Chapter

1

Acceptance of Cosmetic Surgery Scale (ACSS)

Donna Henderson-King and Eaaron Henderson-King

Introduction

The Acceptance of Cosmetic Surgery Scale (ACSS) (Henderson-King & Henderson-King, 2005) is a 15-item instrument designed to measure the degree to which respondents accept the use of cosmetic surgery to enhance physical appearance. It is comprised of three subscales that assess acceptance of cosmetic surgery for personal psychological benefits, acceptance for social reasons, and the extent to which individuals would consider having cosmetic surgery.

The ACSS has been used and validated in numerous countries. Samples have spanned a wide range of ages both within and across studies, with participants as young as mid-teens and into older adulthood. Many studies have included both women and men as well as some degree of ethnic and cultural diversity. The scale has been used extensively by researchers, both in its entirety and separate subscales, to study attitudes about cosmetic surgery generally and individuals' interest in having cosmetic surgery, as well as the relationship between cosmetic surgery acceptance and other body-related constructs such as body image, body-esteem, and sociocultural attitudes regarding appearance. Both correlational and experimental studies have utilized the ACSS to examine whether a wide array of social and individual difference factors, such as materialism and social media use, are predictive of, or influence, cosmetic surgery attitudes (e.g., Henderson-King & Brooks, 2009; Walker et al., 2021).

Development

As the 1990s saw an increase in cosmetic surgery procedures, theorists and researchers became more interested in understanding the factors that were driving people's seemingly greater acceptance and consideration of cosmetic surgery. Empirical research required valid and reliable measures of individuals' attitudes and interest in cosmetic surgery, and the ACSS (Henderson-King & Henderson-King, 2005) was developed to fill that need. We aimed to produce a scale that would capture individuals' interest in pursuing cosmetic surgery to enhance their own physical appearance. However, since personal interest in having cosmetic surgery may or may not be consistent with individuals' more general attitudes toward the practice (e.g., someone may be completely disinterested in having cosmetic surgery themselves, and yet have a positive attitude about the use of cosmetic surgery), we also sought to tap attitudes about the more general use of cosmetic surgery to enhance attractiveness.

Our focus was on two broad motives for having cosmetic surgery: intrapersonal (to feel better about oneself) and social (to be more attractive to others, perhaps for relationship or career purposes). Scale development began with a set of 26 items and was reduced for conceptual and statistical reasons to 15 items. Exploratory factor analyses revealed a three-component model with five items loading on each of the Intrapersonal, Social, and Consider factors, and all 15 items loading on a single unrotated factor. The scale demonstrated strong convergent validity, discriminant validity, and test-retest reliability. Of note to potential users of the scale, evidence regarding validity also pointed to the importance of distinguishing between social and intrapersonal aspects of cosmetic surgery acceptance as the two subscales differed in terms of their correlates. These findings reveal meaningful differences between these two aspects of cosmetic surgery attitudes; thus, researchers are advised to consider whether hypotheses regarding cosmetic surgery acceptance apply similarly across all aspects of acceptance.

Administration and Timing

The ACSS can be administered as a paper-and-pencil instrument or in an online format. In its entirety, the ACSS is completed in under five minutes by most respondents.

Factor Structure and Invariance

Research using exploratory and confirmatory factor analyses has consistently supported the three-factor structure in Western societies. However, in non-Western societies a two-factor structure (i.e., Social/Consider and Intrapersonal) has consistently been found (Swami et al., 2011; Wu et al., 2020). The lack of invariance across cultures may reflect how people in individualist and collectivist societies view the self in relation to others. Occasionally, researchers have estimated error correlations for items within each subscale to achieve the best fit. As noted above, Henderson-King and Henderson-King (2005) found that all ACSS items could be combined into a single score, and this has been supported by numerous researchers.

Researchers have examined invariance of the ACSS across factors such as gender, age, education level, and body weight. Women tend to be more accepting of cosmetic surgery for

intrapersonal reasons, and more likely to consider having cosmetic surgery, than men. Some have found that men are more accepting of cosmetic surgery for social reasons than women. Furthermore, the relationship between gender and scores on the Social and the Consider subscales may be moderated by a variety of individual difference variables (e.g., possible selves, Henderson-King & Henderson-King, 2005).

Evidence of Reliability

Research has consistently reported excellent reliability for the overall score and for each subscale with Cronbach alphas ranging from the low .80s to mid .90s. Test-retest reliability for the subscales ranges from .62 to .82 for a 3-week administration window (Henderson-King & Henderson-King, 2005).

Evidence of Validity

There is considerable evidence supporting construct validity. Overall acceptance (total ACSS score) is positively related to body appreciation (Swami et al., 2012; although, see Wu et al., 2020), body shame, life satisfaction, internalization of cultural beauty standards, facial appearance concerns (Wu et al., 2020), and perceived pressure for physical perfection (Meskó & Láng, 2021). Also, interventions designed to reduce cosmetic surgery acceptance can, at least temporarily, lower overall acceptance (Wu et al., 2024).

Regarding the ACSS subscales, there is evidence that scores on Consider are positively associated with attitudes toward makeup use, body dissatisfaction, and the internalization of sociocultural attitudes toward appearance (Henderson-King & Henderson-King, 2005; Meskó & Láng, 2021; Stefanile et al., 2014) and negatively associated with appearance-esteem (Henderson-King & Henderson-King, 2005) and body appreciation (Meskó & Láng, 2021). Scores on both the Intrapersonal and Social subscales have been positively associated with attitudes toward makeup use and fear of becoming unattractive (Henderson-King & Henderson-King, 2005), appearance-related pressures and internalization of appearance pressures (Meskó & Láng, 2021; Stefanile et al., 2014), body dissatisfaction (Stefanile et al., 2014), and body shame (Henderson-King & Henderson-King, 2005). However, only scores on the Social subscale are negatively related to appearance-esteem, social-esteem, and body appreciation (Henderson-King & Henderson-King, 2005; Meskó & Láng, 2021). All of the subscales have consistently been found to be unrelated to general self-esteem, weight dissatisfaction, and performance self-esteem.

Scale Instructions and Items

Instructions read as follows:

Please indicate how much you agree or disagree with the following statements using the scale below.

1 = Disagree a lot; 2 = Disagree somewhat; 3 = Disagree a little; 4 = Neutral; 5 = Agree a little; 6 = Agree somewhat; 7 = Agree a lot.

Items:

1. It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look.
2. Cosmetic surgery is a good thing because it can help people feel better about themselves.
3. In the future, I could end up having some kind of cosmetic surgery.
4. People who are very unhappy with their physical appearance should consider cosmetic surgery as one option.
5. If cosmetic surgery can make someone happier with the way they look, then they should try it.
6. If I could have a surgical procedure done for free, I would consider trying cosmetic surgery.
7. If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery.
8. I have sometimes thought about having cosmetic surgery.
9. I would seriously consider having cosmetic surgery if my partner thought it was a good idea.
10. I would never have any kind of plastic surgery.
11. I would think about having cosmetic surgery in order to keep looking young.
12. If it would benefit my career, I would think about having plastic surgery.
13. I would seriously consider having cosmetic surgery if I thought my partner would find me more attractive.
14. Cosmetic surgery can be a big benefit to people's self-image.
15. If a simple cosmetic surgery procedure would make me more attractive to others, I would think about trying it.

Response Scale

The ACSS uses a seven-point Likert scale (see Scale Instructions and Items above).

Scoring

Reverse score Item 10. Calculate mean scores for each of the subscales and the Overall Acceptance score as follows (replacing Item 10 with Item 10 reverse scored):

Intrapersonal Subscale: Items 1, 2, 4, 5, and 14;

Social Subscale: Items 9, 11, 12, 13, and 15;

Consider Subscale: Items 3, 6, 7, 8, and reverse-scored Item 10;

Overall Acceptance: all items, using the reverse-scored Item 10 in place of Item 10.

Abbreviations

There are no abbreviated versions of the ACSS. However, some researchers have administered only a single subscale of the ACSS. Though original evidence of validity and reliability data were based on the administration of the ACSS in its entirety, subsequent studies have provided evidence of good validity and reliability for the Consider subscale when administered separately.

Cost

The ACSS is a published scale, available for use free of cost.

Permissions

Scholars wishing to use an unmodified version of the ACSS (either in its entirety or individual subscales) have permission to do so without contacting the authors. Those intending to modify items or use individual items from the scale should contact Eaaron Henderson-King (henderse@gvsu.edu) or Donna Henderson-King (hendersd@gvsu.edu) for permission. Those wishing to translate the ACSS have permission to do so. As noted above, the ACSS is available free of cost; use of the scale should not be undertaken for financial gain.

Copyright

Elsevier holds the copyright for the publication in which the ACSS originally appeared (Henderson-King & Henderson-King, 2005). Sample items may be included in research articles to provide explication of the scale and its subscales; however, authors who wish to publish the entire scale in its originally published format should contact Elsevier for permission: www.elsevier.com/authors/permissions-request/journal-permissions-form.

Additional Information for Users

Those reporting on their use of the ACSS should cite the authors of the scale, Henderson-King and Henderson-King (2005). Users of a translated version of the ACSS (Table 1.1), please cite both the authors of the original version and the authors of the translated version.

Any additional questions about the ACSS and its use may be directed to Eaaron Henderson-King (henderse@gvsu.edu) or Donna Henderson-King (hendersd@gvsu.edu).

Table 1.1 Translations available

Language	Authors	Article Link
Mandarin	Wu et al. (2020)	https://doi.org/10.1016/j.bodyim.2020.03.009
Translations Reported (items not presented)		
Hungarian	Meskó & Láng (2021)	https://doi.org/10.1007/s12144–019–00519-z
Arabic	Moriat et al. (2019)	https://doi.org/10.4103/jfmpc.jfmpc_249_19
Italian	Stefanile et al. (2014)	https://doi.org/10.1016/j.bodyim.2014.06.005
Malay	Swami (2010)	https://doi.org/10.1016/j.bodyim.2010.07.005
Korean	Swami et al. (2011)	https://doi.org/10.1177/1090820X11431577
Swedish	Lunde (2013)	https://doi.org/10.1016/j.bodyim.2013.06.007
Serbian	Jovic et al. (2017)	https://doi.org/10.1007/s12144–016–9458–7
Turkish	Karaca et al. (2017)	https://doi.org/10.14744/phd.2017.72692

References

Henderson-King, D., & Henderson-King, E. (2005). Acceptance of cosmetic surgery: Scale development and validation. *Body Image*, **2**, 137–149. https://doi.org/10.1016/j.bodyim.2005.03.003.

Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages, and paternal attitudes predict college women's attitudes about cosmetic surgery. *Psychology of Women Quarterly*, **33**, 133–142. https://doi.org/10.1111/j.1471-6402.2008.01480.x.

Meskó, N., & Láng, A. (2021). Acceptance of cosmetic surgery among Hungarian women in a global context: The Hungarian version of the Acceptance of Cosmetic Surgery Scale (ACSS). *Current Psychology*, **40**, 5822–5833. https://doi.org/10.1007/s12144-019-00519-z.

Stefanile, C., Nerini, A., & Matera, C. (2014). The factor structure and the psychometric properties of the Italian version of the Acceptance of Cosmetic Surgery Scale. *Body Image*, **11**, 370–379. https://doi.org/10.1016/j.bodyim.2014.06.005.

Swami, V., Hwang, C. S., & Jung, J. (2012). Factor structure and correlates of the Acceptance of Cosmetic Surgery Scale among South Korean university students. *Aesthetic Surgery Journal*, **32**, 220–229. https://doi.org/10.1177/1090820x11431577.

Swami, V., Campana, A. N. N. B., Ferreira, L., Barrett, S., Harris, A. S., & Tavares, M. D. C. G. C. F. (2011). The Acceptance of Cosmetic Surgery Scale: Initial examination of its factor structure and correlates among Brazilian adults. Body Image, **8**(2), 179–185. https://doi.org/10.1016/j.bodyim.2011.01.001.

Walker, C. E., Krumhuber, E. G., Dayan, S., & Furnham, A. (2021). Effects of social media use on desire for cosmetic surgery among young women. *Current Psychology*, **40**, 3355–3364. https://doi.org/10.1007/s12144-019-00282-1.

Wu, Y., Alleva, J. M., & Mulkens, S. (2020). Factor analysis and psychometric properties of the Chinese translation of the Acceptance of Cosmetic Surgery Scale. *Body Image*, **33**, 244–256. https://doi.org/10.1016/j.bodyim.2020.03.009.

Wu, Y., Mulkens, S., Atkinson, M. J., & Alleva, J. M. (2024). A brief online cognitive dissonance-based intervention to reduce consideration of cosmetic surgery and improve body image among Chinese women. *Psychology of Women Quarterly*, **48**(1), 80–92. https://doi.org/10.1177/03616843231183946.

Chapter

2

Anti-Fat Microaggression Experiences Questionnaire (AFMEQ)

Jennifer B. Webb, Charlie L. Reeve, Lena Etzel and Abigail S. Hardin

Introduction

The 32-item Anti-Fat Microaggression Experiences Questionnaire (AFMEQ; Webb et al., 2019) is designed to capture a range of contemporary forms of weight bias that individuals living in larger bodies routinely confront. The AFMEQ is informed by microaggression theory describing the pervasive and pernicious cumulative impacts of exposure to subtle verbal and non-verbal behaviors and messages that serve to marginalize individuals of diverse and intersecting social identities (e.g., Singh et al., 2021). The original microaggression taxonomy included the following constructs: micro-assaults, micro-insults, and micro-invalidations (Sue et al., 2007). The AFMEQ extends the current spectrum of existing microaggression measures tapping into experiences of racism, sexism, heterosexism, cisgenderism, and their intersections (e.g., Singh et al., 2021; Sue et al., 2007). A particularly unique feature of the AFMEQ is its recognition of the broader influence of the media in promulgating oppressive stereotypes denigrating higher-weight individuals.

Development

In the wake of the "obesity epidemic" and corresponding dominance of diet culture values, there remained a gap in the literature assessing the less overt, yet still problematic and systemic nature of explicit weight bias perpetrated against higher-weight individuals. While this climate inspired the development of timely measures to evaluate internalized weight bias (Durso & Latner, 2008) and self-stigmatization (Lillis et al., 2010), limited scholarship specifically sought to develop validated self-report measures of anti-fat discrimination experiences that align with the microaggression framework (Myers & Rosen, 1999; Vartanian, 2015). To be responsive to this critical need and to engage in a more theoretically driven enterprise, we initially conducted a mixed-method study that centered the voices and experiences of higher-weight individuals to complement rational scale construction methods, resulting in the preliminary item pool generation of the AFMEQ (Webb et al., 2019).

Administration and Timing

The AFMEQ can be administered online or in person to older adolescents (e.g., younger college-age students) and adults. It has not been validated for use in younger populations. The AFMEQ requires approximately five minutes to complete.

Factor Structure and Invariance

The AFMEQ was conceptualized as a formative measure (as opposed to a reflective measure of latent constructs) and thus the variance structure of the AFMEQ was examined via principal component analysis, in two independent samples. Both datasets evidenced a four-component structure (micro-assault, micro-insult, micro-invalidation, and media-influenced microaggression). The original scale development was conducted with 547 US adults recruited both from among staff, faculty, and students at UNC Charlotte as well as more broadly (69% white, mean BMI = 34.4) (Webb et al., 2019). In a follow-up validation study with 95 US adults recruited through online social media platforms (54% white, mean BMI = 34.5), the 32-item four-component structure was largely replicated, with only one item (Item 31) moving components (Webb et al., 2023). The four components of the AFMEQ align with and extend the larger microaggression literature by adding consideration of media-influenced microaggression. Some researchers have used the sum of all item responses to reflect individuals' aggregate experiences of anti-fat microaggressions (e.g., O'Neill et al., 2023). As this is a formative measure, a summary score could be used to summarize these microaggressions more broadly; yet the four components offer a theoretically informed approach of assessing variations in types of experiences.

Evidence of Reliability

The AFMEQ has demonstrated strong internal consistency. Cronbach's alpha across components ranged from .87 to .95 in the validation sample. O'Neill et al. (2023) recently administered the measure to a sample of adult cisgender women living in the United States and found strong internal consistency (α = .94). Test-retest reliability has not yet been examined. However, we encourage researchers to examine the measure's test-retest reliability in future research.

Evidence of Validity

Research has accrued initial validity evidence for the AFMEQ. Specifically, all four components of the AFMEQ were positively associated with weight bias internalization and weight stigma. The AFMEQ components also correlated positively with different aspects of emotional distress (i.e., anxiety, depression, stress), the perceived weight-related interference with one's quality of life, and weight-related experiential avoidance. In addition, a summary score of the AFMEQ was negatively

associated with body appreciation and lower perceived physical health (O'Neill et al., 2023). Future research is strongly encouraged to continue to examine the validity, utility and measurement invariance of the AFMEQ component scores.

Scale Instructions and Items

Instructions:

> Below are a variety of situations or events dealing with one's body size and/or weight. For each, please consider whether you have had that experience during the last 6 months.
>
> Please use the scale shown to indicate how often during the last six months each of the following events happened to you because of your weight or body size. Try to consider only those situations where you can be relatively certain the action or suggestion was due to your weight or body size and not for some other reason. Please note that the term "overweight" is used in some of the items below. We recognize that this is a commonly used medical term but may not be the preferred term you use to describe your own weight or body size.

1. Someone gave me an offensive look
2. Someone questioned my choice of food
3. Someone repeatedly asked me if I was going to the gym or working out
4. I was limited in how I could travel due to lack of suitably sized seating
5. Someone expressed surprise that I have certain interests or hobbies
6. Someone suggested I should not shop in certain stores
7. Someone suggested I should not visit certain places
8. Someone asked me if I was unhappy because of my weight
9. Someone made a comment suggesting I did not exercise or work out enough
10. Someone asked if I was dissatisfied with my weight or body
11. Someone said I should work out or exercise
12. Someone told me I should try to lose weight
13. Someone suggested I should not eat certain foods
14. Someone assumed I likely know where all of the good places to eat are
15. Someone made a comment suggesting I likely only eat at buffets or eat fast food
16. Someone implied I was dirty or have an unpleasant odor because of my weight
17. Someone asked if I was a food addict
18. I was made to feel invisible because of my weight
19. I felt I was excluded from social activities because of my weight
20. I felt like someone avoided sitting near me in a public place because of my weight
21. I was made to feel that my opinions or ideas don't matter because of my weight
22. My achievements or contributions were overlooked because of my weight
23. I felt like someone was discrediting my work because of my weight
24. Felt like the media portrayed overweight individuals as the stereotypical funny person
25. Felt like the media fails to show the true realities of what it takes to maintain weight loss
26. Felt like the media distorts the length of time it takes to lose weight safely
27. Felt like there is an absence of overweight individuals in product commercials for healthy living
28. Felt like the media was trying to equate health and beauty with a thin body size
29. Felt like the media was being insensitive to the realities of weight bias
30. Felt like the media implies overweight people should be unhappy or dissatisfied
31. Felt like I lost some friends after I gained weight
32. Felt like the media sends mixed messages – the abundance of fast-food commercials alongside the constant dangers of the obesity epidemic

Response Scale

Never = 1, Once or twice = 2, About once a month = 3, A few times a month = 4, Weekly = 5, Several times a week or daily = 6.

Scoring

Subscale scores are computed by calculating the mean of subscale item responses. The AFMEQ requires additional psychometric evaluation to support a full-scale score.

Direct/Interpersonal Micro-Assault	Direct/Interpersonal Micro-Insults
Items 12, 13, 11, 9, 8, 2, 10, 3	Items 31, 16, 15, 4, 7, 5, 14, 17, 6
Direct/Interpersonal Micro-Invalidation	**Media-Influenced Microaggressions**
Items 22, 23, 21, 19, 18, 1, 20	Items 28, 32, 25, 26, 30, 29, 24, 27

Cost

There is no cost associated with the use of the AFMEQ. It is freely available to be used in diverse settings and populations.

Permissions

Individuals (e.g., researchers, clinicians, students, etc.) have permission to use the AFMEQ if they do not modify the items, instructions, or the nature of the scale (e.g., shorten it). If there is interest in adapting, translating, or otherwise modifying the scale, please contact Jennifer B. Webb (jennifer.webb@uncc.edu) with a justification. Scholars are encouraged to follow best practices for scale translation and validation.

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Additional Information

Contact Jennifer B. Webb at jennifer.webb@charlotte.edu if you have additional questions about the AFMEQ.

References

Durso, L. E., & Latner, J. D. (2008). Understanding self-directed stigma: Development of the Weight Bias Internalization Scale. *Obesity*, **16**, S80–S86. https://doi.org/10.1038/oby.2008.448.

Lillis, J., Luoma, J. B., Levin, M. E., & Hayes, S. C. (2010). Measuring weight self-stigma: The Weight Self-Stigma Questionnaire. *Obesity*, **18**, 971–976. https://doi.org/10.1038/oby.2009.353.

Myers, A., & Rosen, J. C. (1999). Obesity stigmatization and coping: Relation to mental health symptoms, body image, and self-esteem. *International Journal of Obesity and Related Metabolic Disorders*, **23**, 221–230. https://doi.org/10.1038/sj.ijo.0800765.

O'Neill, E. A., Trout, K., & Ramseyer Winter, V. (2023). Relationships between experiencing anti-fat microaggressions, body appreciation, and perceived physical and mental health. *Journal of Health Psychology*, **28**, 107–118. https://doi.org/10.1177/13591053221103421.

Singh, R. S., Bhambhani, Y., Skinta, M. D., & Torres-Harding, S. R. (2021). Measurement of intersectional microaggressions: Conceptual barriers and recommendations. *Perspectives on Psychological Science*, **16**, 956–971. https://doi.org/10.1177/1745691621991855.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*, **62**, 271–286. https://doi.org/10.1037/0003-066X.62.4.271.

Vartanian, L. R. (2015). Development and validation of a brief version of the Stigmatizing Situations Inventory. *Obesity Science & Practice*, **1**, 119–125. https://doi.org/10.1002/osp4.11.

Webb, J. B., Reeve, C., Etzel, L., Papay, K., Hardin, A., & Taylor, J. (2019). *The Weight-related Microaggression Experiences Questionnaire (WRMEQ): Item development and initial evaluation.* Poster presented at the American Psychosomatic Society's 77th Annual Scientific Meeting, Vancouver, BC, Canada.

Webb, J. B., Etzel, L., Reeve, C., & Hardin, A. (2023). *Psychometric Refinement of the Anti-fat Microaggression Experiences Questionnaire*. Unpublished data.

Chapter

3

Appearance Anxiety Inventory (AAI)

David Veale and Olivia Hunt

Introduction

The Appearance Anxiety Inventory (AAI; Veale et al., 2013) is a 10-item measure used to assess cognitive processes and behaviours characteristic of body dysmorphic disorder (BDD). The The AAI is derived from the cognitive behavioural model of BDD (Veale, 2004) and measures appearance anxiety as it relates to this model. In this context, appearance anxiety refers to the responses to perceived flaws and shame about one's appearance (e.g., the way attention is self-focussed, the comparing, ruminating, checking and avoidance behaviour) (Roberts et al., 2018; Veale et al., 2013). The AAI has recently become more widely used in clinical research and is sensitive to change as an outcome measure in adults (Veale et al., 2014) and adolescents (Gumpert et al., 2024; Mataix-Cols et al., 2015), and in research (Flygare et al., 2020).

Development

The AAI was developed in response to the lack of measures available to track the cognitive processes and behaviours that might mediate the outcome of treatment in people with BDD (Veale et al., 2013). Items for the AAI were drawn from a cognitive-behavioural model of the maintenance of BDD (Veale, 2004) and the literature on transdiagnostic processes that occur in mental disorders (Harvey et al., 2004). This model is linked to the experience of the self as an aesthetic object and highlights the responses to a distorted self-image and associated shame. In this vein, the AAI seeks to assist clinicians and clients to establish which processes to focus on during therapy in adults (Veale et al., 2013). Since its development, the AAI has been translated into nine languages (i.e., Dutch, German, Indonesian, Italian, Japanese, Polish, Portuguese, Swedish, Urdu).

Administration and Timing

The AAI can be administered online or in person to adolescents and adults. The AAI takes approximately two to three minutes to complete.

Factor Structure and Invariance

Exploratory factor analysis of the AAI in a clinical sample identified two factors: avoidance and threat monitoring (Veale et al., 2013). Six items loaded onto avoidance and four items on threat monitoring. Despite finding two factors, the 10 items were considered as a single factor and accounted for 60.3% of the variance in the items (Veale et al., 2013). Gumpert et al. (2024) however identified three factors in a sample of adolescents with BDD, namely 'threat monitoring', 'camouflaging' and 'avoidance', explaining 48.15% of the variance. However, a study of a non-clinical sample of adolescents and university students indicated that nine AAI items loaded highly on a single factor with the tenth item relating to checking behaviours being excluded due to its loading highly on a second factor (Roberts et al., 2018). Roberts et al. (2018) also found that the age invariance of the AAI loadings was supported.

Evidence of Reliability

The original AAI was found to have good internal consistency in a clinical (α = .86) and community sample (α = .91, Veale et al., 2013), and had good test–retest reliability after 1 week with an intra-class correlation of .87 ($p < .001$) (Veale et al., 2013). The Polish translation of the AAI demonstrated an identical Cronbach's alpha coefficient to the original AAI validation (Yurtsever et al., 2021). It has also demonstrated good internal consistency in adolescents with BDD (McDonald's omega = .83) (Gumpert et al., 2024).

Evidence of Validity

The AAI has accrued much convergent validity support. The AAI has been significantly correlated with several other measures, including the BDD-YBOCS (Yale Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder). Veale et al. (2013) also demonstrated that the AAI was highly correlated with measures of social anxiety and appearance-based rejection, as well as showing a moderate negative correlation with the quality of life affected by body image (BIQLI; Body Image Quality of Life Inventory). These findings suggest that higher scores on the AAI are associated with more negative beliefs about appearance, resulting in a greater negative impact of body image on a person's quality of life. There is also convergent validity data in adolescents (Mastro et al., 2016; Roberts et al., 2018) and on the BDD-YBOCS for adolescents with BDD (Gumpert et al., 2024). The AAI is sensitive to change during cognitive behaviour therapy in adults (Veale et al., 2014) and adolescents (Gumpert et al., 2024; Mataix-Cols et al., 2015). The Polish validation of the AAI also demonstrated convergent validity of the AAI and Cosmetic Procedure Screening Questionnaire for the severity of BDD symptoms (Yurtsever et al., 2021).

Scale Instructions and Items

Instructions: 'Please tick the box that best describes the way you have felt about the appearance of a specific feature over the past week, including today.'

1. I compare aspects of my appearance to others.
2. I check my appearance (e.g., in mirrors, by touching with my fingers, or by taking photos of myself).
3. I avoid situations or people because of my appearance.
4. I brood about past events or reasons to explain why I look the way I do.
5. I think about how to camouflage or alter my appearance.
6. I am focussed on how I feel I look, rather than on my surroundings.
7. I avoid reflective surfaces, photos, or videos of myself.
8. I discuss my appearance with others or question them about it.
9. I try to camouflage or alter aspects of my appearance.
10. I try to prevent people from seeing aspects of my appearance within situations (e.g., by changing my posture, avoiding bright lights).

Response Scale

Not at all = 0, A little = 1, Often = 2, A lot = 3, All the time = 4.

Scoring

The AAI total score is obtained by summing all the items. The maximum score is 40, and higher scores reflect greater frequency of a process. A reliable change score is 7 or above. Caseness for BDD is a score of 19 or above. No items are reverse scored (Veale et al., 2013).

Cost

There is no cost associated with the use of the AAI. The measure is free to use in any setting.

Translations (Table 3.1)

Table 3.1 Translations

Language	Authors	Article Link
Dutch	van Rood	An up-to-date list of translations that can be downloaded is provided via www.veale.co.uk/scales/#appearance-anxiety
English	Veale et al. (2013)	
German	Kasch, Lorenz, & Vogelbacher	
Indonesian	Pradifta	
Italian	Fossati	
Japanese	Kobayashi	
Polish	Yurtsever	
Portuguese	Rocha Dores	
Swedish	Enander & Mataix-Cols	
Urdu	Younus	

Permissions

Scholars (e.g., researchers, faculty, students) and clinicians have permission to use the AAI if they do not modify any item or change the nature of the scale (e.g., shorten it). If scholars wish to modify the individual scale items or the items composing the scale, they should seek permission from David Veale (david.veale@kcl.ac.uk) and provide a rationale. Scholars who wish to translate the AAI into another language should also contact David Veale for permission and facilitate back translations. Scholars are encouraged to follow best practices for scale translation and validation (see Swami & Barron, 2019; Swami, Todd, & Barron, 2021).

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References

Flygare, O., Chen, L. L., Fernández De La Cruz, L., Rück, C., Andersson, E., Enander, J., & Mataix-Cols, D. (2021). Empirically defining treatment response and remission in body dysmorphic disorder using a short self-report instrument. *Behavior Therapy*, **52**(4), 821–829. https://doi.org/10.1016/j.beth.2020.10.006.

Gumpert, M., Rautio, D., Monzani, B., Jassi, A., Krebs, G., Fernández de la Cruz, L., et al. (2024). Psychometric evaluation of the Appearance Anxiety Inventory in adolescents with body dysmorphic disorder. *Cognitive Behaviour Therapy*, **53**(3), 254–266. https://doi.org/10.1080/16506073.2023.2299837.

Harvey, A., Shafran, R., Watkins, E., & Mansell, W. (2004). *Cognitive Behavioural Processes Across Psychological Disorders: A Transdiagnostic Approach to Research and Treatment* (1st ed.). Oxford University Press.

Mastro, S, Zimmer-Gembeck, M. J, Webb, H.J, Farrell, L, Waters, A. (2016). Young adolescents' appearance anxiety and body dysmorphic symptoms: Social problems, self-perceptions and comorbidities. *Journal of Obsessive-Compulsive and Related Disorders*, **8**, 50–55. https://doi.org/10.1016/j.jocrd.2015.12.001.

Mataix-Cols, D., Fernández de la Cruz, L., Isomura, K., Anson, M., Turner, C., Monzani, B., et al. (2015) A pilot randomized controlled trial of cognitive-behavioral therapy for adolescents with body dysmorphic disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, **54**(11), 895–904. http://dx.doi.org/10.1016/j.jaac.2015.08.011.

Roberts, C., Zimmer-Gembeck, M. J., Lavell, C., Miyamoto, T., Gregertsen, E., & Farrell, L. J. (2018). The Appearance Anxiety Inventory: Factor structure and associations with appearance-based rejection sensitivity and social anxiety. *Journal of Obsessive-Compulsive and Related Disorders*, **19**, 124–130. https://doi.org/10.1016/j.jocrd.2018.10.004.

Swami, V., & Barron, D. (2019). Translation and validation of body image instruments: Challenges, good practice guidelines, and reporting recommendations for test adaptation. *Body Image*, **31**, 204–220. https://doi.org/10.1016/j.bodyim.2018.08.014.

Swami, V., Todd, J., & Barron, D. (2021). Translation and validation of body image instruments: An addendum to Swami and Barron (2019) in the form of frequently asked questions. *Body Image*, **37**, 214–224. https://doi.org/10.1016/j.bodyim.2021.03.002.

Veale, D. (2004). Advances in a cognitive behavioural model of body dysmorphic disorder. *Body Image*, **1**(1), 113–125. https://doi.org/10.1016/s1740-1445(03)00009-3.

Veale, D., Eshkevari, E., Kanakam, N., Ellison, N., Costa, A., & Werner, T. (2013). The Appearance Anxiety Inventory: Validation of a process measure in the treatment of body dysmorphic disorder. *Behavioural and Cognitive Psychotherapy*, **42**(5), 605–616. https://doi.org/10.1017/s1352465813000556.

Veale, D., Anson, M., Miles, S., Pieta, M., Costa, A., & Ellison, N. (2014). Efficacy of cognitive behaviour therapy versus anxiety management for body dysmorphic disorder: A randomised controlled trial. *Psychotherapy and Psychosomatics*, **83**(6), 341–353. https://doi.org/10.1159/000360740.

Yurtsever, I., Matusiak, U., Szepietowska, M., Veale, D., & Szepietowski, J. (2022). Appearance Anxiety Inventory (AAI): Creation and validation of the Polish language version. *Advances in Dermatology and Allergology*, **39**(5), 940–943. https://doi.org/10.5114/ada.2021.112767.

Zimmer-Gembeck, M. J., Webb, H. J., Farrell, L. J., & Waters, A. M. (2018). Girls' and boys' trajectories of appearance anxiety from age 10 to 15 years are associated with earlier maturation and appearance-related teasing. *Developmental Psychopathology*, **30**(1), 337–350. https://doi.org/10.1017/S0954579417000657.

Chapter

4

Appearance-Based Rejection Sensitivity (Appearance-RS) Scale

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Introduction

The Appearance-based Rejection Sensitivity (Appearance-RS) Scale (Park, 2007) measures the degree to which individuals anxiously expect and readily perceive rejection from others based on their physical appearance. Appearance-RS is conceptualized as a dispositional personality processing system consisting of both an affective component (i.e., anxiety about how one's appearance is perceived and evaluated by others) and a cognitive component (i.e., expectations of rejection based on one's looks). These components are thought to interact with one another, such that anxieties about appearance rejection amplify or exacerbate cognitive expectations of rejection (Park, 2007). The scale was originally designed for use with young adults and adults and later, with adolescents (Bowker et al., 2013). Individuals vary in the degree to which they are sensitive to appearance-based rejection with consequences for their mental and physical health, motivation, and interpersonal relationships.

Development

The Appearance-RS scale is a form of rejection sensitivity that is specific to anxious expectations of rejection based on one's appearance, rather than concerns about rejection in general or based on other characteristics, such as one's race or gender. The Appearance-RS scale presents 15 ambiguous scenarios in which individuals indicate (a) how anxiously concerned they would be about their appearance in each situation and (b) their expectations of being rejected by others in each situation based on their appearance. There is also a brief 10-item version of the Appearance-RS scale (Park, 2007) and a 10-item version of the scale that was adapted from the original scale to be age-appropriate for adolescents (Bowker et al., 2013).

Administration and Timing

The full (15-item) or brief (10-item) version of the Appearance-RS scale can be administered online or in-person to young adults and adults, and the adolescent (10-item) version of the scale can be administered online or in-person to youth approximately 10–14 years of age. The brief versions of the scale take about two to three minutes to complete and the full version, about three to four minutes to complete.

Factor Structure and Invariance

Results of an exploratory factor analysis with principal axis factoring and oblique rotation on the scores for each scenario of the Appearance-RS scale suggested that a one-factor solution best fit the data (Park, 2007). All 15 items on the Appearance-RS scale loaded at greater than .40 on the primary factor and factor loadings ranged from .43 to .72. Appearance-RS was not found to be significantly related to ethnicity (Park, DiRaddo, & Calogero, 2009), age, or gender (Park, 2007), although one study did find a significant gender difference with women reporting higher Appearance-RS than men (Park, Diraddo et al., 2009). For the Appearance-RS scale for adolescents, an exploratory factor analysis showed that a one-factor solution was most appropriate with all factor loadings on the main factor greater than .40, and no gender differences in Appearance-RS were observed in the adolescent sample (Bowker et al., 2013).

Evidence of Reliability

The full 15-item Appearance-RS scale shows high internal consistency ($\alpha = .90$ at Time 1; $\alpha = .90$ at Time 2) and test–retest reliability ($r = .69$, $p < .001$) in a 6- to 8-week period (Park, 2007). The brief, 10-item Appearance-RS scale also showed acceptable internal consistency ($\alpha = .88$) (Park, DiRaddo et al., 2009) as did the 10-item version of the Appearance-RS scale for adolescents ($\alpha = .91$) (Bowker et al., 2013).

Evidence of Validity

Appearance-RS, as measured by the 15-item scale, has been shown to be related to higher general (i.e., personal) rejection sensitivity, insecure attachment styles, neuroticism, appearance contingency of self-worth, and lower self-esteem, secure attachment style, and self-rated attractiveness (Park, 2007). Among adolescents, Appearance-RS was related to higher general rejection sensitivity, social anxiety, and lower self-esteem (Bowker et al., 2013).

Studies have shown that Appearance-RS uniquely predicts making more frequent appearance-based social comparisons with others, reporting more symptoms of disordered eating, and feeling more alone and rejected when thinking about dissatisfying aspects of one's appearance (Park, 2007). However, concerns about rejection based on appearance can be alleviated