Construct validation of a state version of the Social Physique Anxiety Scale among young women

Kathleen A. Martin Ginis*, Elisa Murru, Catherine Conlin, Heather A. Strong

McMaster University, Hamilton, ON L8S 4K1, Canada

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A B S T R A C T

This study examined the validity of a state version of the Social Physique Anxiety Scale (Hart, Leary & Rejeski, 1989) by conducting tests of concurrent and discriminative validation. Participants were four separate samples of young women (N = 221) who exercised ≤2 days/week and who participated in various experiments examining body image and self-presentation. Participants’ scores on the state SPAS (S-SPAS) were significantly correlated, in expected directions, with scores on both trait and state measures of body image and self-presentation, and with body mass index (BMI). In addition, S-SPAS scores discriminated between women who exercised in a mixed-sex versus a same-sex environment, but trait SPAS scores did not. Together, these results provide evidence of construct validity of a state version of the SPAS and demonstrate that social physique anxiety can be conceptualized and measured as a situational variable. The S-SPAS, rather than the trait SPAS, should be employed in experiments designed to detect differences in state social physique anxiety.

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Introduction

Social physique anxiety refers to the anxiety people experience when they are worried about others’ evaluations of their bodies (Hart, Leary, & Rejeski, 1989). Twenty years ago, Hart and colleagues developed the Social Physique Anxiety Scale (SPAS) to measure people’s tendencies to experience social physique anxiety. Since then, the SPAS has been used in dozens of studies, typically as a predictor of exercise and other health-related behaviours or as an outcome of interventions designed to improve body image (for reviews, see Hausenblas, Brewer, & Van Raalte, 2004; Martin Ginis & Leary, 2004; Martin Ginis, Lindwall, & Prapavessis, 2007).

As noted by other investigators, social physique anxiety was originally conceptualized as a relatively stable personality trait (Marquez & McAuley, 2001; McAuley, Bane, & Mihalko, 1995). However, it has become increasingly recognized that social physique anxiety can fluctuate across situations. For instance, scenario studies have shown that women anticipate experiencing greater social physique anxiety in mixed-sex than all-female exercise classes (Kruisellebrink, Dodge, Swanburg, & MacLeod, 2004), and in exercise classes led by a male instructor rather than a female instructor (Amirthavasar & Bray, 2007). Furthermore, women who perceive their fitness instructor to be more attractive than themselves experience greater situational social physique anxiety than those who perceive their instructor to be just as attractive or less attractive than they are (Martin Ginis, Prapavessis, & Haase, 2008). Taken together, these studies support the notion that in addition to having dispositional qualities, social physique anxiety can also have situational manifestations and fluctuations.

Conceptualizing social physique anxiety as both a dispositional and state variable is consistent with conceptualizations of the parent concepts of self-presentation and body image. Self-presentation (also known as “impression management”) refers to the processes people use to monitor and control how they are perceived by others (Schlenker, 1980). According to the Two-Component Model of Impression Management and its supporting research (Leary & Kowalski, 1990), self-presentation concerns can vary across people and situations. Given that social physique anxiety is an affective manifestation of self-presentation concerns about one’s body, it makes sense that social physique anxiety would also vary both between and within individuals. Body image is a multidimensional concept that captures thoughts, feelings, behaviours, and perceptions regarding one’s body. Although body image was originally conceptualized as a trait, accumulating data indicate that body experiences can vary across situations (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002; Haimovitz, Lansky, & Oreilly, 1993; Wasilenko, Kulik, & Wanic, 2007). As an affective expression of body image (Bane & McAuley, 1998), it is understandable that social physique anxiety would also vary across situations.

In order to accurately detect and measure momentary changes in body experiences, state measures are needed (Cash et al., 2002).
To date, investigators have assessed state manifestations of social physique anxiety by modifying the original trait SPAS instructions and items to make them relevant to their individual studies (e.g., Amirthavasar & Bray, 2007; Kruisselbrink et al., 2004; Martin Ginis et al., 2008). Although these modified scales have successfully detected differences in state social physique anxiety across various contextual manipulations, construct validation of these measures has not yet been undertaken. Furthermore, without a standardized set of state SPAS items, different investigators may make different modifications to the scale items, which can ultimately lead to difficulties comparing findings across studies. Given these concerns, the primary purpose of the present study was to investigate a state version of the SPAS and examine its construct validity.

Construct validation is an ongoing process of making new predictions about a construct and then testing them using various approaches (Streiner & Norman, 2008). In the present study, we undertook tests of convergent and discriminative (also known as “extreme groups”) validation. With regard to convergent validation, it was hypothesized that scores on the state SPAS (S-SPAS) would be significantly correlated with measures of body image and self-presentation, and with body mass index (BMI). Discriminative validation involves administering the scale to two groups who would be expected to have significantly different scale scores (Streiner & Norman, 2008). We compared the S-SPAS scores among women exposed to a same-sex versus a mixed-sex exercise environment. Based on previous scenario research (Kruisselbrink et al., 2004), it was hypothesized that women who exercised in a mixed-sex environment would have higher state social physique anxiety than those exercising in a same-sex environment.

A secondary study purpose was to compare the responsiveness of the S-SPAS versus the trait SPAS in a situation expected to elicit social physique anxiety. Responsiveness is another aspect of validation, and refers to the ability of an instrument to measure meaningful change in an attribute (Streiner & Norman, 2008). We compared the responsiveness of the trait and S-SPAS to determine whether a state version of the SPAS is necessary to detect situational fluctuations in social physique anxiety. It was hypothesized that differences in state, but not trait SPAS scores would emerge among women who exercised in a mixed-sex versus same-sex environment.

Method

Participants

The data presented in this article were collected in four separate studies involving samples of young women who participated in ≤ 2 bouts/week of moderate–heavy intensity leisure time physical activity. Sample 1 (n = 47) consisted of data not previously published. Data from the other three samples constitute secondary analyses. Samples 2 (n = 50; Martin Ginis, Strong, Arent, & Bray, under review) and 3 (n = 44; Strong, 2010) consisted of women who participated in studies examining stress responses in different social evaluative situations. Sample 4 (n = 80) consisted of women who participated in a study of the effects of exercise videos on body image (Martin Ginis et al., 2008). Characteristics of the study samples are presented in Table 1.

Measures

Trait Social Physique Anxiety Scale (SPAS; Hart et al., 1989). Originally, the SPAS was developed as a 12-item measure. However, concerns about the factor structure and some negatively worded items prompted various investigators to recommend the deletion of scale items (for a review of these issues, see Martin Ginis et al., 2007). Consequently, a team of investigators that included two of the original SPAS authors (Leary and Rejeski) recommended a 9-item version of the SPAS (Martin, Rejeski, Leary, McAuley, & Bane, 1997). This team showed that in samples of younger and adult women, after deleting three of the original SPAS items, the scale’s unidimensional factor structure was supported, the items had good internal consistency (α = .89), and total SPAS scores were correlated in meaningful ways with related concepts. As such, the 9-item version of the SPAS was administered in the present study, as a measure of trait social physique anxiety. Participants indicated the degree to which each statement was characteristic or true of themselves using a 5-point Likert scale (1 = not at all; 5 = extremely). SPAS items are shown in the first column of Appendix A. Items 2 and 8 were reverse scored and a total SPAS score was then calculated. Higher scores indicate greater tendencies to experience social physique anxiety.

State Social Physique Anxiety Scale (S-SPAS). The S-SPAS is a modified version of the 9-item (Martin et al., 1997) Social Physique Anxiety Scale (SPAS; Hart et al., 1989) and is designed to capture situational social physique anxiety. Given the history of the SPAS, described above, the 9-item version of the SPAS was used as the basis for creating the S-SPAS rather than the original 12-item version. The SPAS items were originally modified by Kruisselbrink and Martin Ginis in 2001 for the purpose of measuring state social physique anxiety in exercise settings. Pilot testing of the revised items was undertaken in Martin Ginis’s lab (Burke, 2002). The items were subsequently refined and used in Kruisselbrink’s (Kruisselbrink et al., 2004) study to examine men’s and women’s responses to hypothetical scenarios describing mixed- and same-sex exercise environments. As shown in Appendix A, most of the items required only minor rewording to make them situationally relevant. However the 9th item, which was originally phrased to assess physique anxiety about wearing a bathing suit, was rewritten to assess physique anxiety experienced while wearing workout clothes. This item was phrased somewhat differently across samples, depending on what participants were required to wear during the experiment (i.e., “workout clothes,” “usual workout clothes,” or “shorts and a t-shirt”), and in order to ensure that the item was meaningful within the experimental context.

Likewise, the instruction set for the scale varied slightly across the four studies to ensure that the instructions were appropriate and meaningful in each experimental context. In two studies (Samples 1 and 2), the measure was administered immediately after women exited an exercise environment, so the questions were written in the past tense and preceded by the following instructions: “Indicate the number that best represents the extent to which you experienced the feelings described by each item.” In one study (Sample 3), the scale was administered immediately after body fat measurements were conducted on study participants, and while participants were still in the assessment environment. Thus, the items were written in the present tense and the instructions stated: “Indicate the number that best represents the extent to which you are experiencing the feelings described by each item.” In the fourth study, participants exercised to a workout video in an isolated environment, so they were instructed to respond to the S-SPAS by imagining themselves in a real-life aerobics class (a methodology analogous to the scenario studies that have been used previously to study state social physique anxiety; Amirthavasar & Bray, 2007; Kruisselbrink et al., 2004). The items were written in the conditional verb tense (e.g., “I would feel uptight about my physique/figure”) and items that referred to “other people” were replaced with “the instructor” to adapt the S-SPAS to the imagined, instructor-led aerobics setting.

Responses were made on 5-point Likert-type scales (1 = not at all; 5 = a great deal). For grammatical reasons, the anchor for “5” was changed to “a great deal” in the S-SPAS from “extremely” in
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