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Measuring Transgender Individuals' Comfort With Gender Identity and Appearance: Development and Validation of the Transgender Congruence Scale

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Abstract

Our study used the construct of congruence to conceptualize the degree to which transgender individuals feel genuine, authentic, and comfortable with their gender identity and external appearance. In Study 1, the Transgender Congruence scale (TCS) was developed, and data from 162 transgender individuals were used to estimate the reliability and validity of its scores. Two factors emerged: Appearance Congruence and Gender Identity Acceptance. TCS total and subscale scores were internally consistent. Supporting its construct validity, TCS scores were (a) positively related to life satisfaction and presence of life meaning; (b) negatively related to anxiety, depression, and body dissatisfaction; and (c) unrelated to social desirability and searching for life's meaning. TCS scores also garnered incremental validity by predicting life satisfaction, presence of meaning in life, anxiety symptoms, and depressive symptoms above and beyond the number of steps taken to transition. Study 2 confirmed the TCS's factor structure with a sample of 342 transgender individuals. The final 12-item TCS is a psychometrically sound measure that can facilitate both empirical investigations and clinical applications connected to transgender identity. *Additional online materials for this article are available to PWQ subscribers on PWQ's website at http://pwq.sagepub.com/supplemental.*

Keywords

transgender, measurement, social identity, identity formation, body image, well-being, life satisfaction

People claim membership to various social identities, and each person's combination of social identities contextualizes her or his beliefs about and experiences of gender (Shields, 2008). Examining how social identities intersect has been considered one of the most important contributions to our present understanding of gender and has transformed how gender is studied and conceptualized in feminist theory and research (McCall, 2005). Yet, the growth of this research is stunted by scholars' limited awareness of and failure to include certain social identities within their studies. Butler (1990, p. 143) argued that feminist researchers consider color, sexual orientation, ethnicity, class, and age but frequently have "an embarrassed 'etc.' at the end of the list." Often not included in such lists are transgender identities. *Transgender* is an umbrella term typically used to describe individuals who possess a gender identity different from their gender assigned at birth or experience their gender outside the limits of the gender binary (Beemyn, 2003; Dozier, 2005).

Social identities manifest within persons as self-image, self-reflection, and self-expression (Ashmore, Deaux, & McLaughlin-Volpe, 2004). Studying transgender individuals' social identities via these characteristics is imperative in order to have their experiences meaningfully integrated into research within the psychology of gender. Yet, there are no available measures that capture transgender individuals' comfort and satisfaction, or congruence, with their self-image, self-reflection, and self-expression as related to their current gender identity. Our research discusses the development and psychometric evaluation of a scale to measure congruence among individuals who identify as transgender, while recognizing the differences in personal experience of gender identity and gender expression among transgender persons (Diamond, Pardo, & Butterworth, 2011).

Studying transgender individuals' congruence with their self-image, self-reflection, and self-expression both informs and is informed by feminist psychology. *Transfeminism* applies transgender discourses to feminist discourses and vice versa—although it has content that is relevant specifically to

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transgender individuals, it can be applied more broadly to all women (Koyama, 2003). Transfeminists argue that it is problematic to describe a transgender person as "a woman trapped in a man's body" or "a man trapped in a woman's body." In addition to vastly limiting the identities available to transgender individuals, this description implies that there are intrinsic male and female minds that are different from each other in some identifiable way, which could be used to justify discrimination against all women (Koyama, 2003).

Although transgender individuals and nontransgender women may experience oppression differently (Friedman & Leaper, 2010), transfeminism merges them by highlighting how social constructions of gender restrict bodies, well-being, experiences, and identities (Scott-Dixon, 2006). It argues that individuals have the right to (a) define their own identities and express their gender without discrimination or violence and (b) make decisions regarding their own bodies without political, medical, or religious interference (Koyama, 2003). It holds that individuals should not be coerced into or out of personal decisions regarding their gender (and feminist) identity or expression. It is important, then, to define and explain the various and changing identities among those identifying as transgender because there has been a history among cisgender individuals (i.e., those who perceive a match between the gender they were assigned at birth, their bodies, and their identity) to limit gender identity and expression among transgender persons (Schilt & Westbrook, 2009).

Transgender Identities

In most societies, traditional conceptions of sex are limited to a binary system: female or male (Bem, 1995; Kessler & McKenna, 2000), with exceptions including the hijras (of India, Bangladesh, and Pakistan), Fa'afafine (of Polynesia and Samoa), sworn virgins (of Albania and Montenegro), mahu (of Polynesia), and bayot/bantut/bakla (of the Philippines; Nanda, 1999). Western social constructions of gender identity and gender roles parallel this binary division: females are socialized to be expressive (e.g., warm, emotional, and gentle) and have a "feminine" appearance (e.g., thin, long hair, big breasts, and small waist), whereas males are socialized to be instrumental (e.g., aggressive, competitive, and dominant) and have a "masculine" appearance (e.g., muscular and rugged; Spence & Buckner, 2000, p. 45). Cultural mores impel individuals to express their social identities within the limits of the gender binary. Although Western societal conventions permit a minimal amount of gender role transgression, deviations from this binary division may result in discrimination and ostracism (Gagne & Tewksbury, 1998; Koyama, 2003; Lehavot, King, & Simoni, 2011).

There are many individuals whose gender identity differs from their gender assigned at birth. Various terms have been used to describe and differentiate transgender individuals, such as transsexual, genderqueer (i.e., a term often endorsed by individuals who do not feel their gender can be captured within the binary terminology), and cross-dresser. However, understanding transgender individuals' experiences is limited when identities are restricted to these labels. Factor and Rothblum (2008) explored gender experiences and expression among the transgender individuals they categorized as male-to-female (MTF), female-to-male (FTM), and genderqueer. They found that even within these identity divisions, individuals reported different combinations of labels with which they identified (e.g., fluid gender identity, transgenderist, man, woman). Additionally, body modifications and/or gender expression were not specific to the identity they had been categorized. Although Factor and Rothblum's study provides research on differences of gender identity among transgender-identified persons, it was greatly limited by having the researchers determine categorization based on pronoun preference. Therefore, categorizing individuals with transgender experience is limited by current definitions. Transfeminism advocates for a social arrangement where individuals are free to assign their own gender identity apart from medical, religious, and political authorities (Koyama, 2003).

Despite the diversity among transgender individuals, social experiences of stigma may be similar across transgender identities. Specifically, individuals with gender nonconforming behaviors often experience explicit discrimination (Lasser & Tharinger, 2003). Although some do not maintain nonconforming behaviors, in general, transgender persons challenge the normative opinion regarding gender (Fassinger & Arseneau, 2008; Schilt & Westbrook, 2009), and as a result, face stress associated with their nonnormative identity (Kelleher, 2009). All transgender persons experience a period of realization of having a gender identity or expression different from the normative population (Clifford & Orford, 2008). This realization is different across individuals because many factors play a role in determining what this identity means to that individual, as well as the individual's personal comfort with having a transgender identity.

Transgender Models

Past research on adjustment and development of transgender identity has mainly focused on individuals with a binary transgender identity who chose to transition (Denny, 2004). As a result, the majority of this research has used a medical approach to explore individuals' well-being related to being transgender. This approach inherently pathologizes transgender persons by suggesting that they all (even those with a nonbinary identity) suffer some form of psychological distress and that they can seek out a surgical "cure" to lessen their distress. Scholars operating under this approach have examined the impact of sexual reassignment surgery on transsexual individuals, referred to as the *transsexual model* (Denny, 2004). Although some studies have linked sexual reassignment surgery to increased self-esteem (Cohen-Kettenis & Van Goozen, 1997) and life satisfaction (Rehman, Lazer, Benet, Schaefer, & Melman, 1999), as well as to decreased anxious and depressive symptoms (Smith, Van Goozen, Kuiper, & Cohen-Kettenis, 2005), it is important

to note that these studies had very limited samples (both in terms of self-selection and size) and that their methods were flawed (e.g., transgender participants were interviewed at the clinic that performed their surgery, which could have introduced social desirability bias into their answers).

The *transgender model* is an improvement from the transsexual model to conceptualize and examine transgender individuals' experiences because it does not inherently pathologize them (Denny, 2004). Rather, it affirms transgender identity by conceptualizing gender as one dimension in which individuals vary and is inclusive by not limiting the focus to reassignment surgery. Under this model, transgender individuals are presented with an array of medical (e.g., reassignment surgery, hormone replacement therapy, and/or hair removal), social (e.g., wearing clothing and accessories representative of their gender identity, using a name that is more congruent with their gender identity), and legal (e.g., changing their gender on government identification, having their name legally changed) transformations.

Although the transgender model may be more inclusive than the transsexual model, this newer model still follows a linear and transition-oriented approach to the identity process and toward the psychological functioning of transgender persons. According to Diamond, Pardo, and Butterworth (2011), this perspective on gender is not inclusive of all transgender individuals. These authors proposed a flexible model of gender identity development and provided evidence that some individuals have a linear development process, whereas others may experience a recursive development and fluid identity over time. As observed in Diamond and Butterworth's (2008) longitudinal study, an individual assigned female at birth who underwent hormone therapy and identified as male later realized she was more comfortable "living in the middle." Thus, we propose the concept of transgender congruence as a measure of comfort with current gender identity rather than as a measure of a stage or completion of identity development.

Transgender Congruence

Moving away from the clear binary and into a more progressive understanding of transgender identity development, there is no single process by which we can understand individuals' self-image, self-reflection, and self-expression as related to their transgender experience. Because the experience of gender is individualized and fluid (Diamond et al., 2011), we must recognize that transgender individuals likely fluctuate in how their identity is present in their life. Transfeminism believes that transgender people construct their own gender identities based on what feels genuine, authentic, comfortable, and sincere to them as they live and relate to others within given social and cultural constraints (Koyama, 2003). The term *congruence* has been used to describe this genuine and authentic expression of the self (Rogers, 1959). Thus, we define *transgender congruence* as the degree to which transgender individuals feel genuine, authentic, and comfortable within their external appearance/presence and accept their genuine identity rather than the socially prescribed identity.

Understanding the degree to which transgender people feel congruence between their external presentation and internal self would provide researchers and clinicians with insight into the extent to which they feel that their physical attributes assist or interfere with living out their social identity in an authentic way. Specifically, transgender congruence involves consideration of their self-image (whether there is clarity in their gender identity and how they feel about it), self-reflection (their personal evaluation of the congruence), and self-expression (how sufficiently they feel they can express themselves as their gender identity). Incorporating transgender congruence into research and clinical work with transgender persons would provide an inclusive way to capture their current process without being limited by the assumptions of the transsexual and transgender models.

Given that a self-report measure of transgender congruence does not exist, it has yet to be explored among transgender individuals. An instrument assessing this construct needs to be developed and evaluated. Accordingly, the purpose of our study was to construct and garner psychometric support for our instrument, the Transgender Congruence scale (TCS).

Study 1

In Study 1, we first developed and refined the TCS's items. We next conducted an initial examination of the factor structure, internal consistency reliability, construct validity, incremental validity, and discriminant validity of the TCS's scores with a North American sample of transgender-identified individuals.

Development of the TCS and Expert Review

Ekins and King's (2006) book, *The transgender phenomenon*, which provides summaries of the transgender experience in Westernized regions (e.g., Britain and the United States) that emphasize binary gender identity, was used as a content reference for item development. Across identities, we noticed a common experience of reflecting on gender presentation (congruence related to appearance) and moments of pride in gender identity (congruence related to acceptance of gender identity).

The first author, a doctorate student in counseling psychology, created items until she determined that they comprehensively reflected these dimensions of congruence. She generated 23 items. The second author, a faculty member in counseling psychology within the same program, reviewed the items, agreed that they appropriately covered the construct of congruence, and made slight changes to increase clarity. Both the first and the second authors are White women who have experience with psychometric instrument

development and clinical interest in sexual identity and body image. Two counseling psychology professors with expertise in psychometric instrument development and sexual orientation issues then reviewed these items for content validity. We responded to their feedback by adding 2 items (yielding 25 total items) and making minor wording changes to other items.

The third author, a White graduate student in experimental psychology who studies transgender issues, critically evaluated these 25 items. He recommended deleting 2 items (i.e., I feel a spiritual connection to my body, I feel a strong sense of connection to my body) because individuals high in transgender congruence may not be "connected" to their body (i.e., being comfortable with their body may actually diminish the time they think about their body). He also suggested deleting another 2 items (i.e., My government recognizes me as my gender identity, The important people in my life recognize me as my gender identity) because transgender congruence should not be dependent on others' recognition of one's gender identity. These items were deleted.

As a group, the three authors critically evaluated the remaining 21 items. Two items were deleted because they were centered on others' recognition of one's gender identity rather than the construct of interest (i.e., Most people that I know think of me as the gender I identify with, The community that I live in recognizes me as my gender identity). Another item was removed because its answer is dependent on participants' physical characteristics and may be pejorative to transgender individuals by assuming they have something to hide (I am able to pass as my gender identity). Three other items were deemed to be confounded with transitioning and thus were removed (i.e., There is nothing that I would do to alter my body in order to make it better represent my gender identity, My body allows me to engage in sexual behaviors that express my sexuality, and My present body does not allow me to be sexual with romantic partners in a way with which I am comfortable). This process resulted in 15 items.

An expert panel of four transgender individuals independently examined each item. They rated each item on a content scale (1 = *not under content domain,* 2 = *somewhat inappropriate for content domain,* 3 = *definitely part of content domain*) and a clarity scale (1 = *unclear,* 2 = *somewhat unclear,* 3 = *clear*). They believed that the 15 items accurately and sufficiently reflected the content domain and were clear (all items on both scales received a rating of 3).

Hypotheses

Factor structure and internal consistency reliability. We hypothesized that a factor analysis would detect two dimensions that the items were designed to assess (a) congruence related to appearance and (b) congruence related to acceptance of gender identity. Also, we expected that the items within these dimensions, as well as all TCS items, would be homogenous (i.e., internally consistent) because they are measuring transgender congruence and specific facets of this construct.

Construct validity. Transfeminism posits that transgender individuals construct their own gender identities based on what feels genuine and authentic to them in their individual lives and social contexts (Koyama, 2003). Given that living in a genuine and authentic manner is connected positively to life satisfaction (Peterson, Park, & Seligman, 2005) and meaning in life (Kenyon, 2000) and inversely to both depression and anxiety (Ryan, LaGuardia, & Rawsthorne, 2005), we hypothesized that the TCS would be positively related to feeling the presence of meaning within one's life and life satisfaction, as well as negatively related to anxiety and depression. Conflicted gender identity has been shown to be positively related to body dissatisfaction (Ålgars, Santilla, & Sandnabba, 2010). Therefore, we predicted that the TCS scores would be inversely related to body dissatisfaction.

Discriminant validity. Because congruence is associated with well-being, individuals may want to project the impression onto others that they are congruent. If the TCS is measuring transgender congruence rather than response style, then it should not be related to socially desirable responding. Also, people actively searching for meaning do not report more security or comfort within themselves (Steger, Frazier, Oishi, & Kaler, 2006). It is expected, then, that transgender individuals who score high on transgender congruence are not actively searching for something that will make their lives meaningful. Consequently, we hypothesized that the TCS would not be related to socially desirable responding or an active search for meaning.

Incremental validity. Transgender congruence should not be the same construct as the number of steps individuals take to transition. Transgender individuals are diverse and can feel comfortable and genuine within their gender identity, no matter their choice of expression (Koyama, 2003). Therefore, transgender congruence should be uniquely tied to life satisfaction, meaning in life, low depression, and low anxiety, even after considering the number of steps they have taken to transition. Demonstrating that the TCS predicts unique variance in these indices would suggest that congruence cannot be adequately assessed by knowing the number of steps an individual has taken to transition. Hence, we hypothesized that TCS scores would predict life satisfaction, meaning in life, depression, and anxiety, even after controlling for the number of steps taken to transition.

Method

Participants

We analyzed data from 162 participants who endorsed that they were transgender on the informed consent sheet. Participants ranged in age from 18 to 75 ($M_{age} = 43.05$, $SD = 13.49$, $Mdn = 45$). They identified as European American/

Table 1. Frequencies of Gender Identities Endorsed by Participants in Study 1 and Study 2

	Study 1 *N*	Study 2 *N*
Transgender	96	205
Transsexual	29	113
Trans	15	158
Transgenderist	5	16
Transfeminine	X	21
Transmasculine	X	51
Female-to-male	44	90
Male-to-female	60	94
Female	15	86
Male	20	86
Genderqueer	13 (6)[a]	109 (22)[a]
Cross-dresser	16 (7)[a]	51 (14)[a]
Other (e.g., neutrois, agender, intergender, pangender)	10	58

Note. X = this option was not a category offered to the participants in Study 1. Participants were allowed to select multiple choices for these options, as well as enter their own self-identifications. Hence, the total numbers presented for gender identity exceeded the sample size for each study ($N = 162$ for Study 1, $N = 342$ for Study 2).

[a]Participants who identify as a cross-dresser or genderqueer who did not also endorse transgender, transsexual, trans, transgenderist, male-to-female, or female-to-male labels. In post hoc analyses, these participants were separated out and the data were reanalyzed without them to ensure that results were consistent without those who did not endorse these key transgender-specific labels.

White ($n = 136$, 84.0%), Latino/Latina (5, 3.1%), American Indian (4, 2.5%), Asian American (3, 1.9%), biracial (6, 3.7%), multiracial (2, 1.2%), or "other" (6, 3.7%). They described themselves as working class ($n = 56$, 34.6%), middle class (73, 45.1%), upper-middle class (25, 15.4%), or upper class (6, 3.7%). Two (1.2%) did not report a socioeconomic identification. They reported being married or partnered (50, 30.9%), single (48, 29.6%), divorced (31, 19.1%), in a long-term relationship (25, 15.4%), or polyamorous (8, 4.9%). They indicated living in the Pacific (55, 34.0%), South (37, 22.8%), Northeast (31, 19.1%), or Midwest (31, 19.1%) regions of the United States; three reported living Canada (1.9%) and five (3.1%) did not reveal the geographic region in which they lived.

Many transgender individuals use several labels to describe their gender identity and sexual orientation (Carroll, Gilroy, & Ryan, 2002). Thus, in order to recognize the possibility of multiple identities, participants were allowed to select multiple choices for these options, as well as enter their own self-identifications. Hence, the total numbers presented for both gender identity and sexual orientation exceeded 162. The gender identities endorsed by participants are included in Table 1. As one of their sexual orientation identities, 57 chose bisexual, 54 chose heterosexual, 31 chose lesbian, 24 chose queer, eight chose gay, and 17 entered a sexual orientation identification (e.g., nonconfused, confused, and asexual). On average, participants underwent 10.34 steps to transition ($SD = 4.10$) of a possible 0–16 steps.

Procedure and Measures

In order to recruit transgender participants, we sent an e-mail describing the study to directors of Lesbian/Gay/Bisexual/Transgender/Questioning organizations and support groups at universities, colleges, and community centers throughout the country. In this e-mail, we requested that the director include an advertisement describing the study in any online newsletter or Listserv that their program, center, or group distributes. This advertisement stated that the participants were desired for a study investigating the mental health of transgender individuals and contained the web address where the study was located. Interested participants were able to click the link to be taken directly to a webpage that hosted the informed consent sheet. After participants provided their consent and agreed to a question that asked if they identified as transgender, they were taken to the survey Webpage (hosted by SurveyMonkey) that contained the measures and the demographic items. The measures were ordered as they are presented below. Following completion of the study, the participants were shown a detailed debriefing statement, which elaborated on the purposes of the study and listed the contact information of the researchers. Interestingly, we received numerous unsolicited e-mails from respondents who told us how pleased they were with our topic and by having their experiences acknowledged. The sample was recruited over a 3-month period.

Of the original 181 participants, we deleted 12 participants who exited the survey after answering only a few items or measures. With the remaining 169 participants, we used several strategies to detect duplicate and erroneous data. First, we screened date and time of submission to avoid duplicate surveys; no duplicate surveys were detected. Second, we embedded 10 items randomly throughout the survey that asked participants to choose a specific response choice (e.g., We want to make sure you are paying attention. Please choose Rarely for your answer to this question) to control for inattentiveness, random, and careless responding. Three participants did not pass these validity check questions and

therefore were deleted. Four participants who did not complete at least 90% of any given measure were deleted from the data set. After these screening procedures, our sample was reduced to 162 participants.

TCS. The 15 TCS items are presented in Table 2. Instructions for participants are "Gender identity is defined as the gender(s) that you experience yourself as; it is not necessarily related to your assigned gender at birth. For the following items, please indicate the response that best describes your experience *over the past two weeks*." Participants rated each item on a 5-point Likert-type scale (i.e., 1 = *strongly disagree,* 2 = *somewhat disagree,* 3 = *neither agree nor disagree*, 4 = *somewhat agree*, 5 = *strongly agree*). Four of the 15 items were designed to be reverse-scored. Item responses were averaged, with higher scores indicating a higher level of congruence.

Meaning in life. The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) was used to assess the degree to which participants made sense of, and felt significance toward, the nature of their being and existence. Its 10 items are rated along a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Two factors were uncovered through exploratory and confirmatory factor analyses of the MLQ items: Presence and Search (Steger et al., 2006). Presence (5 items; e.g., I understand my life's meaning) taps into the presence of meaning in life, whereas Search (5 items; e.g., I am looking for something that makes my life feel meaningful) taps into an active search to create meaning in life. Presence items and Search items were each averaged; higher subscale scores indicated greater presence of meaning and search in life, respectively. Steger, Frazier, Oishi, and Kaler (2006) reported on the psychometrics of the subscales with college student samples. Scores on both Presence ($\alpha = .86$) and Search ($\alpha = .87$) demonstrated adequate internal consistency reliability. Also, their construct validity was upheld because Presence was related to life satisfaction ($r = .46$) and joy ($r = .49$), whereas Search was related to depression ($r = .36$) and fear ($r = .25$). Presence and Search were both unrelated to social desirability (rs = .08 and .02, respectively), garnering discriminant validity evidence. For the current sample, Presence ($\alpha = .91$) and Search ($\alpha = .88$) yielded internally consistent scores.

Satisfaction with life. The Satisfaction with Life scale (SWLS; Diener, Emmons, Larson, & Griffin, 1985) was used to measure this construct. Its 5 items (e.g., The conditions of my life are excellent) are rated along a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Item responses are averaged, with a higher total score indicative of greater life satisfaction. Diener, Emmons, Larson, and Griffin (1985) demonstrated that its scores have adequate internal consistency reliability ($\alpha = .87$) and stability over a 2-week period ($r = .82$) with college students. Its convergent validity is evidenced by its relationships to subjective well-being ($r = .68$; Diener et al. 1985) and interviewer ratings of the respondent's satisfaction with life ($r = .66$; Pavot & Diener, 1993). Further, the SWLS demonstrated construct validity with college students by negatively correlating with measures of depression ($r = -.72$) and negative affect ($r = -.31$; Larson, Diener, & Emmons, 1985). For the current sample, Cronbach's coefficient α was .85 for the SWLS items.

Body satisfaction. Participants' attitudes toward their bodies were gauged by the Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987). Participants were specifically instructed to rate the items according to how they have felt during the past 4 weeks. We revised several items that referred to comparing one's body to "other women" to read "other people." Its 34 items (e.g., Have you felt ashamed of your body? and Have you felt unhappy about your body?) were rated on a 6-point scale ranging from 1 (*never*) to 6 (*always*). Item responses were averaged; higher total scores reflect greater body dissatisfaction. Cooper, Taylor, Cooper, and Fairburn (1987) garnered evidence for the convergent validity of the BSQ via its correlation with disordered eating ($r = .35$) and body dissatisfaction ($r = .66$) in a sample of clients diagnosed with bulimia nervosa. In addition, Rosen, Jones, Ramirez, and Waxman (1996) found the scores from the BSQ to be internally consistent ($\alpha = .97$) and stable over a 3-week period ($r = .88$) among clients diagnosed with bulimia and women without bulimia. Furthermore, they garnered evidence of the scale's concurrent validity through significant correlations with preoccupation with appearance ($r = .29$) and satisfaction with nine specific body areas ($r = -.53$) with a sample of body image therapy clients. For the current sample, Cronbach's coefficient α was .87 for BSQ scores.

Anxiety. The Beck Anxiety Inventory (BAI; Beck & Steer, 1993) includes 21 physiological, emotional, behavioral, and cognitive symptoms of anxiety (e.g., various fears, nervousness). For each BAI item, participants noted how frequently they experienced a symptom within the last month on a 4-point scale that ranged from 0 (*not at all*) to 3 (*severely—it bothered me a lot*). Item responses were summed, with higher scores indicating more symptoms on anxiety. Scores on the BAI have yielded internal consistency reliability (αs = .92 to .94), test–retest reliability over a 1-week period ($r = .75$) and construct validity via its relationships with an anxiety rating scale ($r = .51$) among clinical and nonclinical samples (Beck & Steer, 1993). For the present sample, BAI scores ($\alpha = .91$) demonstrated strong internal consistency reliability.

Depression. The Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996) contains 21 items which correspond to a common affective, cognitive, and behavioral symptom of depression (e.g., sadness, irritability, hopelessness, pessimism, social distance, sleeping, and eating problems). Each item contains four options corresponding to the

Table 2. Transgender Congruence Scale (TCS) Items, Item-Factor Loadings, and Item Means (*M*) and Standard Deviations (*SD*) for Study 1 and Study 2

Factor Item	Study 1		Study 2		Study 1		Study 2	
	Factor 1	Factor 2	Factor 1	Factor 2	*M*	*SD*	*M*	*SD*
Factor 1: Appearance Congruence								
1. My outward appearance represents my gender identity.	.72	−.08	.81	—	3.65	1.40	3.01	1.46
2. I experience a sense of unity between my gender identity and my body.	.79	.01	.76	—	3.04	1.42	2.46	1.36
3. My physical appearance adequately expresses my gender identity.	.86	−.07	.86	—	3.25	1.44	2.51	1.47
4. I am generally comfortable with how others perceive my gender identity when they look at me.	.75	−.00	.75	—	3.60	1.32	2.80	1.44
5. I feel at home in my body. [Deleted]	.72	.08	Deleted		3.03	1.47	Deleted	
6. I am not happy with the way that my body looks with regards to my gender identity.[a] [Deleted]	.63	.03	Deleted		2.64	1.40	Deleted	
7. My physical body represents my gender identity.	.85	.02	.74	—	2.67	1.45	2.12	1.32
8. The way my body currently looks does <u>not</u> represent my gender identity.[a]	.76	−.01	.79	—	2.83	1.50	2.40	1.44
9. I am happy with the way my appearance expresses my gender identity.	.83	.05	.87	—	3.23	1.37	2.68	1.40
10. I do <u>not</u> feel that my appearance reflects my gender identity.[a]	.70	−.05	.76	—	3.32	1.45	2.77	1.51
11. I feel that my mind and body are consistent with one another.	.79	.09	.83	—	2.85	1.50	2.40	1.36
Factor 2: Gender Identity Acceptance								
12. I have a strong sense of my gender identity. [Deleted]	Deleted		Deleted		4.49	0.87	Deleted	
13. I am <u>not</u> proud of my gender identity.[a]	.01	.60	—	.62	4.04	1.26	3.75	1.30
14. I am happy that I have the gender identity that I do.	−.04	.97	—	.80	4.16	1.15	3.72	1.30
15. I have accepted my gender identity.	.04	.75	—	.80	4.54	0.81	4.20	1.12

Note. $N = 162$ for Study 1 and $N = 372$ for Study 2. Possible range for items: 1 (*strongly disagree*) to 5 (*strongly agree*). The final 12 TCS items are bolded; professionals should only administer these 12 items to their research participants or clients. The three other items were deleted from the TCS (mainly due to low item-factor loadings) and should not be considered in the final TCS.
[a]Reverse score.

Table 3. Steps to Transition Items and Frequency of Endorsement

Item	%
1. Come out as transgender to family	80.2
2. Come out as transgender to friends	81.5
3. Come out as transgender to coworkers or fellow students	58.0
4. Adopted a name not given at birth that better represents gender identity	74.1
5. Currently called adopted name by family	46.3
6. Currently called adopted name by friends	66.0
7. Currently called adopted name by coworkers/fellow students	53.7
8. Legally had name changed to adopted name	48.1
9. Wear clothing that matches gender identity in social situations	85.8
10. Wear clothing that matches gender identity at work/school	64.8
11. Legally changed sex on birth certificate (if live in state where this is possible)	17.9
12. Driver's license changed to reflect gender identity	42.6
13. Had surgery to alter genitalia	21.6
14. Undergoing hormone replacement therapy	97.5
15. Used or had a nonsurgical cosmetic procedure (e.g., electrolysis) to alter physical appearance in order to make it more congruent with gender identity	85.8
16. Had non-genital surgery (e.g., breast removal, breast implants, facial femininization surgery, vocal cord surgery) to alter appearance (or presence) in order to make it more congruent with gender identity	45.7

degree the symptom is experienced within the last few days. Scores of 0 (*no experience of the symptom*) to 3 (*full experience of the symptom*) were applied to each item. Item responses were summed to arrive at a total score. Scores on the BDI-II have demonstrated internal consistency reliability (e.g., $\alpha = .91$), test–retest reliability over a 1-week period ($r = .93$) and construct validity via its correlations with hopelessness ($r = .71$) and a rating scale for depression ($r = .68$) among outpatient samples (Beck et al., 1996). For the current sample, Cronbach's coefficient α was .89 for BDI-II scores.

Social desirability. We assessed participants' tendency to respond in a socially desirable manner via the widely used 33-item Marlowe–Crowne Social Desirability scale (MCSDS; Crowne & Marlowe, 1960). Its items (e.g., I never hesitate to go out of my way to help someone in trouble) represent socially approved opinions or behaviors to which most people cannot truthfully claim to adhere at all times. Each item is scored using a dichotomous *true/false* response scale. Participants receive a point when they respond *true* to a socially desirable item or *false* to a socially undesirable item. All points are summed to generate a total score, with higher scores indicative of more socially desirable responding. MCSDS scores have been found to demonstrate adequate internal consistency reliability (i.e., $KR20 = .77$ to .88), 2-week test–retest reliability ($r = .89$), and convergent validity via its significant relationship to another measure of social desirability (rs $= .70$ to .74) among college students and community samples (Blake, Valdiserri, Neuendorf, & Nemeth, 2006; Crowne & Marlowe, 1960; Stober, 1999). For the present sample, a Kuder–Richardson reliability index of .84 was obtained for MCSDS scores.

Steps to transition. We developed an inventory to determine the number of steps respondents have taken in order to transition to their gender identity. Each item was designed to reflect a different step toward transitioning that transgender individuals commonly pursue (Ekins & King, 2006). Experts asked to evaluate the TCS also evaluated this measure for content validity and whether the items comprehensively assessed the various steps taken when transitioning. They recommended minor wording changes, which we incorporated, and agreed that the 16 items thoroughly assessed the construct. Instructions were "Please indicate whether you have taken any of the following actions in order to transition to your gender identity." The items, as well as their frequency of endorsement, can be found in Table 3. Respondents were given one point for each item they endorsed, and points were summed to generate a total score. For our sample, its scores demonstrated an adequate level of internal consistency reliability ($KR20 = .91$).

Results

Exploratory Factor Analysis and Internal Consistency Reliability

First, we evaluated the factor structure of the TCS. Exploratory factor analysis would inform which items to include or exclude in the calculation of the total and subscale scores needed for the other planned analyses. The number of participants ($N = 162$) exceeded the recommended 10:1 cases-to-parameter ratio needed to confidently examine a model, or in this case, the factor structure of an instrument (Bentler, 1990). In our study, a total of 150 cases were needed because there were 15 item-factor parameters to be estimated. We used a common factor analysis with principal axis factoring because the factor solution it computes is uncontaminated by error variance and unique variance

(Tabachnick & Fidell, 2001). We chose direct oblimin rotation because we expected that multiple factors, if found, would be correlated and represent components of a broader transgender congruence construct. We specified the delta weight to be zero because this value allows for a moderate correlation among factors. The significance of Bartlett's test of sphericity, $\chi^2(105) = 1649.39$, $p < .001$, and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .91) revealed that the 15 TCS items had adequate common variance for factor analysis (Tabachnick & Fidell, 2001). To determine the number of factors in this analysis to interpret, we used parallel analysis (Horn, 1965), a procedure shown to be more accurate than other methods (e.g., examining the scree plot of the eigenvalues for breaks, retaining factors with eigenvalues greater than 1) in determining the factor structure of a scale (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Hayton, Allen, & Scarpello, 2004). According to parallel analysis procedures, we generated 50 random data sets with the same dimensions as the actual data. Because only the first two factors of the exploratory factor analysis of the actual data had eigenvalues greater than the 95th criterion generated from the random data, we interpreted only these two factors.

The findings from the exploratory factor analysis of the actual data demonstrated that the first factor accounted for 48.30% of the total variance and the second factor accounted for 14.17% of the total variance, with both factors together yielding 62.47% of the total TCS item variance. We then inspected the rotated factor matrix to determine item-factor loadings. Criteria for factor loadings included item values $\geq .40$ on the primary factor and values $\leq .30$ on other factors (Tabachnick & Fidell, 2001). All items loaded on their assigned factor and did not cross-load on any other factor. The first factor contained 11 items and the second factor contained 4 items.

The first factor (Items 1–11 in Table 2) was labeled Appearance Congruence, which represents the degree to which participants felt that their external appearance represented their gender identity. Cronbach's coefficient α was .94 for the Appearance Congruence items, and item-total correlations ranged from .62 to .83. The second factor (Items 12—15 in Table 2) was labeled Gender Identity Acceptance, which measures the degree to which transgender individuals have accepted the gender identity that they perceive themselves to be rather than the gender identity assigned to them by society. Cronbach's coefficient α was .77 for Gender Identity Acceptance items, and item-total correlations ranged from .40 to .72. Items within each factor were summed to create subscale scores. For the 15-item total score, Cronbach's coefficient α was .92.

The TCS subscales were examined further for evidence of internal consistency reliability. Each item within the total scale and subscale was evaluated to determine whether its deletion would correspond to an increase in the α level. Deletion of Item 12 on Gender Identity Acceptance would raise the α to .79 for this subscale; thus, this item was deleted. Each other item contributed incrementally to its intended subscale (i.e., its deletion did not increase the α level for the subscale), providing additional evidence for the integrity of the TCS.

The 14 remaining TCS items were factor analyzed again using a principle-axis factor analysis and a direct oblimin rotation ($\delta = 0$). We specified the detection of two factors. All items loaded greater than .40 on their respective factor and less than .30 on the other factor (see Table 2). This solution accounted for 65.11% of the variance. Appearance Congruence accounted for 51.38% of the variance (eigenvalue = 7.19); its factor loadings ranged from .63 to .86. Gender Identity Acceptance accounted for 13.73% of the variance (eigenvalue = 1.92); its factor loadings ranged from .60 to .97. Alpha was .92 for the revised 14-item TCS total score.

Normality of Distribution

Means, standard deviations, and correlations between the measures are presented in Table 4. We evaluated whether the TCS total scale and subscales were normally distributed by examining their skewness and kurtosis values. According to Kline (2005), variables that have absolute values of skewness > 3 and kurtosis > 10 may pose a problem in statistical analyses and should be transformed. The TCS total scale (skewness = −0.02, kurtosis = −0.93), the Appearance Congruence subscale (skewness = −0.03, kurtosis = −1.06), and the Gender Identity Acceptance subscale (skewness = −1.23, kurtosis = 1.01) each had acceptable values. The individual 14 TCS items also had acceptable skewness (range = −2.29 to 0.44) and kurtosis (range = −1.48 to 5.70) values. Similarly, no other measure was extremely skewed or kurtotic (all skewness values $\leq$ |1.41| all kurtosis values $\leq$ |2.54|). Therefore, no measure was transformed.

Construct Validity Evidence

The TCS was expected to correlate in a positive direction with presence of meaning in life and life satisfaction and in a negative direction with anxiety, depression, and body dissatisfaction. These hypotheses were supported. Specifically, the links from the TCS total score, Appearance Congruence, and Gender Identity Acceptance to presence of meaning in life were moderate-to-large in effect size, according to Cohen's (1992) criteria (i.e., rs $\geq .50$ indicate a large effect size; around .30, medium/moderate; and around .10, small). The links from the TCS total score and the Appearance Congruence subscale score to life satisfaction were large in effect size, whereas the association between Gender Identity Acceptance and life satisfaction was moderate in effect size. The links from the TCS total score, Appearance Congruence, and Gender Identity Acceptance to anxiety were moderate in effect size, and the links between the TCS total and subscale scores to depression were moderate-to-large in effect size. The links from the TCS total score and Appearance Congruence subscale to body dissatisfaction were large in effect size, whereas the relationship from Gender Identity Acceptance to body dissatisfaction was small in effect size.

Table 4. Study 1 Means (*M*), Standard Deviations (*SD*), and Intercorrelations of the Measures, Including the 14-Item TCS and the 12-Item TCS

Measure	*M*	*SD*	Response Scale	1	2	3	4	5	6	7	8	9	10	11
1. TCS total	3.35[a]	0.97[a]	1–5	—	.97*	.50*	.56*	.45*	−.12	.56*	−.62*	−.30*	−.51*	.12
2. TCS-Appearance Congruence	3.10[b]	1.13[b]	1–5	.98*	—	.29*	.57*	.40*	−.11	.53*	−.65*	−.27*	−.45*	.11
3. TCS-GI Acceptance	4.25	0.92	1–5	.48*	.30*	—								
4. Steps taken to transition	10.34	4.10	0–16	.53*	.54*	.20*	—							
5. MLQ-Presence	3.52	0.96	1–7	.46*	.43*	.36*	.27*	—						
6. MLQ-Search	3.22	0.91	1–7	−.13	−.12	−.11	−.07	−.33*	—					
7. Satisfaction with Life Scale	2.93	1.01	1–7	.59*	.57*	.32*	.30*	.60*	−.15	—				
8. BSQ (body dissatisfaction)	3.67	1.17	1–6	−.63*	−.66*	−.18*	−.54*	−.20*	.24*	−.54*	—			
9. BAI (anxiety)	10.65	10.20	0–63	−.33*	−.30*	−.24*	−.08	−.39*	.20*	−.63*	.31*	—		
10. BDI-II (depression)	9.52	8.20	0–63	−.53*	−.49*	−.41*	−.20*	−.53*	.28*	−.63*	.70*	.68*	—	
11. MCSDS (social desirability)	16.47	5.64	0–33	.13	.12	.09	−.06	.28*	−.22*	.29*	−.31*	−.22*	−.31*	—

Note. $N = 162$. BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory-II; BSQ = Body Shape Questionnaire; GI = gender identity, MCSDS = Marlowe–Crowne Social Desirability scale; MLQ = Meaning in Life Questionnaire; TCS = Transgender Congruence scale. Values below the diagonal are for the 14-item TCS and the 11-item appearance congruence subscale; values above the diagonal are for the revised 12-item TCS ($M = 3.43$, $SD = 0.96$) and the 9-item appearance congruence subscale ($M = 3.16$, $SD = 1.15$).

[a]Mean and standard deviation for the 14-item TCS.

[b]Mean and standard deviation for the 11-item appearance congruence subscale.

*$p < .05$.

Discriminant Validity Evidence

The TCS should not be related to participants' tendency to respond in a socially desirable manner, nor should it be related to their active search to create meaning in life. As expected, the TCS total scale, the Appearance Congruence subscale, and the Gender Identity Acceptance subscale were not related to social desirability or searching to create meaning in life; the strength of these correlations, while not significant, were small in effect size.

Incremental Validity Evidence

Finally, we determined whether the TCS predicted psychological well-being (i.e., presence of life meaning and life satisfaction) and distress (i.e., anxiety and depression) above and beyond the variance accounted for by the number of steps participants have taken to transition.

We controlled for participants' socially desirable responding because it was significantly related to the indices of psychological well-being. Thus, the MCSDS (social desirability) was entered at Step 1 of a regression equation, steps taken to transition was entered at Step 2, and the TCS total score was entered at Step 3 in the prediction of each of the four criteria, yielding four hierarchical multiple regression equations. We adjusted the p level to .013 (.05/4) in order to control for Type I error. A statistically significant increment in R^2 at Step 3 would indicate incremental validity evidence for the TCS. Per Cohen (1992), R^2 values of .02 indicate a small effect size; .15, medium; and .35 and above, large. These findings, presented in Table 5, support the incremental validity of the TCS. It predicted unique variance in presence of life meaning (small-to-medium effect size), life satisfaction (medium-to-large effect size), anxiety (small-to-medium effect size), and depression (medium-to-large effect size). Interestingly, steps taken to transition no longer predicted presence of life meaning, life satisfaction, and depression at Step 3 when the TCS total score was entered into the equations, indicating that steps to transition did not predict psychological functioning beyond its association with transgender congruence (steps taken to transition did not predict anxiety at any step).

We used the TCS subscales at Step 3 of the hierarchical regressions (in lieu of the total TCS score) to determine which TCS factors uniquely contributed to the four indices of psychological functioning above and beyond the variance accounted for by social desirability (Step 1) and number of steps taken to transition (Step 2). The only difference in the regressions was the variables entered at Step 3; all other components were identical to the regressions conducted above. Appearance Congruence and Gender Identity Acceptance predicted unique variance in presence of life meaning, yielding a medium effect size. Appearance Congruence predicted unique variance in life satisfaction (medium-to-large effect size) and anxiety symptoms (small-to-medium effect size); however, Gender Identity Acceptance did not meet the $p < .013$ criterion for life satisfaction and anxiety symptoms. Appearance Congruence and Gender Identity Acceptance each uniquely contributed to depressive symptoms, yielding a medium-to-large effect size.

Table 5. Incremental Variance in Psychological Functioning Accounted for by TCS Total Scores in Study 1

	Cum. R^2	ΔR^2	ΔF	β	$t(161)$
Criterion: MLQ: Presence of meaning in life, overall F (3, 158) = 19.39***(18.21*)**					
Step 1	.077	.077	13.33*		
MCSDS: Social desirability				.28	3.65*
Step 2	.160	.083	15.72*		
MCSDS: Social desirability				.29	4.04*
Steps taken to transition				.29	3.97*
Step 3	.269 **(.257)**	.109 **(.097)**	23.59* **(20.62*)**		
MCSDS: Social desirability				.23 **(.24)**	3.37* **(3.45*)**
Steps taken to transition				.07 **(.07)**	0.91 **(0.88)**
TCS: Transgender congruence				.40 **(.38)**	4.86* **(4.54*)**
Criterion: SWLS: Satisfaction with life, overall F (3, 158) = 34.01***(29.74*)**					
Step 1	.082	.082	14.31*		
MCSDS: Social desirability				.29	3.78*
Step 2	.180	.097	18.89*		
MCSDS: Social desirability				.31	4.24*
Steps taken to transition				.31	4.35*
Step 3	.392 **(.361)**	.213 **(.181)**	55.34* **(44.84*)**		
MCSDS: Social desirability				.22 **(.23)**	3.49* **(3.58*)**
Steps taken to transition				.01 **(.02)**	0.18 **(0.24)**
TCS: Transgender congruence				.55 **(.52)**	7.44* **(6.97*)**
Criterion: BDI-II: Anxiety, overall F (3, 158) = 8.87***(7.90*)**					
Step 1	.049	.049	8.16*		
MCSDS: Social desirability				−.22	−2.86*
Step 2	.058	.009	1.46		
MCSDS: Social desirability				−.23	−2.92*
Steps taken to transition				−.09	−1.21
Step 3	.145 **(.131)**	.087 **(.074)**	16.05* **(13.31*)**		
MCSDS: Social desirability				−.17 **(−.18)**	−2.27 **(−2.35)**
Steps taken to transition				.10	1.12 **(1.04)**
TCS: Transgender congruence				−.36	−4.01* **(−3.65*)**
Criterion: BDI-II: Depressive symptoms, overall F (3, 158) = 27.14***(24.01*)**					
Step 1	.084	.084	14.70*		
MCSDS: Social desirability				−.29	−3.83*
Step 2	.137	.052	9.66*		
MCSDS: Social desirability				−.30	−4.11*
Steps taken to transition				−.23	−3.11*
Step 3	.340**(.313)**	.203**(.177)**	48.71* **(40.60*)**		
MCSDS: Social desirability				−.22 **(−.23)**	−3.35* **(−3.44*)**
Steps taken to transition				.06 **(.06)**	0.83 **(0.76)**
TCS: Transgender congruence				−.54 **(−.51)**	−6.98* **(−6.37*)**

Note. N = 162. BDI-II = Beck Depression Inventory-II; Cum. = cumulative; MCSDS = Marlowe–Crowne Social Desirability dcale; MLQ = Meaning in Life Questionnaire; TCS = Transgender Congruence scale (total score). *F* and Step 3 values that are not bolded were derived from the analysis of the 14-item TCS. *F and* Step 3 values that are bolded were derived from the analysis of the 12-item TCS. Degrees of freedom associated with ΔF were 1, 160 for Step 1; 2, 159 for Step 2, and 3, 158 for Step 3.
*$p < .013$.

Post hoc Analyses

To further understand the associations between TCS scores and psychological well-being, we explored which indices of psychological well-being accounted for unique variance in transgender congruence. Therefore, we ran a regression equation controlling for social desirability in Step 1 and entered the four indices of psychological well-being (i.e., presence of meaning in life, life satisfaction, anxiety symptoms, and depressive symptoms) at Step 2. Life satisfaction, $\beta = .37$, $t = 4.26$, $p < .001$, and depressive symptoms, $\beta = -.28$, $t = -2.76$, $p = .007$, accounted for unique variance in total TCS scores, ΔR^2 at Step 2 = .390, $F(4, 152) = 25.14$, $p < .001$. Similarly, life satisfaction, $\beta = .40$, $t = 4.40$, $p < .001$, and depressive symptoms, $\beta = -.23$, $t = -2.11$, $p = .036$, accounted for unique variance in Appearance Congruence, ΔR^2 at Step 2 = .351, $F(4, 152) = 25.09$, $p < .001$. However, only depressive symptoms, $\beta = -.38$, $t = -3.16$, $p = .002$, accounted for unique variance in Gender Identity Acceptance, ΔR^2 at Step 2 = .188, $F(4, 152) = 8.91$, $p < .001$.

Finally, we separated out those participants who identified as cross-dressers ($n = 7$) or genderqueer ($n = 6$) without also endorsing key transgender identity labels (i.e., transgender,

transsexual, trans, MTF, and FTM). We reran all analyses to determine whether the trends in the findings changed. The significance trends were identical, with the values changing slightly (by .01 to .02), if at all.

Study 2

The purpose of Study 2 was to confirm the factor structure of the TCS with a different sample of transgender individuals. We targeted individuals from transgender support groups in order to recruit participants at various stages of processing their gender identity. We hypothesized that the TCS factor structure uncovered in Study 1 would be replicated with this sample and that its factor structure would provide a good fit to the data. We also evaluated our hypothesized two-factor model against an alternative unidimensional model, where all items were specified to load on only one factor. Instruments purporting to measure a new construct should be evaluated to determine whether they are unidimensional; even when theory is precise about the number of factors an instrument should have, researchers should estimate whether the fit of a simpler (i.e., more parsimonious) one-factor model is comparable (Kline, 2005). If fit indices suggest that (a) the unidimensional model does not provide a good fit to the data, (b) the hypothesized two-factor model provides a good fit to the data, and (c) the two-factor model provides a significantly better fit to the data than the unidimensional model, further support for the TCS's factorial validity would be garnered.

Method

Participants

The sample consisted of 342 North American transgender residents (age range = 18–72, M_{age} = 34.80, SD = 14.71, Mdn = 29). Participants identified their ethnicity as White/Caucasian (n = 292, 85.4%), Latino/Latina (10, 2.9%), Black/African American (9, 2.6%) Asian (4, 1.2%), biracial/multiracial (16, 4.7%), and 11 (3.2%) chose not to respond. They identified as gay/lesbian (n = 40, 11.7%), bisexual (68, 19.9%), heterosexual (51, 14.9%), pansexual (47, 13.7%), asexual (32, 9.4%), queer (74, 21.6%), and 30 (8.8%) did not endorse a sexual orientation label. Participants described themselves as working class (104, 30.4%), middle class (112, 32.7%), upper-middle class (75, 21.9%), or upper class (7, 2.0%), whereas 44 (12.9%) did not report a socioeconomic identification. Participants were asked about their relationship status and were given the option to select multiple statuses (thus, total numbers presented exceeded 342). They described their relationship status as single (132), in a long-term relationship (99), married (73), divorced (44), in an open relationship (23), or polyamorous (34); five participants did not provide a relationship status. Most participants (314, 91.8%) lived in the United States (42 states covering all regions of the continental United States were represented); 28 (8.2%) reported living in Canada.

Although all participants answered "I agree" to the question "I identify as transgender" on the informed consent sheet, they were given the option of selecting other gender identity labels; this information is included in Table 1. Our study did not ask participants to complete the steps to transition inventory, but instead asked participants, "Did you or do you plan to transition?" A total of 212 (62%) participants indicated "yes," 56 (16.4%) chose "not sure," 35 (10.2%) selected "no, I am unable to," 36 (10.5%) endorsed "no, I do not want to," and 3 (0.9%) did not answer. As a follow-up question, participants were asked, "If you did/do plan to transition, where do you feel you are in your transition?" Participants who answered this question (n = 257) averaged 3.95 (SD = 2.08) on a scale ranging from 1 (*just started*) to 7 (*where I want to be*). Participants were also asked "To what extent does your gender presentation match how you feel?" Participants who answered this question (n = 327) averaged 4.02 (SD = 1.83) on a scale ranging from 1 (*not at all*) to 7 (*complete match*).

Measure

The 14-item TCS, as described in Study 1, was administered to participants. Cronbach's αs were .93 for the total TCS, .94 for Appearance Congruence, and .77 for Gender Identity Acceptance. Means were 2.85 (SD = 1.00) for the total TCS, 2.57 (SD = 1.13) for the Appearance Congruence subscale, and 3.89 (SD = 1.03) for the Gender Identity Acceptance subscale.

Procedure

We sent e-mails directly to online transgender social and support groups. These groups included various local support groups across the country and national groups specific for transgender individuals (e.g., transgender Christians, transgender activists). The groups were asked to post a message that asked participants to complete an anonymous online survey about the experiences of transgender individuals and offered a link to the survey. Participants were encouraged to forward the e-mail to other transgender persons.

Participants were first directed to an informed consent sheet that listed the contact information of the researchers. After providing their consent, which included endorsing items that they (a) identify as transgender and (b) are at least 18 years of age, participants were directed to the online survey hosted on SurveyMonkey that contained the TCS and demographic questions. At the end of the study, participants were given the option of indicating where they heard about the study. After completing the study, participants were shown a debriefing statement, which stated that the survey will be used to improve the tools available for conducting research with the transgender population. They were provided space to comment about the survey. Many participants mentioned that they were pleased with the survey and having their transgender identity affirmed rather than

pathologized. This sample was recruited over a 1-month period, 2 years after the first sample.

We screened Internet Protocol addresses as well as the date/time of submission to avoid duplicate surveys; no duplicate surveys were detected. Thirty participants agreed to participate but did not finish the survey, and three additional participants did not complete at least 86% of the TCS (12 of the 14 TCS items). These 33 participants were not entered into the final data set, reducing our initial sample of 375 participants to 342 participants. All 342 of the retained participants answered the two integrated validity questions correctly.

Results

Confirmatory Factor Analysis (CFA)

The sample was large enough to perform CFA on the TCS items. A total of 28 parameters were estimated (14 item-factor parameters and 14 standard error-item parameters). Therefore, based on the 10:1 cases-to-parameter ratio (Bentler, 1990), 280 participants were needed to confidently analyze the TCS's factor structure. Data were first screened to ensure that the TCS item distributions were not highly skewed or kurtotic (i.e., absolute values of skewness > 3 and kurtosis > 10; Kline, 2005), which would pose problems in the CFA. All items had acceptable skewness (range = −1.49 to 0.92) and kurtosis (range = −1.48 to 1.34).

Mplus Version 4.1 (Muthén & Muthén, 2006) with maximum likelihood estimation was used to perform the CFA. The 14 TCS items served as indicators of their respective latent factor (Appearance Congruence or Gender Identity Acceptance). The adequacy of fit was determined via consensus among three indexes recommended by Hu and Bentler (1999): the Comparative Fit Index (CFI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA). According to criteria for model fit adequacy (Browne & Cudeck, 1993; Hu & Bentler, 1999), CFI values of .95 and higher, SRMR values of .08 or lower, and RMSEA values of .06 and lower indicate a relatively good fit of the model to the data, whereas CFI values of .90 to .94, SRMR values of .09 to .10, and RMSEA values of .07 to.10 indicate an adequate fit.

The fit statistics for the 14-item TCS were adequate, $\chi^2(76) = 328.32$, $p < .001$, CFI = .92, SRMR = .05, RMSEA = .10; however; contrary to our hypothesis, our model did not provide a good overall fit to the data.Factor loadings for this model were evaluated to determine whether certain items did not load strongly on their hypothesized latent factor and whether the deletion of these items would enhance the fit of the model to the data. We deleted 2 items (5 and 6, both of which are specified to load on the Appearance Congruence latent factor), which had the lowest item-factor loadings, that is, .72 and .61, respectively (both were significant at $p < .001$). A second CFA then was conducted with the remaining 12 items as indicators of their respective latent factor. This revised model provided an adequate-to-good fit to the data, $\chi^2(53) = 167.41$, $p < .001$, CFI = .96, SRMR = .04, RMSEA = .08. The Akaike information criterion (AIC) and the Bayesian information criterion (BIC) also can be used to estimate similarity/dissimilarity between models, with lower AIC levels being more desirable because less information is lost (Burnham & Andersen, 2002) and lower BIC levels identifying the most probable model (Kass & Raftery, 1995). The AIC values were 13,752.79 for the 14-item TCS and 11,698.07 for the 12-item TCS, and the BIC values were 13,864.00 for the 14-item TCS and 11,714.63 for the 12-item TCS. These values suggest that the 12-item model should be retained because there is less information lost, it is substantially different (i.e., $\Delta AIC > 10$) than the 14-item model, and it is the best candidate of the two models (i.e., $\Delta BIC > 10$). The item-factor loadings for this analysis are presented in Table 2. The correlation between the latent factors was .47.

Examining the Alternative Model

Next, the alternative one-factor model was evaluated. In this model, all 12 TCS items were specified to load on one factor instead of two factors. This alternative unidimensional model did not provide an adequate fit to the data, $\chi^2(54) = 392.29$, $p < .001$, CFI = .87, SRMR = .09, RMSEA = .14, and provided a significantly worse fit to the data than the two-factor model of the 12 TCS items, $\chi^2_{difference}(1) = 224.88$, $p < .001$.

Descriptives and αs for the 12-item TCS

Means and standard deviations were recalculated for the total TCS and the Appearance Congruence subscale because they were shortened by the deletion of Items 5 and 6. Means were 2.90 ($SD = 1.00$) for the total 12-item TCS and 2.57 ($SD = 1.17$) for the Appearance Congruence subscale. Alphas were recalculated for the total TCS and the Appearance Congruence subscale because they were impacted by the deletion of Items 5 and 6. Alpha changed to .92 for the total TCS and remained .94 for the Appearance Congruence subscale.

Reanalyzing the Data of Study 1

Returning to the Study 1 data set, the means, standard deviations, and intercorrelations of the revised 12-item TCS total scale and the 9-item Appearance Congruence subscale were calculated. These means and standard deviations are presented in the Table 4 note, and the intercorrelations are presented to the right of the diagonal. As indicated, similar values were obtained for the 12-item version as were obtained for the 14-item version. Further, the hierarchical regression analyses in Study 1 were also reanalyzed with the 12-item TCS and the TCS subscales. The significance trends in the

data remained the same for the total TCS (see Table 5) and its subscales, with the exception that the gender identity acceptance subscale uniquely predicted satisfaction with life, $\beta = .17$, $t = 2.54$, $p = .012$ (this subscale did not meet the $p = .013$ criterion when using the 14-item TCS).

Post hoc Analyses

Similar to Study 1, we separated out the 14 participants who identified as cross-dressers without endorsing key transgender identity labels (i.e., transgender, transsexual, trans, transgenderist, MTF, and/or FTM) as well as the 22 participants who identified as genderqueer but did not also endorse a key transgender identity label. We reran the CFA to determine whether the trends in the findings changed. The fit indices were identical and the item-factor loadings changed very slightly (i.e., by .01 to .03), if at all.

General Discussion

In two studies, we developed a measure of transgender congruence (the TCS), evaluated and cross-validated its factor structure, and determined that it yielded internally consistent and valid scores among transgender individuals. Given that transgender congruence honors transgender individuals' diverse identities and is associated with well-being even after controlling for the number of steps they have taken to transition, the 12-item TCS (which can be found in the Appendix) may serve as a valuable research and clinical tool for use with transgender individuals.

Two factors/subscales emerged from the TCS items of Study 1 (Appearance Congruence and Gender Identity Acceptance) and were cross-validated using CFA in Study 2. Appearance Congruence reflects transgender individuals' perception that their external appearance represents their gender identity. Gender Identity Acceptance reveals the extent to which they accept their gender identity and hold pride in this identity. Items composing each factor and the total scale were internally consistent, providing preliminary evidence for the TCS's reliability.

Transgender congruence was connected to indices of well-being, further supporting the construct validity of the TCS's scores. TCS total scores, Appearance Congruence, and Gender Identity Acceptance were positively related to presence of life meaning and satisfaction with life (yielding moderate-to-large effect sizes), while being inversely related to symptoms of anxiety (yielding small-to-moderate effect sizes) and depression (yielding moderate-to-large effect sizes). These findings are consistent with past research that perceptions of being authentic are linked to well-being (Peterson et al., 2005; Ryan et al., 2005). Overall transgender congruence as well as Appearance Congruence were uniquely tied to high levels of life satisfaction and low levels of depressive symptoms more so than perceptions of life meaning and low levels of anxiety, whereas Gender Identity Acceptance was uniquely tied to low levels of depressive symptoms more so than high life satisfaction and perceptions of life meaning and low levels of anxiety.

Transgender congruence was also related to lower body dissatisfaction, lending additional support for the TCS's construct validity. Appearance Congruence is directly relevant to feelings about the body, so it is not surprising that a higher score on this subscale (as well as the total scale) was related to body dissatisfaction, yielding a large effect. Gender Identity Acceptance was also related to lower body dissatisfaction, albeit to a small effect. Accepting and feeling proud of one's gender identity is connected to having fewer negative feelings about the body, it also assesses something unique from body dissatisfaction.

The TCS total score and subscale scores were not associated with social desirability or search for life meaning, supporting the discriminant validity of the TCS's scores. Thus, the TCS measures a psychological construct rather than simply a response style, and its scores were not contingent on individuals trying to project the impression that they are congruent. Transgender congruence appears to not be characterized by a search for life meaning, but rather perceptions of meaning within life.

The incremental validity of the TCS also was upheld. After controlling for social desirability and steps taken to transition, TCS total scores predicted unique variance in presence of life meaning and life satisfaction in a positive direction and both anxiety and depressive symptoms in a negative direction. When exploring which subscales contributed incremental variance to psychological well-being, Appearance Congruence uniquely predicted presence of life meaning, life satisfaction, and lower anxiety, and depressive symptoms. Gender Identity Acceptance uniquely predicted presence of life meaning and lower depressive symptoms. Interestingly, steps to transition did not predict any of the four indices of psychological functioning beyond its association with transgender congruence. These findings support that transgender congruence is not the same construct as transitioning.

Clinical Implications of the TCS

Transgender congruence may be a useful construct to assess when working with clients processing a transgender social identity. In order to respect a transgender client's individual experience of gender, counselors should not assume a gender identity or gender role of a client. Counselors should remain open and receptive to a client's process, recognizing both linear and recursive developmental paths are typical (Diamond et al., 2011). Counselors should support transgender clients in the steps they choose to transition, as well as support them if they decide not to engage in the transitioning process (e.g., clients who identify as genderqueer may not be distressed by their gender identities or bodies). If gender identity is a presenting concern for transgender clients, the present

findings suggest that it would be more helpful to focus on their levels of congruence with their appearance and gender identity rather than transition alone. The TCS would be useful to counselors in these endeavors. It could be administered at various points throughout the course of therapy to identify any changes in congruence within the client.

It is important to recognize that maintaining an extremely high level of congruence is very likely an unattainable and unrealistic goal for all individuals, not only transgender-identified persons. Indeed, Carl Rogers (1980, p. 14) stated, "None of us ever is totally able to be comfortably close to all that is going on within our own experience." Counselors should provide a more realistic view of congruence for their clients and collaborate with them to develop individualized strategies that can help prepare them for and process times in which they feel less congruent with their appearance and gender identity.

Additionally, the Gender Identity Acceptance subscale may be beneficial to highlight. It is important to note that recent research has found many transgender individuals recognize positive experiences related to being transgender (Riggle, Rostosky, McCants, & Pascale-Hague, 2011). This information is important for counselors because they have a tendency to focus on the negative aspects of transgender persons' experiences. Building or focusing on their positive experiences and reflections may help maintain or increase acceptance of their identity.

Limitations and Directions for Future Research

Alongside these encouraging findings, our study's limitations should be considered. First, like many social identities (Shields, 2008), we adopted the stance that transgender congruence may be a fluid process more so than a stable trait. Therefore, TCS scores likely fluctuate over time because individuals' relationships with their transgender identity are likely to change (Diamond & Butterworth, 2008; Diamond et al., 2011). Accordingly, we did not estimate the test–retest reliability of the TCS's scores. Researchers may want to determine how the TCS's stability is affected by other variables such as the number of steps taken to transition, age, and development. We also did not investigate its predictive validity. Due to the correlational nature of our sample, we are not able to determine whether increases in transgender congruence actually predict future increases in life satisfaction and presence of life meaning and decreases in depression and anxiety. Evidence for whether transgender congruence leads to changes in these variables over time would lend additional insight into the predictive validity of the TCS's scores.

Second, although we were able to recruit a diverse sample in terms of socioeconomic status, gender identification, relationship status, age, sexual orientation, and geographic region, the ethnic composition of our sample was largely White. Accordingly, the results of our study are limited to this particular subset of the transgender population. Due to holding increased social, economic, political, and educational power, White participants may have a different experience with transitioning and social acceptance of their gender identity, which then may influence their levels of transgender congruence. Future research needs to explore how race and ethnicity may impact transgender congruence within a large racially diverse sample of transgender individuals. To increase its clinical utility, it may be useful to administer the TCS to a large diverse sample to create norms for the scale. These data may be used to establish criterion scores for different levels of congruence, such as low congruence, average congruence, and high congruence.

Third, Gender Identity Acceptance only contains 3 items. Perhaps, additional Gender Identity Acceptance items could be constructed (e.g., I am ashamed of my gender identity [reverse-scored] and I am satisfied with my gender identity) and their psychometrics examined alongside the other 3 items in order to increase the number of items on this subscale. Fourth, we did not counterbalance the measures in Study 1. Thus, order effects could have played a role in our findings. Researchers should aim to counterbalance measures containing the TCS to determine whether its position within a set of surveys impacts the psychometrics of the scale.

Conclusion

The 12-item TCS with its subscales, Appearance Congruence and Gender Identity Acceptance, provides researchers with an instrument to assess and investigate transgender congruence. It is a psychometrically sound measure that can facilitate both empirical investigations and clinical applications connected to transgender identity. It is brief, easy to administer and score, and takes only a few minutes to complete. These appealing features facilitate its incorporation within research surveys and implementation within clinical settings.

Appendix

Transgender Congruence Scale

Gender identity is defined as the gender/genders that you experience yourself as; it is not necessarily related to your assigned gender at birth. For the following items, please indicate the response that best describes your experience *over the past 2 weeks.*

1. My outward appearance represents my gender identity.
2. I experience a sense of unity between my gender identity and my body.
3. My physical appearance adequately expresses my gender identity.
4. I am generally comfortable with how others perceive my gender identity when they look at me.
5. My physical body represents my gender identity.
6. The way my body currently looks does <u>not</u> represent my gender identity.

7. I am happy with the way my appearance expresses my gender identity.
8. I do not feel that my appearance reflects my gender identity.
9. I feel that my mind and body are consistent with one another.
10. I am not proud of my gender identity.
11. I am happy that I have the gender identity that I do.
12. I have accepted my gender identity.

Scaling: 1 (*strongly disagree*); 2 (*somewhat disagree*); 3 (*neither agree nor disagree*); 4 (*somewhat agree*); 5 (*strongly agree*).

Scoring: Reverse score items 6, 8, and 10 (where 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). To arrive at the total scale score, average the responses of the 12 items. For the Appearance Congruence subscale, average responses to Items 1, 2, 3, 4, 5, 6, 7, 8, and 9. For the Gender Identity Acceptance subscale, average responses to Items 10, 11, and 12.

Note. A fully formatted, downloadable version of this scale is available as supplementary material posted with the article online at pwq.sagepub.com.

Permission to use the TCS is not required, on condition that no item is modified. However, please notify Tracy L. Tylka (tylka.2@osu.edu) if you use the TCS in your research or desire to modify any of its items.

Authors' Note

Holly Kozee is now at D & S Residential Services in Austin, TX. Study 1 is based on Holly Kozee's doctoral dissertation completed under the direction of Tracy L. Tylka and Nancy E. Betz at the Ohio State University.

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