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Assessing Attitudes Toward Trans and Gender Diverse People: Adapting the 'Transgender Attitudes and Beliefs' Scale

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ABSTRACT

This study aimed to update the gender-based terminology of a measure used to assess attitudes toward trans and gender diverse people (the Transgender Attitudes and Beliefs Scale; TABS) in order to reflect appropriate and inclusive language standards and conventions while maintaining the psychometric integrity of the tool. The updated TABS was administered to 247 heterosexual, cisgender adults in the UK. Participants also completed the original TABS as well as measure of self-esteem and social desirability to test construct validity. We demonstrate that after updating the language of the TABS to reflect best-practice, the psychometric properties of the TABS were unaffected. **KEYWORDS**

Trans and gender diverse people; attitudes; transnegativity; stigma; measure

Introduction

Globally, mental health and wellbeing are declining rapidly (World Health Organisation, 2019) with this deterioration compounded by the COVID-19 pandemic (e.g., Kola, 2020). However, not everyone faces the same level of susceptibility to poor mental health with factors such as socioeconomic status, ethnicity, and gender rendering some more vulnerable than others (Fancourt et al., 2021; Kessler et al., 2007). One population where mental health inequalities are particularly pronounced are amongst trans and gender diverse (TGD) communities (i.e., people who experience an incongruence between the gender they were assigned at birth and gender identity; Jones et al., 2019). When compared to larger cisgender populations (i.e., people who don't experience incongruence between their gender assigned at birth and gender identity), TGD people have and continue to consistently report poorer mental health outcomes with symptoms of anxiety and depression found to be particularly high (e.g., Dhejne et al., 2016), the latter of which is thought to be a risk factor for suicidality (e.g., Marshall et al., 2016). To address mental health inequalities

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and prevent avoidable mortality, particular risk factors, including experiences of discrimination, have been identified. Minority Stress Theory is predicated on the premise that the psychological distress TGD people experience has a social cause (Hendricks & Testa, 2012). The theory explains how the discrimination, stigma and prejudice experienced due to identifying as TGD leads to a stress response which has negative implications for mental health, especially when social support is not available (Aldridge et al., 2021; Hendricks & Testa, 2012).

Given the social cause of distress that TGD people experience (Hendricks & Testa, 2012), many social psychologists are interested in the attitudes of cisgender people. Attitudes toward TGD people are typically measured using self-report measures and have been used to identify predictors of negative attitudes. For example, Jones et al. (2023) found in a survey of cisgender people in the UK that men had poorer attitudes then women as they were more likely to adhere to traditional gender roles and hold gender essential beliefs. Other research has found religion (Campbell et al., 2019), contact with TGD people (Cramwinckel et al., 2018) and masculinity threat (Harrison & Michelson, 2019) to also be associated with TGD attitudes.

Knowledge of factors associated with negative attitudes is used to inform the development and targeting of anti-prejudice interventions. For example, a 45-minute media intervention (e.g., television episode narrating a genderaffirmative story) offered to students in the USA was found to improve attitudes (Taracuk & Koch, 2023). However, the evaluation of such interventions reflects the quality of the measured used; many of which have poor psychometric properties (Morrison et al., 2017). In total, Morrison et al. (2017) identified 83 measures designed to assess attitudes toward TGD communities. These authors then evaluated the psychometric properties of each of these measures with many being identified as having weak attributes however, one measure that was found to be more robust than others was the "Transgender Attitudes and Beliefs Scale" (TABS). This measure was found to have high internal consistency and demonstrate strong validity among a US sample (Kanamori et al., 2017). Morrison et al. (2017) highlighted that the scale underwent rigorous psychometric development. However, the TABS was developed in 2015, and since then, language, particularly around TGD people, has evolved significantly (e.g., Thorne et al., 2020). Currently, the most widely accepted umbrella term used to describe people who experience an incongruence between their gender assigned at birth and gender identity is "trans and gender diverse"¹ however, given the time period Kanamori's measure was developed, it does not currently incorporate current best-practice guidelines regarding language (Bouman et al., 2017), despite being validated with Christians in the US (Kanamori et al., 2021) and translated and validated in Spanish (Kanamori et al., 2023) Previous research has aimed to modernize the language used the TABS measure. For instance, Perez-Arche and Miller (2021) aimed to update the TABS to be more inclusive toward specific TGD identities

(e.g., *trans men*). Similarly, López-Sáez et al. (2022) adapted, translated and validated the TABS in Spanish and, through expert feedback, "transgender (transgénero)" was replaced with "trans" throughout the measure.

Additionally, since the development of TABS (Kanamori et al., 2017), scholars have called for a move away from the term transphobia and instead have recommended that "transnegativity" is used (McDermott et al., 2018). Transphobia is argued to only capture the affective response to a TGD person (or someone who is perceived to be TGD) when in fact such a reaction is likely to be associated with core beliefs about gender. Transnegativity then is thought to better capture the cognitive aspects associated with reactions and is defined as "any prejudicial attitude, discriminatory or victimizing behavioral action overtly or covertly directed toward an individual because they are, or are perceived to be, trans" (McDermott et al., 2018).

Updating measures to reflect current language norms and conventions (Bouman et al., 2017; McDermott et al., 2018) is important to ensure we are not inadvertently further perpetuating transnegativity in the tools we use to explore experiences of or attitudes toward the TGD community. Throughout history, language has continually contributed to the marginalization of TGD communities, often in an attempt to normalize marginalization and discrimination based on gender diversity (e.g., Bouman et al., 2017). For example, the once inclusive American Indigenous understanding and terminology relating to gender has been suppressed by colonial power, eradicating gender identities that fall outside the binary (Robinson, 2019). To avoid further contributing to the marginalization of this population while ensuring the integrity of the TABS is not affected, the current study aimed to:

- (1) Adapt the TABS by implementing the most up-to-date and widely accepted language within the field and,
- (2) Ensure the measure is still robust by displaying a high degree of internal consistency and, valid by displaying construct validity.

Method

Design, participants and procedure

Participants (n = 250) were sampled using Prolific, the online recruitment service (https://www.prolific.co/) and were paid £1.00 (£7.50/hr) for their time. Participants who did not identify as heterosexual (i.e., people who are sexually attracted to people of the opposite gender), or cisgender were excluded. This was due to sexuality potentially serving as a confounding variable, with previous research establishing that LGB people are more likely to support and understand TGD issues due to more opportunity for interpersonal contact and a tendency to develop a shared sense of allyship 4 😸 B. A. JONES ET AL.

with TGD people (Earle et al., 2021; Stone, 2009). Relevant attention checks were employed, and 3 participants failed these and were removed. The final sample included 247 participants which exceeds the sample size (N = 238) used by Kanamori et al. (2017). Moreover, an a-priori sensitivity power analysis indicated a sufficient sample to correctly identify a model with misspecification of RMSEA = .05, an alpha of .05 and a power of .80.

The study was hosted on Qualtrics (https://www.qualtrics.com/). First participants were provided with an information sheet, containing important details about the nature of the research, and the exclusion criteria. Participants then provided fully informed consent and answered basic demographic questions. Participants then completed the survey and following completion were presented with a debrief screen.

Ethical approval was gained from School of Business, Law and Social Sciences Research Ethics Committee at Nottingham Trent University (JONES 2022/30).

Measures

Participants completed the adapted TABS first followed by the below measures in the order shown.

Marlowe-Crowne Social Desirability Scale (M-CSDS)

The M-CSDS is a 33-item measure designed to account for social desirability in participant's responses (Crowne & Marlowe, 1960). Each item (e.g., "before voting I thoroughly investigate the qualifications of all the candidates") was responded to using a binary (true/false) response format. Participants received one point for every true answer given to socially desirable questions (e.g., "I am always careful about my manner of dress"). Higher scores indicated a greater propensity for socially desirable responding. The measure has been shown to have good internal consistency ($\alpha = .85$), and there is evidence of both convergent and discriminant validity (Tatman et al., 2009).

Rosenberg self-esteem scale (RSES)

The RSES is a measure of global self-esteem consisting of 10 items (Rosenberg, 1979). Each item (e.g., *"I feel I have a number of good qualities"*), is responded to on a 4-point Likert scale ranging from strongly disagree (1) to strongly agree (4). After reverse coding, higher scores on the measure indicated greater self-esteem. The RSES has been shown to have good reliability ($\alpha = .81$, on average; Kanamori et al., 2017), and has evidence of both convergent and discriminant validity (Martín-Albo et al., 2007; Sinclair et al., 2010).

Original TABS

The original TABs is a 29-item scale developed by (Kanamori et al., 2017), consisting of items such as "I would feel comfortable having a transgender person into my home for a meal". The measure consisted of three subscales: interpersonal comfort, sex/gender beliefs and human value. Participants responded on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). After reverse coding, higher scores on the measure indicated more positive attitudes toward TGD people. The measure had good internal consistency ($\alpha = .98$), and evidence of both convergent and discriminant validity (Kanamori et al., 2017).

Adaption of the TABS

Following best practice (Bouman et al., 2017), the TABS was critically reviewed by two of the authors (BAJ and DM) who are experts within the field of gender diversity. The following changes were made across the measure: "transgender" was changed to "trans", "born male" was changed to "assigned male at birth", "sex-parts" was changed to "genitalia", "nothing in between" was changed to "possible gender identities", "identities between" was changed to "identities that fall outside the binary", "a person does not have to be clearly male or female" was changed to "a person does not have to identify as male or female" and, "transgenderism" was changed to "gender identity". In accordance with these changes to the items we also changed the scale name to "Trans Attitudes and Beliefs Scale" (TABS). The number of items remained the same (N = 29).

Results

Descriptive statistics

Participants were aged between 17–76 ($M_{age} = 37.6$, $SD_{age} = 12.8$), and the sample included 122 cisgender men 19–76 ($M_{age} = 40.68$, $SD_{age} = 13.89$) and 125 cisgender women ($M_{age} = 34.50$, $SD_{age} = 10.75$). Regarding relationship status, participants were predominantly single (n = 90), followed by married (n = 84), never married nor in a registered civil partnership (n = 59), divorced (n = 7), widowed (n = 3), separated (n = 3) and remarried (n = 1). Additionally, participants defined their ethnicity as predominantly White (n = 209), Black, African, Caribbean, or Black British (n = 17), Asian or Asian British (n = 15), Mixed or Multiple Ethnic groups (n = 5) and other (n = 1). All participants reported having at least some formal education, with participants reporting to be educated to undergraduate (n = 82), followed by A-Levels (n = 79), postgraduate (n = 48), GSCE (n = 33) and doctorate (n = 5) level.

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Confirmatory factor analysis

We initially replicated the factor structure for the TABS following the steps taken by Kanamori et al. (2017) who proposed a three-factor solution (Factor 1: Interpersonal Comfort, Factor 2: Sex/gender beliefs and Factor 3: Human value). The analysis was conducted in R Studio with the lavaan package using an ML estimation. Each of the three factors were allowed to covary, given their previously hypothesized interrelated nature (Kanamori et al., 2017). In addition and consistent with the original TABS, covariation of the error terms for item 1 ("I would feel comfortable having a trans person into my home for a meal") and item 7 ("If my child brought home a trans friend, I would be comfortable having that person into my home") was permitted and so was covariation for item 19 ("Humanity is only male or female; there are no other possible gender identities") and item 22 ("All adults should identify as either male or female"), due to similar wording of the questions. Examining the modification indices suggested that the model fit could be improved by also allowing covariation of the error terms between item 19 and item 21 ("Although most of humanity is male or female, there are also identities that fall outside the binary"). This covariation was acceptable due to the similar conceptual meaning of both items.

As such, we used a three-factor structure, consisting of 14 items loading onto Factor 1: Interpersonal comfort, 10 items onto Factor 2: Sex/gender beliefs, and 5 items onto Factor 3: Human value, with each of the factors and the three error variances permitted to covary (see Table 1). This model was overidentified (df = 371) and produced a good model fit, as evidenced by examining the model fit indicators: χ^2 (371) = 812.34, p < .001, RMSEA = .07 (90% CI .06, .08), CFI = .91, TLI = .90, SRMR = .07. The model fit indicators were comparable to those shown by Kanamori et al. (2017): χ^2 (37) = 897.02, p < .001, RMSEA = .07 (90% CI .07, .08), CFI = .94, TLI = .93, SRMR = .05. In both the modified and original TABS, the chi-square test was significant, which indicates poor model fit. However, chi-square is sensitive to both sample size and model complexity and should be interpreted with caution (Sun et al., 2005).

Examining the factor loadings for each of the 29 items revealed moderate to high loadings on each of the three factors (.48 to .91; see Table 1), which suggested the items within each factor were highly related to the factorial construct. These factor loadings were very similar to those shown in the original TABS, whereby moderate to high factor loadings were also evidenced (.43 to .94). Moreover, examining the correlations between factors revealed strong interrelatedness supporting the multidimensional nature of the measure (interpersonal comfort—human value: r = .63, p < .001; interpersonal comfort—sex/gender beliefs: r = .84, p < .001; sex/gender beliefs—human value: r = .47, p < .001). These correlations were like those shown for the original TABS (interpersonal comfort—human value: r = .77; interpersonal comfort—sex/gender beliefs: r = .85; sex/gender beliefs—human value: r = .62).

Table 1. Factor loadings for the 29-item TABS-revised.

Factor 1: Interpersonal comfort 69 (1) I would feel comfortable having a trans person into my home for a meal 69 (2) I would be comfortable being in a group of trans individuals 65 (3) I would be uncomfortable if my boss was trans (R) 68 (4) I would feel uncomfortable working closely with a trans person in my workplace (R) 54 (5) If I knew someone was trans, I would still be open to forming a friendship with that person 79 (6) I would feel comfortable if my next-door neighbor was trans 48 (7) If my child brought home a trans friend, I would be comfortable having that person into my home 73 (8) I would be upset if someone I'd known for a long time revealed that they used to be another 72 (9) If I knew someone was trans, I would tend to avoid that person (R) 87 (10) If a trans person asked to be my housemate, I would want to decline (R) 83 (11) I would be comfortable working for a company that welcomes trans individuals 57 (13) I would be uncomfortable finding out that I was alone with a trans person (R) 63 (14) If I found out my doctor was trans, I would want to seek another doctor (R) 83 Factor 2: Sex/gender beliefs .79 (17) If you are assigned male at birth, nothing you do will change that (R) .69 (19) Humanity	Item	Factor loading
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R in parentheses indicates the item should be reverse coded.

Reliability

The overall reliability of the measure was excellent, $\alpha = .95$, 95% CI [.95, .96], suggesting high internal consistency of the modified TABS overall. This was comparable to the original TABS, which Kanamori et al. (2017) reported to be $\alpha = .98$ and in the current sample was $\alpha = .96$, 95% CI [.95, .96]. Examining the reliability of each factor also suggested high internal consistency (interpersonal comfort: $\alpha = .93$, 95% CI [.92, .94]; sex/gender beliefs: $\alpha = .93$, 95% CI [.92, .94]; human value: $\alpha = .85$, 95% CI [.82, .88]). This was again comparable with the original TABS (interpersonal comfort: $\alpha = .97$; sex/gender beliefs: $\alpha = .95$; human value: $\alpha = .93$).

Validity

Based on the assumptions proposed by Kanamori et al. (2017), Pearson's correlations were conducted between each of the measures (see Table 2). To address 8 🕒 B. A. JONES ET AL.

Table 2. Descriptive statistics and zero-order correlations.

Measure:	М	SD	Range	1.	2.	3.	4.
1. TABs revised	162	28.6	61–203	-	.95*	10	06
2. TABs original	159	29.2	60-203	.93, .96	-	10	05
3. M-CSDS	17.5	5.39	4–31	24, .06	25, .06	-	33*
4. RSES	27.7	5.86	11–40	20, .08	18, .07	46,17	-

Range is the observed range in the data. Pearson's r above the diagonal, 95% confidence intervals below the diagonal. *Indicates significant correlations at p < .05.

convergent validity, we proposed a significant, positive correlation would occur between the adapted and original TABS, which was shown to be the case (r(247) = .95, p < .001). For discriminant validity, we predicted there would be no significant correlation between the TABS-revised and the RSES or the MCSDS, as both constructs should be unrelated to attitudes toward TGD people. We found no significant correlation between the TABS-revised and the RSES (r(247) = -.06, p = .348), or with the MCSDS (r(247) = -.10, p = .132), supporting our prediction.

Discussion

We set out to update the language used within the English version of the Trans Attitudes and Beliefs Scale (TABS; previously known as "*Transgender Attitudes and Beliefs Scale*") following best-practice guidelines (Bouman et al., 2017) while ensuring the measure remained psychometrically sound. The analysis confirmed that updating the language to reflect best practices did not alter the psychometric properties of the measure. Specifically, we found the factor structure, reliability and construct validity to be similar to the original version developed by Kanamori et al. (2017). The language adaptations are also in accordance with the Spanish version of the measure that was recently translated by López-Sáez et al. (2022).

The TABS-revised addresses the need for a psychometrically robust measure that can assess attitudes toward TGD people in a nondiscriminatory manner (Bouman et al., 2017; Morrison et al., 2019). It would be a suitable measure to use when determining predictors associated with positive and negative attitudes as well as evaluating interventions (i.e., social contact interventions) to improve societal attitudes toward TGD people. Such knowledge and interventions are important given the harsh social realities TGD are exposed to and the negatives implications for health and wellbeing (e.g., Aldridge et al., 2021). This is especially pertinent in healthcare. Despite TGD people being a member of society most in need of quality healthcare, many TGD people avoid healthcare settings due to discrimination (e.g., Ellis et al., 2015). There is a lack understanding of the needs of the TGD community within healthcare settings, due to limited training and professional development opportunities. This education is needed, and the current study shows that the TABS-revised would be a psychometrically sound measure to determine the effectiveness of such initiatives.

Limitations and suggestions for future research

It is important to consider any potential limitations of our research. Firstly, we recruited a non-representative sample, consisting of heterosexual, cisgender men and women, who were predominantly White. While this was necessary to reduce the influence of potential confounds (e.g., sexuality differences), which have been shown to influence attitudes toward TGD people (Earle et al., 2021; Stone, 2009), this does limit the generalizability of our findings. Future research may benefit from validating the current TABS with a sample consisting of more representative demographic characteristics. Additionally, while we did account for several relevant demographic variables, it may be beneficial to account for other factors (e.g., political identity) which may influence attitudes toward TGD people in future work. Finally, while our measure did show excellent internal consistency, we did not include a measure of test-retest reliability. Future research utilizing the TABS revised may benefit from assessing test-retest reliability to illustrate the capacity for the TABS to account for stable attitudes toward TGD over time.

Note

1. This term is intended to capture the richness of gender diversity however we acknowledge this may not be terminology that everyone identities with; terminology is subjective and both culturally and contextually dependant (Bouman et al., 2017).

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