2%
1. Notice how I look	**.72**	−.01	**.77**	.03
2. Buy clothes to look my best	**.60**	.09	**.64**	.05
3. Have a body that is sexually appealing	.09	**.62**	.07	**.71**
5. Like my looks	−.07	**.68**	−.22	**.72**
6. Check appearance	**.44**	−.07	**.65**	.02
7. Spend time getting ready	**.43**	−.04	**.81**	−.07
9. Be considered good-looking	.25	**.55**	.17	**.62**
10. Important always to look good	**.71**	.11	**.70**	.06
11. Use of grooming products	**−.38**	.00	**−.62**	.06
12. Way the person looks without clothes	−.11	**.63**	−.18	**.67**
13. Be self-conscious of my grooming	**.58**	−.10	**.59**	−.03
14. Wear whatever is handy	**−.58**	−.10	**−.65**	.00
15. Way clothes fit the person	.06	**.53**	.00	**.75**
16. Don't care about what people think	**−.48**	.12	**−.47**	.35
17. Take special care with hair grooming	**.42**	.08	**.57**	.02
18. Dislike my physique	.16	**−.82**	.11	**−.75**
19. Feel physically unattractive	.02	**−.77**	−.09	**−.84**
20. Never think about appearance	**−.46**	−.07	**−.55**	.22
21. Try to improve physical appearance	**.59**	−.02	**.70**	−.02

associated with body satisfaction, Appearance Evaluation ($r = .41$; $p < .001$) and the Body Areas Satisfaction Scale ($r = .34$; $p < .01$). Regarding discriminant validity, the relationship between Social Desirability and scores on the five subscales of the MBSRQ–AS was significant only for Appearance Orientation, but this correlation was weak ($r = .24$; $p < .01$). These results are presented in Table 4.

Group Comparison

The normal-weight group of men reported significantly better Appearance Evaluation ($F = 23.2$; $p < .001$) and Body Areas Satisfaction Scale scores ($F = 31.1$; $p < .001$) than women. They also reported lower Appearance Orientation scores ($F = 65.9$; $p < .001$), lower Overweight Preoccupation ($F = 74.9$; $p < .001$), and their Self-Classified Weight was lower ($F = 45.4$; $p < .001$) than for women. Similar sex differences were observed in the overweight group for Appearance Orientation ($F = 10.4$, $p < .01$), for Appearance Evaluation ($F = 14.9$; $p < .001$), for Self-Classified Weight ($F = 17.7$; $p < .001$), for Overweight Preoccupations ($F = 30.1$; $p < .001$), and for the Body Areas Satisfaction Scale ($F = 12.9$; $p < .01$).

Within the sample of women, significant differences were found between the four Body Mass Index groups (underweight, normal weight,

TABLE 4

CORRELATIONS OF THE FIVE SUBSCALES OF THE MBSRQ–AS WITH BODY IMAGE QUESTIONNAIRE AND SOCIAL DESIRABILITY

	n	AO	AE	OP	SCW	BASS
Body Image Questionnaire	71	.03	.41†	–.11	–.13	.34*
Social Desirability	132	.24*	–.01	.11	.14	–.02

Note.—AO = Appearance Orientation; AE = Appearance Evaluation; OP = Overweight Preoccupation; SCW = Self-classified Weight; BASS = Body Areas Satisfaction Scale. *$p < .01$. †$p < .001$.

overweight, and obese) for Appearance Evaluation ($F = 45.5$; $p < .001$), Overweight Preoccupations ($F = 27.4$; $p < .001$), Self-Classified Weight ($F = 287.3$; $p < .001$), and the Body Areas Satisfaction Scale ($F = 21.4$; $p < .001$). No significant differences were observed for Appearance Orientation ($F = 2.66$; ns). More precisely, the group of underweight women had higher ratings on Appearance Evaluation, lower scores on Overweight Preoccupation, and had a lower Self-Classified Weight than the three other groups. Concerning the Body Areas Satisfaction Scale, women in the underweight and normal weight groups had similar scores. Significant differences were found between scores of women in the normal weight and overweight groups on each subscale, women of normal weight reporting higher scores on Appearance Evaluation, lower scores on Overweight Preoccupation, and lower Self-Classified Weight. Finally, between women in the overweight and obese groups, the only significant difference observed was for Self-Classified Weight, women in the obese group having a higher mean score.

Within the sample of men, significant differences were found between the two BMI groups (normal weight and overweight) for each subscale, except for Appearance Orientation ($F = 0.00$; ns). Men in the normal-weight group had higher general satisfaction with appearance ($F = 13.3$ and $p < .001$ for Appearance Evaluation; $F = 8.5$ and $p < .01$ for Body Areas Satisfaction Scale), lower scores on Overweight Preoccupation ($F = 15.0$; $p < .001$), and had lower Self-Classified Weight ($F = 77.5$; $p < .001$) than men belonging to the overweight group.

The mean scores and standard deviations for each subscale of the MBSRQ–AS are presented in Table 1.

DISCUSSION

The present study describes the development and initial validation of the French adaptation of the MBSRQ–AS. The results tend to support the construct validity of the scale.

The two-factor structure of the 19 items belonging to the initial Body Self Relations Questionnaire (Appearance Evaluation and Appearance Orientation) is consistent with the results of Brown, *et al.* (1990). The factorial structure is similar for each Body Mass Index group (women, men,

normal weight, and overweight/obese) and the 19 items load exactly the same factors as in the validation of Brown, *et al.* (1990). Moreover, as there is no correlation between these two factors, the results suggest that Appearance Orientation and Appearance Evaluation are independent constructs. The results concerning internal consistency and test-retest reliability were very similar to those presented by Cash (2000), except for the Body Areas Satisfaction Scale internal consistency, which was quite low. As expected, the two subscales of the MBSRQ–AS assessing body satisfaction (Appearance Evaluation and the Body Areas Satisfaction Scale) were significantly associated with the body satisfaction score of the Body Image Questionnaire. These results support the convergent validity of these measures.

The hypothesized sex differences were found, men being more satisfied with their appearances and less preoccupied with their appearances and overweight than women. These results reflect specific concerns and worries of women about their bodies and unrealistic standards of feminine beauty in Western culture (Koleck, *et al.*, 2002). Similar sex differences in body image have been found previously in Western countries as well as in Asian samples (Muth & Cash, 1997; Franzoi & Koelher, 1998; Chen, Jackson, & Huang, 2006; Iqbal, *et al.*, 2006).

The significant differences found between the four Body Mass Index (BMI) groups (underweight, normal weight, overweight, and obesity) support the sensitivity of the scale. In this sample, increase of BMI seems to be linked with decreased appearance satisfaction and increased weight preoccupation. Obesity and overweight have been related previously to poor body image (Schwartz & Brownell, 2004). Nevertheless, the overall investment in appearance was not significantly different between the samples. As suggested by Koleck, *et al.* (2002), it may be that high standards of beauty affect the whole female population and create pressure independently of weight. However, these analyses should be explored in a sample of underweight and obese men.

The present results also show that the responses to the questionnaire were not related to social desirability for Appearance Evaluation, Overweight Preoccupation, Self-Classified Weight, and the Body Areas Satisfaction Scale, except for Appearance Orientation. The relationship between social desirability and Appearance Orientation can be explained by the growing importance of appearance in society (Dittmar, 2009) and may provide some support for construct validity.

There are limitations that warrant mention. First, in the current study, an attempt was made to recruit a wide sample. Despite that effort, men were underrepresented. It seems that French associations for obese persons usually deal with women's concerns and, therefore, the majority of

members are women. Future researchers should be cautious about these difficulties. Second, BMI was based on reported height and weight. Such a self-report might be contaminated by self-presentation bias. Third, the short form of the MBSRQ was used. It might have been more appropriate to explore the construct validity of the Body Self Relations Questionnaire or the MBSRQ before investigating the psychometric properties of the MBSRQ–AS. However, the aim was to find a brief, easy-to-administer inventory. Moreover, as mentioned above, many researchers in body image are especially interested in the appearance-related subscales. Future research will have to develop and assess the validity of the different subscales of the French adaptation of the MBSRQ–AS, especially using confirmatory factor analysis on a larger and more representative sample than that used in this study.

To conclude, the results suggest that this adaptation has good psychometric properties. Given the lack of French-language surveys assessing body image in a multidimensional way, it will be a useful tool. The results should be explored in other samples such as clinical groups (eating disorders, body dysmorphic disorders, etc.) and in studies focusing on treatment-outcome research in order to ascertain the sensitivity of the different dimensions of the MBSRQ–AS to clinical change.

REFERENCES

Bolton, M. A., Pruzinsky, T., Cash, T. F., & Persing, J. A. (2003) Measuring outcomes in plastic surgery: body image and quality of life in abdominoplasty patients. *Plastic and Reconstructive Surgery*, 112, 619-625.

Brown, T. A., Cash, T. F., & Mikulka, P. J. (1990) Attitudinal body-image assessment: factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment*, 50, 135-144.

Bruchon-Schweitzer, M. (1990) *Une psychologie du corps.* Paris: Presses Universitaires de France.

Cash, T. F. (2000) *MBSRQ user's manual.* (3rd ed.) Norfolk, VA: Old Dominion Univer. Press.

Cash, T. F., & Pruzinsky, T. (2002) *Body image: a handbook of theory, research and clinical practice.* New York: Guilford.

Cattell, R. B. (1966) The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245-276.

Chen, H., Jackson, T., & Huang, X. (2006) The Negative Physical Self Scale: initial development and validation in samples of Chinese adolescents and young adults. *Body Image*, 3, 401-412.

Ching, S., Thoma, A., McCabe, R. E., & Antony, M. M. (2003) Measuring outcomes in aesthetic surgery: a comprehensive review of the literature. *Plastic and Reconstructive Surgery*, 111, 469-483.

Crowne, D. P., & Marlowe, D. (1960) A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.

DITTMAR, H. (2009) How do "body perfect" ideals in the media have a negative impact on body image and behaviors? Factors and processes related to self and identity. *Journal of Social and Clinical Psychology*, 28, 1-8.

FOSTER, G. D., WADDEN, T. A., & VOGT, R. A. (1997) Body image in obese women before, during and after weight loss treatment. *Health Psychology*, 16, 226-229.

FRANZOI, S. L., & KOELHER, V. (1998) Age and gender differences in body attitudes: a comparison of young and elderly adults. *International Journal of Aging and Human Development*, 47, 1-10.

GRILO, C. M., WILFLEY, D. E., BROWNELL, K. D., & RODIN, J. (1994) Teasing, body image, and self-esteem in a clinical sample of obese women. *Addictive Behaviors*, 19, 443-450.

GRINGRAS, J., FITZPATRICK, J., & MCCARGAR, L. (2004) Body image of chronic dieters: lowered appearance evaluation and body satisfaction. *Journal of the American Dietetic Association*, 104, 1589-1592.

HAMBLETON, R. K., MERENDA, P. F., & SPIELBERGER, C. D. (2005) *Adapting educational and psychological tests for cross-cultural assessment.* Mahwah, NJ: Erlbaum.

IQBAL, N., SHAHNAWAZ, M. G., & ALAM, A. (2006) Educational and gender differences in body image and depression among students. *Journal of the Indian Academy of Applied Psychology*, 32, 365-368.

KOLECK, M., BRUCHON-SCHWEITZER, M., COUSSON-GÉLIE, F., GILLIARD, J., & QUINTARD, B. (2002) The Body-Image Questionnaire: an extension. *Perceptual and Motor Skills*, 94, 189-196.

MUTH, J. L., & CASH, T. F. (1997) Body-image attitudes: what difference does gender make? *Journal of Applied Social Psychology*, 27, 1438-1452.

ROUSSEAU, A., KNOTTER, A., BARBE, P., RAICH, R. M., & CHABROL, H. (2005) Validation of the French version of the Body Shape Questionnaire. *L'Encéphale*, 2, 162-173.

SCHWARTZ, M. B., & BROWNELL, K. D. (2004) Obesity and body image. *Body Image*, 1, 43-56.

THOMPSON, J. K., & VAN DEN BERG, P. (2002) Measuring body image attitudes among adolescents and adults. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: a handbook of theory, research, and clinical practice.* New York: Guilford. Pp. 142-154.

VALLERAND, R. J. (1989) Vers une méthodologie de validation transculturelle de questionnaires psychologiques: implication pour la recherche en langue française. *Psychologie Canadienne*, 30, 662-689.

Accepted July 15, 2009.