

# Beyond the Thin Ideal: Development and Validation of the Fit Ideal Internalization Test (FIIT) for Women

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Females are at risk for body image and eating disturbance when they internalize societally prescribed standards of Western beauty. With respect to messages to be thin or muscular, numerous scales are available that measure internalization. However, many women are now receiving messages about the desirability of being both thin and toned, yet no self-report measure of internalization of a fit female body ideal exists. Our aim was to develop a multidimensional tool (i.e., the Fit Ideal Internalization Test; FIIT) useful for assessing women's internalization of the fit ideal (i.e., a lean and toned body ideal). Three studies were conducted, recruiting independent groups of women attending university to complete surveys. In Study 1 ( $N = 300$ , age 16–51), women completed the FIIT items, and a 3-factor structure of fit idealization (8 items), fit overvaluation (8 items), and fit behavioral drive (4 items) was established through exploratory factor analysis. Also, items loading highly on each of the factors had good interitem correlations. In Study 2 ( $N = 354$ , age 16–63), women completed the 20-item FIIT and validation measures. The 3-factor structure of the FIIT was confirmed, and findings supported convergent, discriminant, and incremental validity of the FIIT subscale scores (and a total score). In Study 3 ( $N = 67$ , age 17–50), the 2-week test–retest reliability of the FIIT scores was high. Overall, the 3 FIIT subscales are related but also distinct domains of fit ideal internalization that conform to theory and may be used as individual subscales or potentially as a composite score.

### Public Significance Statement

Having a simultaneously lean and toned female body is often publicized as desirable and ideal. Yet no measure exists to assess women's internalization of this fit ideal. We developed a multidimensional measure of fit ideal internalization for women, which aligned with contemporary female body image theory. In three studies, the measure was developed and validated, and results showed that fit internalization is associated with behavioral and psychological maladjustment.


*Keywords:* fit ideal, thin ideal, muscular ideal, body image, measurement

For decades, the most widely cited and supported sociocultural theories of body image and eating disturbance have emphasized that women are at higher risk for eating pathology when they overvalue and internalize the Western societal prescribed standard of thinness as the beauty ideal (Ata, Schaefer, & Thompson, 2015; Fairburn, Cooper, & Shafran, 2003; Fredrickson & Roberts, 1997; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Consequently, there has been a plethora of research dedicated to the creation of measures that tap the various cognitive, behavioral, and affective facets of thin body ideal internalization (D. A. Anderson,

Schauberg, Reilly, & Anderson, 2015). For example, some of the most popular scales tap the extent to which one accepts and/or desires a thin body ideal (e.g., the SATAQ and the Ideal Body Internalisation; Schaefer et al., 2015; Stice, 2001). Using such measures, researchers have linked women's thin ideal internalization with problematic outcomes such as dieting, bulimic symptoms, psychological distress, body dissatisfaction, body surveillance, social comparison, compulsive exercise, and supplement use (Cafri, Yamamiya, Brannick, & Thompson, 2005; Fitzsimmons-Craft, Harney, et al., 2012; Homan, 2010; Thompson & Stice, 2001; Uhlmann, Donovan, Zimmer-Gembeck, Bell, & Ramme, 2018). Indeed, internalization of the thin ideal has been identified as one of the most important predictors of women's eating pathology (Cafri et al., 2005; Thompson & Stice, 2001).

Yet a focus on thin ideal internalization does not reflect that Western women are now also bombarded with media images and messages that lead them to subscribe to the notion that both thinness and muscle tone are required to be beautiful (Tiggemann & Zaccardo, 2018). This simultaneous focus on leanness and tone is becoming popularly known as the "fit/athletic ideal," and there is now ample evidence documenting the embracing of this body

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standard by the popular media and young women, particularly social media users (Boepple & Thompson, 2016; Bozsik, Whisenhunt, Hudson, Bennett, & Lundgren, 2018; Butler & Ryckman, 1993; Gruber, 2007; Kelley, Neufeld, & Musher-Eizenman, 2010; Simpson & Mazzeo, 2017).

Most research investigating the internalization, or pursuit of female aesthetic ideals, has focused on thinness separate from muscularity as body goals. To illustrate, the Sociocultural Attitudes Toward Appearance Questionnaire is one of the most commonly used tools to measure internalization of body ideals (SATAQ-4R; Schaefer, Harriger, Heinberg, Soderberg, & Thompson, 2017). This measure has two internalization subscales: thin and athletic/muscular. While the athletic/muscular subscale has been used as an approximation of the fit ideal, examination of the items reveal that they tap internalization of a “muscular” ideal only, and do not ask about thinness and muscle tone as an ideal combination. Certainly, when it comes to men in Western countries, it is important to assess the internalization of the muscular ideal separate from the thin ideal. Although male aesthetic standards place importance on being lean with very low bodyfat, they emphasize muscle bulk (McCreary & Sasse, 2000). In contrast to the idealized muscular and large aesthetic for men, the ideal woman is often portrayed as thin and fit looking, with women typically reporting a desire for a lean body that is toned but not overly muscular (Butler & Ryckman, 1993). Indeed, the athletic/muscular scale of the SATAQ-4R has only demonstrated small associations with measures of disordered eating, body satisfaction, and self-esteem in populations of women, leading the authors of the scale to conclude that the muscular internalization scale may be more relevant to men (Schaefer et al., 2017).

The notion that a simultaneously lean and toned body type is perceived as ideal by Western women is supported by the growing body of research documenting that exposure to imagery depicting both the thin and fit ideals subsequently increases body dissatisfaction in women, while exposure to hyper-muscular imagery, or imagery of average weight toned women, does not (Benton & Karazsia, 2015; Homan, McHugh, Wells, Watson, & King, 2012; Robinson et al., 2017). Recent research suggests that exposure to a lean and toned body (i.e., the fit ideal) results in a higher level of body dissatisfaction, even relative to exposure to the traditional thin body ideal (Robinson et al., 2017). From a sociocultural perspective, given that the fit ideal consists of two competing and unrealistic body standards (e.g., high thinness combined with noticeable muscle tone), it may be more unattainable than thinness and even more discrepant when compared to average women’s bodies (Ata et al., 2015; Fitzsimmons-Craft, 2011). This could mean that internalizing a fit ideal may be associated with pathological eating and problematic affective outcomes, as much or even more so when compared to the ill effects of internalization of the thin or muscular ideals alone.

Despite increasing literature demonstrating the existence of the fit ideal and descriptions that women are perhaps internalizing the fit ideal, a self-report scale to measure fit internalization does not yet exist, restricting the empirical study of its predictors, correlates, and outcomes. The aim of the current series of three studies was to develop and psychometrically test a theoretically derived new measure of fit body ideal internalization for use with women, defined as internalization of the desirability and value of a body that is simultaneously lean and toned.

## Operationalizing Fit Ideal Internalization

Internalization is defined as the extent to which an individual perceives societal standards as personally desirable (Thompson et al., 1999; Thompson & Stice, 2001), adopts societal standards, values, and beliefs into a personal value system, and draws on such standards as guides to behavioral and moral principles (“Internalization,” 2013; “Internalization,” 2005). Violations of those principles thus creates emotional and cognitive distress (e.g., guilt; Etzioni, 2000; Grusec & Goodnow, 1994), and adherence contributes to feelings of accomplishment (McKinley & Hyde, 1996). Thus, for internalization to occur, there appear three criteria to assess: 1) cognitive acceptance of a societal standard and a cognitive affective desire to conform to the standard, 2) cognitive and affective integration of the value and meaning of adherence to that standard into a personal value system, and 3) compliance with, or engagement in, value/norm congruent behavior. Consequently, to be comprehensive in its operationalization, a scale designed to measure internalization of a fit body ideal should tap these internalization criteria.

More specifically, the first criterion of fit ideal internalization relates to accepting the socially prescribed fit body standard as one’s own and experiencing a desire to embody this standard. This makes sense from an evolutionary and biopsychosocial perspective (e.g., C. Anderson, John, Keltner, & Krings, 2001; Gilbert, 1997), as these theories argue that it is important for individuals to display qualities that others will find attractive, pleasing, or rewarding because humans have an innate need to be seen as attractive to others in order to gain group status and develop relationships. From these perspectives, social status and standing are usually gained in the context of conformity to group norms, such as body standards (C. Anderson et al., 2001; Gilbert, 1997; Lieberman, Gauvin, Bukowski, & White, 2001). Research has shown that identification with a group that is preoccupied with thinness is likely to result in greater thin ideal exposure and to activities that support and emphasize the thin ideal, creating pressure for uniformity among group members (see; Webb & Zimmer-Gembeck, 2014). Pressure for women to conform to a fit ideal is most prominent and frequently publicized on social media platforms, such as Instagram, Facebook, Twitter, and Tumblr (Carrotte, Prichard, & Lim, 2017; Tiggemann & Zaccardo, 2018). Images that portray the ideal woman as very fit, toned, and thin are often disseminated under the hashtag fitspiration (an amalgamation of fit inspiration), and originate from a mixture of sources (e.g., known and unknown women, models, celebrities, or advertisements) that portray and perpetuate the desirability of this body type (Tiggemann & Zaccardo, 2018). On Instagram alone, the number of posts mentioning a fit body type totaled over 84 million in June 2019. Content analyses reveal these fitspiration posts emphasize the desirability and importance of attaining a simultaneously lean and toned physique, through objectifying imagery of highly lean and toned women that perpetuate the fit ideal (Boepple & Thompson, 2016; Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). Such posts are often accompanied by a combination of motivational and guilt-inducing messages about the importance of exercise (Holland & Tiggemann, 2017) and diet (Boepple & Thompson, 2016) to achieve the ideal of the fit aesthetic. Therefore, it makes sense that when a woman subscribes to the standards of the fit ideal as her own, she believes she should or must conform to having a simul-

taneously lean and toned body. Consequently, she should desire embodiment of the fit ideal, and become concerned or preoccupied with ideal congruence, thus seeing ideal-congruent behavior (i.e., strict diet and exercise) as important, and experience guilt in response to noncongruence. For operationalization purposes, we have labeled this first criterion of fit ideal internalization as *fit idealization*.

The second criterion of fit ideal internalization relates to the notion of integrating the value of the fit body standard into one's own personal value system. According to Stice (1994), aesthetics have long played a central role in women's gender roles and societal success. Indeed, over 30 years ago, Striegel-Moore, Silberstein, and Rodin (1986) were among the first to propose that women who had most deeply internalized these types of societal mores (e.g., that attractiveness could increase the likelihood of professional success) would be at greatest risk for pathological eating outcomes (Striegel-Moore, Silberstein, & Rodin, 1985; Striegel-Moore et al., 1986). Certainly, such societal attitudes create a perceived value in ideal body shape attainment, and research supports this notion, demonstrating that women who internalize the thin ideal are more likely to associate thinness with positive social benefits, such as social acceptance, romantic success, higher life satisfaction, higher work success, and life success (Engeln-Maddox, 2006). Indeed, McKinley and Hyde (1996) argued that if an individual has truly internalized a cultural body standard, she should associate the achievement of that body type with feelings of success, personal empowerment, and identity.

The internalized fit ideal value was conceptualized as the belief in the worth of the fit body shape, and the extent that this is related to the ideal self (see Striegel-Moore et al., 1986). The fit ideal is promoted on social media as a "healthy alternative" to thinness because of its association with "clean/healthy" eating and disciplined exercise behavior (Raggatt et al., 2018). This link among health, discipline, and control fits with extant research highlighting that these constructs are often conflated in Western societies, due to the knowledge that controllable behaviors such as diet and exercise often improve health outcomes (Brownell, 1991). Indeed, research describing online fitness culture suggests that the fit body aesthetic has become a visual emblem of discipline, control, health and social acceptance (Jong & Drummond, 2016; Raggatt et al., 2018). Thus, it may be that when a woman internalizes the fit ideal, she internalizes these same societal mores. Consequently, she should relate the ownership of these qualities, and feelings of personal or societal success, to the achievement of a fit body type. This second criterion of fit ideal internalization, we have labeled as *fit overvaluation*.

Finally, the third criterion of fit ideal internalization is the extent to which women engage in fit ideal congruent behavior. From the above discussion of the norms for the fit ideal, it is clear that it has become tied to engagement in specific behaviors (e.g., dieting and exercise behavior). This is supported by research demonstrating that women who post fit ideal content report higher levels of both drive for thinness and drive for muscularity, as well as bulimic symptoms and compulsive exercise, compared to women who do not post such content (Holland & Tiggemann, 2017). Furthermore, the fit ideal comprises two competing and equally unrealistic body goals (i.e., low levels of body fat and high levels of muscle tone), which may explain why women pursuing this body type turn to dietary supplements, perhaps to aid amalgamation (Field et al.,

2005). Generally speaking, there are a multitude of reasons why women may engage in supplement use, exercise, and dieting behavior (e.g., for health or deficiency reasons). However, when a woman internalizes the fit ideal, it follows that she would not only be engaging in such behavior, but that her motivation for doing so would be aesthetic (i.e., to achieve the fit ideal). This third criterion of fit ideal internalization, we have labeled *fit behavioral drive*.

## The Current Research

In summary, while there are measures available tapping various facets of thin and/or muscular ideal internalization, no measure could be located that was designed to directly assess fit ideal internalization in women. Such a scale is vital to the literature, as it will enable enhanced specificity between women who internalize different body standards, and in turn improve our understanding of the diverse factors that may lead to, and result from, different internalization pathways. Such knowledge may not only assist the advancement of empirical research literature, but may also inform tailored clinical interventions for those women who go to unhealthy extremes in their pursuit of a "perfect" fit body. The aim of the current study was therefore to develop and psychometrically validate the Fit Ideal Internalization Test (FIIT). The FIIT was designed to assess 1) fit idealization (i.e., the extent to which one internalizes the desirability of the fit body standard, as displayed by a concern/preoccupation with ideal congruence, and negative affect [e.g., guilt] in response to norm deviation), 2) fit overvaluation (i.e., the extent to which one internalizes the societal value and meaning of the fit ideal, with fit ideal congruence being associated with positive affective feelings of personal and societal success), and 3) behavioral drive (i.e., the extent to which one engages in behavior for the primary purpose of achieving the fit body ideal).

Three studies were conducted. In Study 1, items were developed according to theory and expert feedback, and exploratory factor analyses (EFAs) of the newly created FIIT items were conducted. In Study 2, confirmatory factor analyses (CFAs), in an independent sample, were conducted to confirm the factor structure of the FIIT items and investigate the possibility of a higher order factor structure. Further analyses were used to demonstrate internal consistency, convergent and discriminant validity, and incremental validity of FIIT scores. In Study 3, the two-week test-retest reliability of the FIIT scores was investigated.

Across these three studies, five hypotheses were tested. First, it was hypothesized that the FIIT items would be best explained by three factors of idealization, overvaluation, and behavioral drive. Second, to establish convergent validity of the FIIT scores, it was expected that they would be positively correlated with scores representing objectified body consciousness, perfectionism, drive for thinness/muscularity, social comparison, and aesthetic exercise motives. Furthermore, as the fit ideal comprises thinness and muscle tone, it was also expected that FIIT scores would be positively correlated with the SATAQ-4R thin and muscular internalization subscale scores. Third, with respect to discriminant validity, it was hypothesized that FIIT scores would not be significantly correlated with a health motive for exercise or social desirability (i.e., dishonesty, dissimulation, and impression management) bias. Fourth, as a means of displaying incremental va-

lidity, it was expected that the total FIIT composite score would explain unique variance in dieting, body dissatisfaction, compulsive exercise, negative affect, and bulimic symptoms, above and beyond the SATAQ-4R thin and muscular internalization subscales. Finally, FIIT scores were expected to have good test–retest reliability, with moderate temporal stability over a two-week period.

### Study 1

The aim of Study 1 was to develop the FIIT, a novel multidimensional measure of fit ideal internalization. The FIIT was designed to encapsulate the three theoretically derived content areas of fit idealization, fit overvaluation, and fit behavioral drive.

### Method

**Participants.** The participants were 300 women aged between 16 and 51 years ( $M = 19.0$ ,  $SD = 5.1$ ) who (on average) fell in the “normal” BMI category ( $M = 21.5$ ,  $SD = 3.6$ ). Another 10 participants began the questionnaire but were excluded due to erroneous data entry, failure to consent, and endorsing male gender. Of the women in the sample, 98.0% were university students from various campuses within Queensland, Australia, 81.7% had a year 12 or equivalent as their highest level of education, 44.7% reported a household income of \$50,000 or less, 63% were employed casually or part time, and 79% were Australian Caucasian. The demographic features of the sample (i.e., young Caucasian undergraduate female sample) appear similar to samples described in previous measurement validation studies in body image and eating pathology (see Cash & Szymanski, 1995; Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012; Moradi & Varnes, 2017; Schaefer et al., 2015).

**The FIIT measure.** Items for the FIIT were generated from a comprehensive review of the eating disorder, body image, and internalization literature, consultation with experts in body image and eating pathology (clinical and research), and a critical review of existing scales and measures of eating pathology. A scale blueprint (i.e., the hypothesized factor structure; see Table 1) was created to serve as a framework for item creation (Rust & Golombok, 2009). The key content areas were written across the horizontal axis of the blueprint, and the manifestations (the cognitive, affective, and behavioral ways in which the content areas could manifest) were listed along the vertical axis. Items for each cell were then created. The 52 items (38 pilot items and 14 filler items) were developed to address the three key content areas hypothesized to comprise the multidimensional construct of internalization.

Insurance against ambiguity of items and indecisiveness, acquiescence, and social desirability of respondents were tackled at the item development and expert review stages. As mentioned above, 14 filler items were developed to reduce demand characteristics. An expert panel, consisting of eight international researchers from the United Kingdom, the United States of America, and Australia, who had published scales or other research in the field of body image and eating pathology, were consulted on the definition of internalization and the appropriateness of the items generated for each content area, including item phrasing. The instructions for the scale were as follows:

Listed below are a series of statements regarding female body ideals. Many of the statements in this questionnaire describe a “fit” body, or a body that is both lean (low body fat) and toned (with muscle definition). Please read each of the statements carefully and indicate your level of agreement with each one (from 1 = strongly disagree to 5 = strongly agree). Please answer as honestly as possible, and do not spend too much time on any statement.

Initial items were written to avoid double-barreled questions and complex wording and included a mix of positively and negatively worded items. Clark and Watson (1995) suggest erring on the side of overinclusiveness when generating initial items, and to rely on the subsequent psychometric analysis to identify weak or unrelated items. Thus, only items that were unanimously identified as being problematic were deleted at the expert review stage.

**Procedure.** Approval for the study was granted by the university Human Ethics Review Committee (HREC). All student participants were recruited through the psychology student subject pool, and all nonstudents were recruited through the university e-mail call for research volunteers or via social networking sites (e.g., Facebook). Potential participants were provided with a web link that directed them to the survey, which was hosted on LimeSurvey. After clicking on the link, individuals were directed to a downloadable information sheet and consent form that outlined the purpose of the study, participation requirements, and confidentiality. They were informed that the research was being conducted to develop a new measure of body image, and that they would be asked to answer a series of questions related to body image. Participants were then instructed to indicate, via radio buttons, that they had read the consent forms and consented to participate in the research. Some student participants were under age 18, as the HREC gave approval for all university students to provide their own consent for the research. Participants subsequently completed the questionnaire and afterward were invited to enter their names in the draw to win a \$100 Amazon voucher and gain course credit for their participation (if applicable).

**Overview of Study 1 data analyses.** To explore the factor structure of the FIIT items, a series of EFAs were conducted using polychoric correlations and specifying principal axis factoring and an oblique (i.e., direct oblimin) rotation. Bartlett’s test of sphericity and the Kaiser–Meyer–Olkin measure of sampling adequacy were used to assess the factorability of the items. Overall sampling adequacy can be concluded when Bartlett’s test of sphericity is significant and the Kaiser–Meyer–Olkin value is greater than .60 (Tabachnick & Fidell, 2013). The number of factors to be retained was determined in line with best practices. Parallel analysis, the Kaiser–Guttman criterion (i.e., retention of factors with eigenvalues 1.0), examination of the scree plot, and investigation of the pattern matrix provided data-driven decisions regarding the best factor structure (O’Connor, 2000). Theory and the designed blueprint were also used to guide decision making around the final items to retain after EFA (Clark & Watson, 1995).

### Results

**Preliminary analyses.** Bartlett’s test of sphericity was significant ( $\chi^2 = 8167.72$ ,  $df = 630$ ,  $p < .001$ ), and the Kaiser–Meyer–Olkin value was 0.95, indicating that the initial 38 FIIT items were appropriate for factor analysis. Additionally, all measures of sam-

Table 1  
Scale Blueprint Identifying the Hypothesized Factor Structure of the FIIT

Key content areas of internalization		
Idealization of fitness/internalized desire for congruence	Internalized fit ideal values/self-worth/sense of social belonging/feelings of success	Behavior to achieve the ideal/behavioral drive
1. [I often feel concerned about the progress I am making towards achieving a perfectly lean and toned body]	1. [Having a body that is both lean and toned, is a good way to gain respect from other people]	1. [I spend time doing things (e.g., exercising, dieting, taking supplements) to develop visible muscle tone]
2. [I spend time fixating on parts of my body that are not very lean and toned]	2. [Having a body that is both very lean and very toned, is a good way to show people you are in control of your life]	2. [I spend time doing things (e.g., exercising, dieting, taking supplements) to ensure my body looks both lean and toned]
3. [I actively compare my body to people with bodies that are both lean and toned]	3. [The more I do things (e.g., exercise, diet) to keep my body looking both lean and toned, the more highly other people regard me]	3. [I spend time doing things (e.g., exercising, dieting, taking supplements) to ensure my body looks very lean]
4. [I spend time daydreaming about how I would look with a very lean and very toned body]	4. [Having a lean and toned looking physique says something important about who you are as a person]	4. [I spend time doing things (e.g., exercising, dieting, taking supplements) to burn fat]
5. [I think a lot about what I could be doing to make my body look both lean and toned]	5. [Having a body that is both lean and toned, makes you feel successful in life]	5. [I don't do anything to make my body look toned] <sup>R</sup>
6. [To achieve the body I want, it is important to combine a strict diet with a strict exercise regime]	6. [It says something good about me as a person, if I can have a body that is both lean and toned]	6. [I try my hardest to make my body look both thin and toned]
7. [I feel guilty when I am not doing things (e.g., dieting, exercising) that help me achieve a body that is both lean and toned]	7. [Maintaining a body that is both lean and toned, is a good way to show people how hard working I am]	7. [I do things (e.g., take workout supplements, metabolic boosters or meal replacements) to increase my body's ability to simultaneously burn fat and develop muscle tone]
8. [I am preoccupied with the idea of having a body that looks both lean and toned]	8. [If I had a body that was very lean and very toned, I would be more popular with my same aged peers]	8. [I am motivated to achieve a body that is both very lean and very toned]
9. [I think it is important that my body looks both lean and toned]	9. [If I had a body that was very lean and very toned, I would be more attractive as a sexual partner]	
10. [I envy people who have bodies that are both very lean and very toned]	10. [I would be perfectly happy with my life if I could look like a fitness/ fitspo model]	
11. [I think a lot about looking both lean and toned]	11. [Having a body that is both very lean and very toned sets you apart from other women]	
12. [I am preoccupied with the idea of looking like a fitness/fitspo model]	12. [If I were perfectly lean and toned, then I would feel more worthwhile as I person]	
13. [I would not like to have a body that is both lean and toned] <sup>R</sup>	13. [I often think about how much better my life would be if I could look like a fitness/ fitspo model]	
14. [I think it is important for women with muscle tone to also look very lean]	14. [If you look like a fitness/ fitspo model, then you will be well-liked as a person]	
Filler Items		
	1. I think it is important that I have a very low amount of body fat	
	2. I would be unhappy/dissatisfied with my body if it had no visible muscle tone	
	3. I think it is important that my body has visible muscle	
	4. I think my body would look better with more muscle bulk	
	5. I spend time fixating on parts of my body that lack visible muscle tone	
	6. I spend time fixating on parts of my body that are not thin enough	
	7. I only do things (e.g., exercise, diet, take supplements) to look thin, I don't do anything to look more toned	
	8. I would like to have a very lean body	
	9. I would like to have a very toned body	
	10. I would be dissatisfied with my body if it had no visible muscle tone	
	11. I envy people with bodies that are thinner than mine	
	12. I envy people who have more defined muscles than I do	
	13. I feel guilty when I am not doing things (e.g., dieting, exercising) that help me achieve a very thin looking body	
	14. I feel guilty when I am not doing things (e.g., dieting, exercising) that help me achieve a very muscular looking body	

Note. Italicized items are items that were not retained in the final scale, filler items represent items included in questionnaire to prevent acquiescence and demand characteristics, and <sup>R</sup> represents reverse-worded items.

pling adequacy taken from the diagonal of the anti-image correlation table were  $>.90$ .

**Exploratory factor analysis.** Prior to EFA, items were removed if they met two or more of the following criteria: 1) item redundancy or insufficient correlations with other items (i.e., in-

teritem correlations of  $r > .8$  or  $< .3$ , respectively), 2) poor item statistics (i.e., if all response options were not utilized or corrected item-total correlations were  $r < .40$ ), and 3) age or BMI bias (i.e., if a singular item correlated ( $r > .35$ ) with either of these constructs (Clark & Watson, 1995; Rust & Golombok, 2009). Fol-

lowing these guidelines led to the exclusion of 5 items from any further analyses, leaving 33 items for EFA.

The first EFA resulted in the extraction of five factors with eigenvalues greater than 1 (i.e., 14.82, 3.16, 1.70, 1.32, and 1.07, respectively). Yet only the first three eigenvalues from the parallel analysis (1.77, 1.66, 1.58, respectively) were smaller than those extracted through EFA, while the fourth and fifth eigenvalues (1.52 and 1.46) were larger than that extracted through the EFA (O'Connor, 2000). Inspection of the scree plot revealed an inflection point between 3 and 4 factors. Thus, results converged on a three-factor structure. Inspection of the pattern matrix revealed that the first three factors aligned with the blueprint, while factors 4 and 5 comprised only two items each, which cross-loaded ( $>.3$ ) across all five factors. The EFA was repeated after removing these four items, resulting in four factors with eigenvalues greater than 1. The fourth factor had only one item with a high loading (.47), which also cross-loaded ( $>.3$ ) on the third factor. The EFA was repeated for a third time after removing this item. In this EFA, three factors were extracted with eigenvalues greater than 1, which aligned with the blueprint.

Finally, items loading highly on these three factors were evaluated for deletion against the following criteria; 1) poor factor loadings (i.e., loadings  $<.40$ ) or small communalities (i.e.,  $<.40$ ), 2) cross-loadings on two or more factors (i.e., loadings  $>.3$  on the second factor), 3) a lack of conceptual/face validity (i.e., if the loading of an item on a factor did not align with theory or the designed blueprint), and 4) constituted part of a nonrobust factor (i.e., a factor with  $<3$  items; Clark & Watson, 1995; Comrey, 1988; Fitzsimmons-Craft, Bardone-Cone, et al., 2012; Floyd & Widaman, 1995; Guttman, 1954; Rust & Golombok, 2009; Schaefer et al., 2017; Smith & McCarthy, 1995; Taranis, Touyz, & Meyer, 2011). The use of these criteria resulted in removal of 8 items, resulting in a final set of 20 items that did not meet any of the abovementioned criteria.

In a final EFA of the 20 items using a polychoric correlation matrix as input, three factors had eigenvalues greater than 1 and explained 73.40% of the variance in the items. The final 20 items, factor loadings, and scale statistics are presented in Table 2. These factors were respectively labeled as Fit Idealization, Fit Overvaluation, and Fit Behavioral Drive. Factor 1, Fit Idealization, had an eigenvalue of 10.78 and accounted for 53.90% of the variance in the items. The eight items that loaded highly on Fit Idealization all reflected the extent to which women desired congruence with a fit body ideal and had loadings that ranged from .48 to .89. Factor 2, Fit Overvaluation, had an eigenvalue of 2.56 and accounted for 12.80% of the variance in the items. The eight items that loaded highly on Fit Overvaluation all reflected the extent to which women associated the achievement of a fit body with personal feelings of success and societal reward and had loadings that ranged from .66 to .90. Factor 3, Fit Behavioral Drive, had an eigenvalue of 1.33 and accounted for 6.70% of the variance in the items. The four items that loaded highly on Fit Drive all reflected the extent to which women engaged in behavior to achieve the fit ideal and had loadings that ranged from .64 to .89. As anticipated, the three factors were correlated with each other ( $r$ s ranged from .37 to .60). Internal consistency of the items on each subscale, assessed with Cronbach's  $\alpha$ s, were very good ( $\alpha$ s of .92, .92, .90 for Fit Idealization, Fit Overvaluation, and Fit Drive, respectively).

Also, all 20 items had a high internal consistency; Cronbach's  $\alpha$  = .94.

## Study 2

The aim of Study 2 was to confirm the factor structure of the 20-item FIIT and investigate the possibility of a higher order factor structure. It was also of interest to investigate construct validity by demonstrating convergent validity, discriminant validity, and incremental validity of the FIIT subscale scores.

## Method

**Participants.** The participants included 350 women. Another four participants began the survey but were excluded due to reporting that they were male. Participants were aged between 16 and 63 years ( $M = 24.1$ ,  $SD = 10.2$ ) and, on average, fell in the "normal" BMI range ( $M = 23.8$ ,  $SD = 5.72$ ). Of the women in the sample, 90.1% were university students from various campuses within Queensland, Australia, 55.1% had a year 12 or equivalent as their highest level of education, 44% reported a household income of \$50,000 or less, 57.4% were employed casually or part time, and 74.6% were Australian Caucasian. The sample appears similar to samples described in previous measurement validation studies in body image and eating pathology (see Cash & Szymanski, 1995; Fitzsimmons-Craft, Bardone-Cone, et al., 2012; Moradi & Varnes, 2017; Schaefer et al., 2015).

**Measures.** Cronbach's  $\alpha$  for all measures are reported in the results section.

**Body dissatisfaction.** Body dissatisfaction (BD) was measured using the Body-Image Ideals Questionnaire (Cash & Szymanski, 1995). Participants rated how close 11 attributes were to their personal ideal (e.g., "my ideal body proportions are. . .") from 0 (*exactly as I am*) to 3 (*very unlike me*). They also indicated how important each physical ideal was to them (e.g., "how important to you are your ideal body proportions?") using responses from 0 (not important) to 4 (very important). Scores for self-ideal discrepancy and ideal importance are formed by summing items, and a total weighted discrepancy BD score is calculated by averaging the cross products of these scales. Total scores can range between 0 and 99, with higher scores indicating greater BD. The Cronbach's  $\alpha$ s for the discrepancy, importance, and weighted discrepancy scales have been shown to be acceptable at .75, .82, and .77, respectively (Cash & Szymanski, 1995).

**Thin and muscular ideal internalization.** Thin and muscular ideal internalization were measured using two subscales of the SATAQ-4R (Schaefer et al., 2017). The thin ideal internalization subscale contains 4 items that measure the extent to which participants desire a thin body type, while the muscular/athletic subscale contains 5 items that measure the extent to which participants desire a muscular body type. Participants rate the degree to which they agree with each item from 1 (*definitely disagree*) to 5 (*definitely agree*). One item is reverse scored. Scores were summed to produce a total score with a possible range from 5 to 25, where higher scores indicated more internalization. The thin and muscular/athletic scales have been validated in female college populations (aged 18–30 years) and have demonstrated acceptable internal consistency;  $\alpha = .82$  and  $\alpha = .91$ , respectively (Schaefer et al., 2017).

Table 2

Factor Loadings From Study 1 Final Exploratory Factor Analysis and Study 2 Confirmatory Factor Analysis

Item number/Item text	Study 1: EFA factor loadings			Study 2: CFA standardized loadings		
	Fit I	Fit O	Fit D	Fit I	Fit O	Fit D
1. I often feel concerned about the progress I am making towards achieving a perfectly lean and toned body	.89			.81		
2. I actively compare my body to people with bodies that are both lean and toned	.88			.73		
3. I spend time fixating on parts of my body that are not very lean and toned	.82			.82		
4. I spend time daydreaming about how I would look with a very lean and very toned body	.81			.82		
5. I feel guilty when I am not doing things (e.g., dieting, exercising) that help me achieve a body that is both lean and toned	.69			.78		
6. I think a lot about what I could be doing to make my body look both lean and toned	.60			.84		
7. I am preoccupied with the idea of having a body that looks both lean and toned	.55			.84		
8. To achieve the body I want it is important to combine a strict diet with a strict exercise regime	.48			.66		
9. Having a body that is both very lean and very toned, is a good way to show people you are in control of your life		.90			.84	
10. Having a body that is both lean and toned is a good way to gain respect from other people		.87			.79	
11. The more I do things (e.g., exercise, diet) to keep my body looking both lean and toned, the more highly other people regard me		.85			.80	
12. Having a lean and toned looking physique says something important about who you are as a person		.78			.71	
13. Maintaining a body that is both lean and toned, is a good way to show people how hard working I am		.71			.82	
14. Having a body that is both lean and toned, makes you feel successful in life		.71			.78	
15. It says something good about me as a person, if I can have a body that is both lean and toned		.70			.80	
16. If I had a body that was very lean and very toned, I would be more popular with my same aged peers		.66			.69	
17. I spend time doing things (e.g., exercising, dieting, taking supplements) to develop visible muscle tone			.89			.81
18. I spend time doing things (e.g., exercising, dieting, taking supplements) to ensure my body looks both lean and toned			.84			.89
19. I spend time doing things (e.g., exercising, dieting, taking supplements) to ensure my body looks very lean			.79			.84
20. I spend time doing things (e.g., exercising, dieting, taking supplements) to burn fat			.64			.77
Eigenvalues	10.80	2.60	1.34	—	—	—
Item variance explained, %	54.00	12.78	6.70	—	—	—
Cronbach's $\alpha$	.92	.92	.90	.93	.92	.90
Mean	26.32	23.40	11.85	25.22	22.33	11.83
Standard deviation	7.76	7.46	4.15	8.29	8.04	4.24

Note. Fit I = fit idealization; Fit O = fit overvaluation; Fit D = fit drive. CFA is based on MLR estimation. See text for explanations of analyses used in Study 1 and Study 2. Study 1 EFA factor loadings below .25 are not shown.

**Objectified body consciousness.** The 24-item Objectified Body Consciousness Scale (OBCS) was used to assess Body Shame/Internalization, Body Control Beliefs, and Body Surveillance (McKinley & Hyde, 1996). Participants rated agreement with items from 1 (*strongly disagree*) to 7 (*strongly agree*). In line with Moradi and Varnes (2017), only items from the body surveillance and body shame subscales were used in the present study to form a total objectified body consciousness score. Thus, the total score had a possible range from 16 to 112, with higher scores indicating greater body consciousness. The OBCS was validated in U.S. college women aged 18 to 35 years, with both the surveillance ( $\alpha = .84$ ) and shame ( $\alpha = .80$ ) subscales demonstrating acceptable internal consistency (Moradi & Varnes, 2017).

**Psychological distress.** The 21-item Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was used to measure psychological distress (Lovibond & Lovibond, 1995).

Participants indicated the extent to which each statement applied to them over the past week, with responses from 0 (*never*) to 3 (*almost always*). Scores were summed and multiplied by 2 to be consistent with norms of the 42-item DASS; higher scores indicated more distress. The DASS-21 has had acceptable internal consistency of over .85 (Antony, Bieling, Cox, Enns, & Swinson, 1998).

**Compulsive exercise.** The 24-item Compulsive Exercise Test measured the cognitive and affective components of compulsive and excessive exercise (Taranis et al., 2011). The scale consists of five subscales: avoidance and rule driven behavior (8 items), weight control exercise (5 items), mood improvement (5 items), lack of exercise enjoyment (3 items), and exercise rigidity (3 items). Participants indicate how true each statement is of them, with responses from 0 (*never true*) to 5 (*always true*). A total score is calculated by summing five averaged subscale scores. Thus,

total scores can range from 0 to 25, with higher scores indicating more compulsive exercise. The total score has been found to have acceptable internal consistency of  $\alpha = .83$  (Taranis et al., 2011).

**Body, exercise, and eating comparisons.** The 18-item Body, Eating and Exercise Orientation Comparisons Measure (BEECOM) is a self-report measure of the extent to which one compares themselves to others in the domains of body size/shape, eating, and exercise behavior (Fitzsimmons-Craft, Bardone-Cone, et al., 2012). Respondents rated items from 1 (*never*) to 7 (*always*). Items were summed to produce a total score, with higher scores indicating more comparison. The BEECOM has shown an acceptable internal consistency of  $\alpha = .97$  and had good validity (Fitzsimmons-Craft, Bardone-Cone, et al., 2012).

**Reasons for exercise.** The Reasons for Exercise Inventory assessed appearance (8 items) and health (8 items) motivations for exercise (Cash, Now, & Grant, 1994). Participants rated the importance of their motives for exercise from 1 (*not at all important*) to 7 (*extremely important*). Items were summed so that scores had a possible range from 8 to 56, and higher scores indicated placing more importance on exercising for appearance or health. The appearance and health subscales have demonstrated acceptable internal consistencies of  $\alpha = .89$  and  $\alpha = .91$ , respectively (Cash et al., 1994).

**Perfectionism.** Perfectionism was measured using the 6-item Perfectionism subscale of the Eating Disorders Inventory (Garner, Olmstead, & Polivy, 1983). The subscale measures excessive personal standards for superior achievement and item responses ranged from 0 (*never*) to 5 (*always*). Item responses were summed after answers from 0–2 are recoded as “0” and answers from 3 to 5 are recoded as “1,” “2,” and “3,” respectively. Thus, the total score had a possible range from 0 to 18, with higher scores reflecting more perfectionism. The internal consistency of the perfectionism subscale has been reported as acceptable in both the clinical ( $\alpha = .82$ ) and nonclinical samples ( $\alpha = .73$ ; Garner et al., 1983).

**Drive for thinness.** Drive for thinness was measured using the 7-item subscale of the EDI (Garner et al., 1983). Items were rated from 0 (*never*) to 5 (*always*). Scores below 3 are recoded as “0,” while scores from 3 to 5 are recoded from 1 to 3, respectively. Scores were then summed to produce a total score with a possible range from 0 to 21, with higher scores indicating a greater drive for thinness. The Drive for Thinness subscale has yielded acceptable internal consistency ( $\alpha = .85$ ) in both clinical and nonclinical samples of young women (Garner et al., 1983).

**Drive for muscularity.** The 14-item Drive for Muscularity Scale (DMS; McCreary, Sasse, Saucier, Dorsch, 2004) was used to assess the desire to look more muscular. Respondents are asked to indicate, from 1 (*always*) to 6 (*never*), the extent to which each item applies to them. Items are reverse scored and then summed to produce a total score that can range from 14–84, with higher scores indicating a higher muscular drive. Internal consistency has been reported as acceptable ( $\alpha = .82$ ) in female samples (McCreary et al., 2004).

**Dieting and bulimia.** The 13-item Dieting subscale and the 6-item Bulimia subscale of The Eating Attitudes Test (EAT-26; Garner et al., 1983) were used to assess caloric restriction and bulimic symptoms, respectively. Respondents are asked to rate the extent to which each statement applies to them from 0 (*never*) to 6 (*always*), with scores below 3 recoded as “0” and scores from 4 to 6 recoded as “1,” “2,” and “3,” respectively. Scores are then summed to form a total score with a possible range from 0 to 39

for the Dieting subscale and 0 to 18 for the Bulimia subscale. The EAT-26 has been validated in both clinical and nonclinical samples, demonstrating acceptable internal consistency in both clinical ( $\alpha = .79$ ) and nonclinical ( $\alpha = .94$ ) populations (Garner & Garfinkel, 1979).

**Social desirability.** The 17-item Social Desirability Scale - 17 (SDS-17; Stöber, 2001) was used to assess social desirability bias in questionnaire responses (e.g., dishonesty, dissimulation, and impression management). Participants read a series of statements with responses presented on a dichotomous scale, with 0 = false and 1 = true. As per the recommendations of Stöber (2001), item 4 (“I have tried illegal drugs, e.g., marijuana, cocaine etc.”) was excluded from the current analysis due to a low corrected item total correlation. The remaining 16 items were summed to produce a total SDS score ranging from 1 to 16, with higher scores indicating a greater social desirability. The SDS-17 has shown acceptable internal consistency in populations aged 18 to 60 years  $\alpha = .70$ –.80 (Stöber, 2001).

**Procedure.** The same procedure used in Study 1 was used in Study 2.

**Overview of Study 2 data analyses.** Mplus v8.3 (Muthén & Muthén, 1998–2012) was utilized to conduct a CFA with a robust maximum likelihood estimator. Model fit was determined using  $\chi^2$ , root mean square error of association (RMSEA), the standardized root-mean-square residual (SRMR), the comparative fit index (CFI), and the Tucker–Lewis Index (TLI). Guidelines suggest that a nonsignificant  $\chi^2$  is indicative of good model fit. However, this statistic is known to be sensitive to sample size, meaning that even trivial deviations from a perfect model are often statistically significant in samples as large as this study ( $N = 350$ ). Bollen (1989) recommends dividing the  $\chi^2$  by the degrees of freedom, with ratios of 2–3 representing good fit. RMSEA values below .05 are considered good, values between .05 and .08 are considered indicative of fair fit, and values between .08 and .10 are considered an indication of mediocre fit (Hu & Bentler, 1999; Kaplan, 2000). SRMR values of  $< .08$  indicate good model fit (Bentler, 1990). CFI and TLI values  $> 0.90$  indicate acceptable model fit, and values  $> 0.95$  indicate good model fit (Kaplan, 2000). Models fits were compared for different factor structures (comparing a 3-factor to higher order and general factor models) with the  $\chi^2$ -difference test.

Internal consistency was assessed using Cronbach’s alpha. Convergent and discriminant validity were tested using Pearson correlations. Specifically, for convergent validity, correlations between the FIIT subscale scores and scores on the SATAQ-4R thin and muscular ideal internalization subscales, the OBCS, DMS, drive for thinness, perfectionism, appearance exercise motives, and social comparison were assessed. Discriminant validity was assessed using correlations between the FIIT subscale scores and scores for social desirability and health motives for exercise. Finally, incremental validity was assessed using hierarchical multiple regression analyses, with the SATAQ-4R thin and muscular ideal internalization subscale scores entered on the first step, and the FIIT total score entered on the second step. Measures of body dissatisfaction, dieting, bulimic symptoms, compulsive exercise, and psychological distress were used as criterion variables. A significant  $\beta$  and change in  $R^2$  ( $\Delta R^2$ ) would demonstrate the FIIT’s ability to predict these outcomes, above and beyond the existing measures of thin and muscular internalization, and would suggest



that the fit ideal constitutes a unique body standard that is more than the sum of its parts (i.e., other than just thinness + muscularity ideal internalization).

## Results

The CFA, performed with all items allowed to load only onto their respective factors and factors allowed to covary as per the EFA results and a priori theory, produced a significant  $\chi^2(167, N = 354) = 377.51, p < .001$ , but the ratio of  $\chi^2$  to  $df$  was 2.26, indicating a good fit of the model to the data (Bollen, 1989). Other fit indices indicated the CFA had an acceptable to good fit to the data (CFI = 0.95, TLI = 0.94, RMSEA = 0.06, SRMR = 0.048; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Kaplan, 2000). In accordance with internalization theory, a second higher order model was tested, with the results revealing the exact same fit,  $\chi^2(167, N = 354) = 377.51, p < .001$ ; thus, there was no difference in fit between the two models. The loadings on the second order internalization factor were idealization (1.00), overvaluation (.69), and drive (.60). Table 2 presents the standardized confirmatory factor loadings for each item, as well as the Cronbach's alphas for each subscale. The correlations between each subscale ranged from moderate to strong ( $r = .48-.74$ ).

In addition, a general factor model was fit, whereby all 20 items were allowed to load on a single FIIT factor. This model had a poor fit to the data,  $\chi^2(170, N = 354) = 1334.68, p < .001$ . RMSEA = .139, CFI = .71, TLI = .68, SRMR = .103, and a significantly poorer fit compared to the 3-factor model,  $\chi^2_{diff}(3) = 957.17, p < .001$ . However, the loadings were all moderate to strong, ranging from .51 to .80. Overall, these findings support three FIIT factors, but also the possibility of creating a total FIIT composite score for use in future research.

**Convergent and discriminant validity.** Table 3 shows the correlations between the FIIT total score (Cronbach's alpha for all 20 items was .95, Cronbach's alpha for the three subscale scores

was .77) and subscales, and the convergent and discriminant validity variables. All convergent validity correlations were significant, of moderate to high strength, and in the predicted directions. The correlations of the FIIT subscales with the discriminant validity measures were nonsignificant or low in strength.

**Incremental validity.** Five hierarchical multiple-regression analyses tested the incremental validity, above and beyond the SATAQ-4R thin and muscular ideal internalization subscales, of the FIIT total score when predicting body dissatisfaction, compulsive exercise, bulimic symptoms, dieting, and psychological distress. Table 4 shows the results of the regression analyses. The results revealed that the FIIT total score, SATAQ-M, and SATAQ-T together explained a significant amount of variance in each of the criterion variables. When controlling for the effects of the other predictors, the relationships between the FIIT total score and each of these outcome variables remained significant, with the significant increment in  $R^2$  indicating that the FIIT explained additional unique variance in each criterion variable;  $\Delta R^2$  ranged from .03 ( $p < .001$ ) for psychological distress to .22 ( $p < .001$ ) for compulsive exercise.

## Study 3

The aim of Study 3 was to investigate the stability of the FIIT over a two-week period.

## Method

**Participants and measures.** The participants were 67 females (aged 17–50 years,  $M = 20.5, SD = 5.7$ ) who completed demographic questions and the 20-item FIIT twice with a lag of two weeks between assessments. Participants were university students from Queensland, Australia. Due to incomplete or erroneous data responses, 13 participants were removed from the analysis, leaving a final sample of 54. On average, participants fell within the

Table 3  
Study 2 Correlations Between the FIIT and Measures of Convergent and Discriminant Validity

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. FIIT Idealization	.93													
2. FIIT Overvaluation	.66**	.92												
3. FIIT Drive	.59**	.41**	.90											
4. FIIT Total	.92**	.87**	.75**	.95										
Convergent validity measures														
5. SATAQ: Muscular	.34**	.35**	.38**	.41**	.89									
6. SATAQ: Thin	.67**	.55**	.44**	.67**	.14*	.91								
7. Body consciousness	.69**	.59**	.39**	.65**	.14**	.64**	.90							
8. Drive for muscle	.33**	.31**	.38**	.39**	.64**	.07	.13*	.92						
9. Drive for thin	.65**	.49**	.36**	.62**	.09	.63**	.69**	.15**	.84					
10. Perfectionism	.30**	.33**	.15**	.33**	.04	.26**	.41**	.09	.36**	.88				
11. Exercise for app	.70**	.58**	.48**	.71**	.21**	.63**	.67**	.21**	.60**	.28**	.94			
12. Comparison	.67**	.55**	.37**	.66**	.19**	.60**	.71**	.25**	.70**	.41**	.65**	.97		
Discriminant validity measures														
13. Exercise for health	.07	.02	.12*	.09	.21**	-.11*	-.10	.23**	-.02	.11*	.15**	-.02	.93	
14. Social desirability	-.06	.00	.04	-.02	-.11*	.02	-.10	-.06	.00	-.02	-.06	-.07	.10*	.71
Mean	25.2	22.3	11.8	59.4	12.4	12.0	50.3	29.2	6.4	7.2	39.0	65.9	43.0	8.3
Standard deviation	8.3	8.0	4.2	17.6	4.7	4.7	12.5	12.8	5.8	5.6	12.3	29.8	9.2	3.3

Note. Numbers on the diagonal represent the Cronbach's  $\alpha$  value for each scale. FIIT = Fit Ideal Internalization Test; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; App = appearance.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 4  
 Study 2 Results of Regressing Eating, Exercise, and Affective Outcome Variables on SATAQ  
 Thin and Muscular Scales and the FIIT Total Score

Variable	R <sup>2</sup> and ΔR <sup>2</sup>	F and F-change	B	β	t	95% CI for B
DV = Body dissatisfaction						
Step 1	R <sup>2</sup> = .30	F = 77.04***				
SATAQ-M			.06	.16	3.54***	[.03, .09]
SATAQ-T			.19	.51	11.35***	[.16, .23]
Step 2, FIIT-Total	ΔR <sup>2</sup> = .10	ΔF = 59.06***	.05	.48	7.69***	[.04, .06]
DV = Compulsive exercise						
Step 1	R <sup>2</sup> = .25	F = 59.15***				
SATAQ-M			.19	.20	4.30***	[.10, .27]
SATAQ-T			.42	.44	9.40***	[.33, .50]
Step 2, FIIT-Total	ΔR <sup>2</sup> = .22	ΔF = 154.53***	.18	.70	12.06***	[.15, .21]
DV = Bulimic symptoms <sup>a</sup>						
Step 1	R <sup>2</sup> = .18	F = 20.37***				
SATAQ-M			.00	.01	0.18	[-.01, .01]
SATAQ-T			.04	.43	6.36***	[.03, .05]
Step 2, FIIT -Total	ΔR <sup>2</sup> = .06	ΔF = 13.06***	.01	.33	3.61***	[.00, .01]
DV = Dieting						
Step 1	R <sup>2</sup> = .26	F = 55.18***				
SATAQ-M			.11	.07	1.41	[-.04, .27]
SATAQ-T			.83	.50	10.15***	[.67, .99]
Step 2, FIIT -Total	ΔR <sup>2</sup> = .05	ΔF = 21.31***	.15	.32	4.62***	[.08, .21]
DV = Psychological distress <sup>b</sup>						
Step 1	R <sup>2</sup> = .15	F = 30.30***				
SATAQ-M			.00	.00	-0.06	[-.39, .36]
SATAQ-T			.15	.38	7.73***	[.11, .19]
Step 2, FIIT-Total	ΔR <sup>2</sup> = .03	ΔF = 13.56***	.03	.27	3.68***	[.01, .04]

Note. *df* model 1 = 2, 351; *df* model 2 = 3, 350. Zero order correlations between the FIIT-Total and criterion variables were as follows: Body Dissatisfaction ( $r = .66$ ), Compulsive Exercise ( $r = .66$ ), Bulimic Symptoms ( $r = .45$ ), Dieting ( $r = .52$ ), Psychological Distress ( $r = .39$ ). DV = dependent variable; SATAQ-M = Sociocultural Attitudes Towards Appearance Questionnaire muscular subscale; SATAQ-T = Sociocultural Attitudes Towards Appearance Questionnaire thin subscale; FIIT- total = Fit Ideal Internalization Test composite score.

<sup>a</sup> Variable with log transformation to reduce positive skew. <sup>b</sup> Variable with square root transformation to reduce positive skew.

\*\*\*  $p < .001$ .

“normal” BMI range ( $M = 23.0$ ,  $SD = 4.6$ ). Most females in the sample were Australian (77.6%), were in casual or part-time employment (67.2%), had a Year 12 high school certificate as their highest level of education (71.6%), and had a household income of less than \$90,000 annually (67.2%).

**Procedure.** The Time 1 Procedure was similar to Studies 1 and 2. However, in the lead up to the follow-up assessment, participants were reminded (via e-mail) several times to again complete the FIIT. Only participants who completed the repeated assessment in the two-week retest period were included here.

## Results

At Time 1, Cronbach’s alpha ranged from .92 to .93 for the three subscales of the FIIT and was .94 for the composite FIIT score. At Time 2, Cronbach’s alpha ranged from .87 to .94 for the three subscales of the FIIT and was .93 for the composite FIIT score. All two-week test-retest reliability coefficients were strong, with  $r$ s ranging from a low of .77 for the composite FIIT score to a high of .87 for the FIIT idealization subscale.

## Discussion

The goal of these three studies was to develop and test the psychometric properties of a comprehensive measure of female fit

ideal internalization: the Fit Ideal Internalization Test (FIIT). The FIIT was designed to assess fit ideal internalization across three dimensions of idealization, overvaluation, and behavioral drive. To date, existing measures of body ideal internalization have separated thinness from muscularity (e.g., Schaefer et al., 2017), meaning that researchers have had to use measures of muscular internalization to assess fit internalization, despite a fit body (i.e., a simultaneously lean and toned body) being conceptually different to that of a purely muscular body. Although there is a plethora of measures available that target the cognitive, behavioral, and affective facets of thin ideal internalization in women, and some available for muscular internalization, there are no such measures designed for fit internalization. The FIIT was designed to address this gap in the literature through multidimensional operationalization of fit ideal internalization in women, in which items referenced the desirability of a simultaneously lean and toned body shape.

Across three studies, the results suggest that the psychometric properties of the newly developed 20 items that loaded highly on one of three FIIT factors produce reliable subscales and valid measures of fit ideal internalization for women. More specifically, the three FIIT subscale scores of fit idealization, fit overvaluation, and fit behavioral drive had good internal consistencies, and all three subscale scores (as well as a total FIIT score) correlated with

other measures in ways that suggest their validity as measures of fit ideal internalization.

Study 1 indicated that the FIIT comprises of three moderately correlated dimensions of fit ideal internalization. The first factor, fit idealization, assesses the extent to which an individual desires embodiment of the fit ideal, as evidenced by a concern or preoccupation with ideal congruence and guilt in response to nonconformity. The second factor, fit overvaluation, assesses the level to which one places value and meaning on fit ideal attainment (e.g., an internalized belief that the fit body type is indicative of social value, discipline/control, and self-worth), meaning conformity is linked to personal feelings of achievement. Finally, the third factor behavioral drive assesses the extent to which an individual desires a fit body ideal, as evidenced by engagement in behavior (i.e., dieting, exercise, and/or supplement use) aimed at achieving a fit body type. The strong internal consistency of all 20 items provided preliminary evidence that the subscales may be combined to form a total internalization score that measures the extent to which one idealizes, overvalues, and attempts to conform to (i.e., internalizes) the societally prescribed fit beauty standard.

In Study 2, the above factor structure was confirmed. Within this analysis, there was no difference in fit between the higher order and three-factor model, and the moderate to strong correlations among the three subscales, as well as the moderate to strong loadings of all items in a general FIIT factor model, supported the possible utility of a composite score. Also, the FIIT subscales and total score all showed moderate to strong correlations with measures of thin and muscular ideal internalization, objectified body consciousness, drive for muscularity, drive for thinness, perfectionism, appearance motives for exercise, and social (i.e., body, eating, and exercise) comparison, providing good evidence for the validity of each FIIT subscale score and the total score.

The FIIT Drive subscale had a small yet significant correlation with perfectionism. Aesthetically motivated behavior may not necessarily indicate perfectionism; thus, it is reasonable that this construct would be more correlated with perfectionism when combined with the other aspects of internalization (i.e., idealization and overvaluation). This is supported by the moderate relationship between perfectionism and the FIIT composite score. Interestingly, the SATAQ-4R thin internalization subscale also demonstrated a small correlation with perfectionism, while the muscular subscale and the drive for muscularity subscales were not related to this construct. In this way, the results show the FIIT is consistent with, if not more sensitive than, existing measures.

It should also be noted that the FIIT idealization subscale and composite score evidenced quite high correlations with aesthetic reasons for exercise. While it is not generally desirable for constructs to share more than 50% variance, the findings are consistent with extant research findings. For example, the fit ideal is most heavily promulgated on social media platforms such as Instagram, where women who embody the fit ideal are almost always wearing exercise clothing, and the achievement of the fit ideal is almost always linked with exercise, which is highly encouraged (Tiggemann & Zaccardo, 2018). Certainly, women are less genetically inclined than men to simultaneously develop muscle mass and possess low body fat, meaning that excessive amounts of exercise would be required for women to achieve this body type. Consequently, it makes sense that the fit ideal has become equated with

exercise, and this may explain the higher correlations between the FIIT and aesthetic motivation to engage in exercise behavior.

With respect to discriminant validity, the FIIT subscales and total score were not found to significantly correlate with a measure of social desirability (i.e., dishonesty, dissimulation, and impression management), an important finding to support the conclusion that the FIIT scores may not be subject to social desirability bias. Additionally, the FIIT total score and idealization and overvaluation subscales were not found to correlate with health motives for exercise, while the drive subscale demonstrated a small yet significant correlation with health motives for exercise. Certainly, some women who engage in behavior to achieve a fit body ideal may also be exercising for health purposes, however the results suggest that the FIIT is more strongly associated with aesthetically motivated exercise behavior, which is consistent with the current study's operationalization of these constructs. This finding importantly contradicts the widely held societal beliefs that the fit ideal is a body type representing health, and that desiring and pursuing a fit body is indicative of health motives (Jong & Drummond, 2016; Raggatt et al., 2018). This has important implications for the scale's utility in predicting eating and exercise pathology, as aesthetic motivations for exercise and dieting are more strongly linked to pathology in women than health motivations (Vartanian, Wharton, & Green, 2012). Together, the convergent and discriminant validity findings suggest that the FIIT subscales and total score are valid measures of the constructs of interest.

The FIIT composite score explained significant and unique variance in body dissatisfaction, compulsive exercise, dieting, negative affect, and bulimic symptoms, above and beyond the thin and muscular subscales of the SATAQ-4R; thus, this supports the incremental validity of the FIIT. Although the additional variance explained in dieting, psychological distress, and bulimic symptoms was small, the results support a main premise of this study, that the FIIT measures the internalization of a distinct body ideal (i.e., the fit ideal, which differs from thin and/or muscular internalization in isolation or conjunction), and extends the extant body image literature by demonstrating that fit ideal internalization is an important predictor of eating, exercise, and affective pathology in women. Finally, the two-week test-retest reliability of the FIIT total and subscale scores was found to be high in Study 3. This supports the temporal stability of the FIIT scores and is in line with extant measures of internalization that demonstrate strong two-week test-retest reliability coefficients (Schaefer et al., 2017).

Together, the findings reveal novel information about the nature of fit ideal internalization. As the FIIT is an original measure of fit ideal internalization, our results are the first to demonstrate that women who report more internalization of the fit body standard are more vulnerable to body dissatisfaction, compulsive exercise, bulimic symptoms, dieting, and psychological distress. In particular, the FIIT subscale scores demonstrated the strongest relationships with scores on body dissatisfaction and compulsive exercise. Such findings are consistent with recent studies demonstrating that exposure to idealized fitness imagery results in higher levels of body dissatisfaction than exposure to the thin ideal (Robinson et al., 2017) and with analyses that show the fit ideal is heavily tied to the concept of exercise on social media (Raggatt et al., 2018; Tiggemann & Zaccardo, 2018). From a sociocultural perspective, this may occur because culturally prescribed body standards are beyond the reach of most women despite their behavior, meaning

internalization sets women up for feelings of body dissatisfaction, which in turn could increase problem behaviors, such as eating pathology and compulsive exercise (Ata et al., 2015). Given this, the current results suggest the fit female body standard could be more unrealistic than the thin or muscular body ideals, as women who internalized the fit ideal were more dissatisfied with their bodies and, at a minimum, experienced more pressure to exercise than women who internalized a thin or muscular ideal. As body dissatisfaction is one of the most consistent and robust predictors of poor psychological outcomes (e.g., low self-esteem, stress, depression) and disordered eating (e.g., bulimia, emotional eating) in women (Johnson & Wardle, 2005; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Stice, Marti, & Durant, 2011), such results suggest the FIIT will be a useful tool in predicting pathological and physical health problems relating to eating and exercise in women.

### Study Limitations and Conclusions

There were some limitations to the current study. First, the participants were primarily young Caucasians ( $M =$  between 19 and 24 years) studying at a university. While body image dissatisfaction and eating pathology onset tends to peak in young adulthood (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013; Hudson, Hiripi, Pope, & Kessler, 2007), body dissatisfaction continues to affect most Western woman across the life span (Tiggemann, 2004). Thus, future studies could consider examining the FIIT scores in other populations (e.g., older vs. younger women, clinical vs. nonclinical populations, and in non-Australian samples). A second limitation was the use of a two-week test-retest reliability time period. While a two-week time frame has been standard practice (e.g., Fitzsimmons-Craft, Bardone-Cone, et al., 2012; Schaefer et al., 2017), a longer lag between assessments would provide more information about the stability in scores.

In conclusion, the three FIIT subscales and the FIIT total score had good convergent and discriminant validity, internal consistency, and test-retest reliability. Furthermore, the total score of the FIIT demonstrated incremental validity in models of disordered eating, exercise, and affective outcomes in women, above and beyond that of existing scales measuring thin and muscular internalization. Together, this evidence suggests that the FIIT will be a useful multidimensional tool to assess the various facets (i.e., idealization, overvaluation and behavioral drive) of fit ideal internalization. When opinions from women who seek to emulate the fit ideal are gathered, they suggest women believe that a fit body is indicative of health, good behavior, and social belonging (Jong & Drummond, 2016; Raggatt et al., 2018). Yet our findings highlight that internalization of the fit ideal is associated with negative body image concerns, and that internalization of the fit ideal may in fact yield behavior and negative self-beliefs that could be unhealthy in the short term, but even more problematic in the long term. Overall, we expect that the multidimensional operationalization of fit ideal internalization will prompt new research on an emerging issue relevant to women's body image and health.

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See page 210 for a correction to this article.

### Correction to Uhlmann et al. (2019)

In the article “Beyond the Thin Ideal: Development and Validation of the Fit Ideal Internalization Test (FIIT) for Women,” by Laura R. Uhlmann, Caroline L. Donovan, and Melanie J. Zimmer-Gembeck (*Psychological Assessment*, 2020, Vol. 32, No. 2, pp. 140–153, <http://dx.doi.org/10.1037/pas0000773>), there are two errors in the Method section for Study 2. First, in the “Body dissatisfaction” subsection, the range of total scores for the Body-Image Ideals Questionnaire was incorrectly listed as being “between 0 and 99.” The correct range is from –3 to 9. Second, in the “Dieting and bulimia” subsection, the reference for the Eating Attitudes Test (EAT-26) was incorrectly cited as “Garner et al., 1983.” The correct citation should be to the following reference:

Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, *12*, 871–878. <http://dx.doi.org/10.1017/s0033291700049163>

<http://dx.doi.org/10.1037/pas0000794>