EPIDEMIOLOGY

# Initial Psychometric Evaluation of a Brief Sexual Functioning Screening Tool for Transmasculine Adults: Transmasculine Sexual Functioning Index

Check for updates

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## ABSTRACT

**Introduction:** Evaluation of sexual functioning in transmasculine (TM) adults—those who identify as men, male, transmen, or non-binary yet were assigned a female sex at birth—is limited by lack of availability of brief screening measures.

**Aim:** Study aims were to (i) conduct initial psychometric evaluation of a brief screening tool to assess sexual functioning in TM adults for easy use in outpatient visits, epidemiologic studies, and assessment of treatment and surgical outcomes and (ii) assess the correlates of sexual functioning.

**Methods:** The 6-item version of the Female Sexual Function Index was adapted and piloted for use with TM adults. The resulting scale, the Transmasculine Sexual Functioning Index (TM-SFI), was administered to 150 TM adults via computer-assisted self-interview. A multivariable model was fit to assess demographic, psychosocial, and gender affirmation correlates of sexual functioning.

**Main Outcome Measure:** The main outcomes of this study were the calculated reliability and validity of the TM-SFI and fit cumulative logit models to estimate associations of medical gender affirmation (chest surgery) and body image self-consciousness with level of sexual functioning.

**Results:** Internal consistency reliability was good (Cronbach's alpha = 0.80). Item correlations ranged from 0.21 to 0.80 ($P < .05$). All scale items loaded onto a single factor (eigenvalue = 11.13; factor loadings > 0.50), evidence of good construct validity. After controlling for potential confounders, participants who had chest surgery exhibited significantly higher odds of being in the highest sexual functioning tertile relative to those without chest surgery (adjusted odds ratio = 2.46; 95% confidence interval = 1.08−5.64; $P = .033$). Moderate-to-high body image self-consciousness was associated with lower odds of sexual functioning (adjusted odds ratio = 0.42; 95% confidence interval = 0.18−0.94; $P = .035$).

**Conclusion:** Initial evaluation of the TM-SFI warrants formal psychometric validation against clinical diagnoses of sexual functioning concerns in TM patients. The brief screener can be used to assess sexual functioning in TM adults and may identify TM who could benefit from clinical interventions to improve sexual functioning. **Reisner SL, Pletta DR, Potter J, et-al. Initial Psychometric Evaluation of a Brief Sexual Functioning Screening Tool for Transmasculine Adults: Transmasculine Sexual Functioning Index. J Sex Med 2020;8:350−360.**

# INTRODUCTION

Sexual functioning is an important aspect of sexual health, sexuality, and quality of life.[1] Among transmasculine (TM) adults—individuals who identify as men, male, transmen, or non-binary and were assigned a female sex at birth—sexual functioning remains under-researched. Measures of patient-reported sexual functioning tend to be lengthy, and knowledge about sexual functioning is limited by lack availability of concise screening measures validated for TM people. A brief tool for use in clinical and research settings to assess sexual functioning in the TM patient population would overcome this limitation.

Sexual functioning is most often considered an outcome in evaluating medical gender affirmation among TM individuals.[2] Research generally demonstrates increases in sexual functioning with hormonal and surgical intervention.[3-5] Yet, these studies often rely on TM people presenting for gender affirmation treatment and/or with a clinical diagnosis of gender dysphoria. It is important to understand sexual functioning in heterogeneous samples of TM individuals, not solely defined by clinical diagnosis, given the variety of TM identities and experiences presenting in clinical care settings.

Furthermore, many studies with TM adults do not adequately consider contextual and psychosocial factors which may confound the association between medical gender affirmation and sexual functioning. Factors such as barriers to gender-affirming medical care, individual characteristics (eg, binary vs non-binary gender identity, body image self-consciousness), and sexual partner characteristics and risk behaviors (eg, use of protective barriers to prevent sexually transmitted infections) may be correlates of sexual functioning with clinical implications. In addition, psychosocial vulnerabilities—such as violence victimization (eg, sexual abuse/assault), post-traumatic stress disorder (PTSD), depression, psychological distress, and substance use—are highly prevalent in transgender populations[6] and warrant consideration in regards to the sexual functioning of TM adults.

The aim of this study is to (i) conduct an initial psychometric evaluation of a brief screening tool to assess sexual functioning in TM adults and (ii) assess correlates of sexual functioning.

# MATERIALS AND METHODS

## Participants and Procedures

Data were drawn from a biobehavioral study of cervical cancer screening conducted among a convenience sample of 150 TM adults at a federally qualified community health center specializing in transgender care in Boston, Massachusetts. Methodological details of the study can be found elsewhere.[7] All study activities were institutional review board approved.

## Measures

### Scale

*Transmasculine Sexual Functioning Index (TM-SFI)*: The 6-item version of the Female Sexual Function Index (FSFI)[8] was adapted to maximize cultural relevance and acceptability for use with TM adults. The index was adapted in collaboration with a community task force that comprised TM community members and a multi-disciplinary team of clinical and research investigators that included TM staff. The FSFI was selected as a measure to adapt and pilot because it is a brief, validated screening tool with a scientific evidence base. The adapted tool measures sexual functioning rather than sexual dysfunction to take a strength-based approach to TM adult sexuality. Adaptations made to the original measure include changes to the language (eg, frontal penetration) and not providing specific definitions for terms used (eg, sexual desire, arousal, and libido).

The resulting TM-SFI comprises 6 questions which take approximately 3 minutes to complete. Respondents answer questions regarding their experiences in the last 4 weeks (see Table 1: [I] TM-SFI and [2] original FSFI-6). Response options consist of 5-point Likert and frequency scales from "very low or none at all" to "very high" and "almost never or never" to "almost always or always." Theoretical scale scores range from 0 to 30. 3 sexual functioning tertiles were constructed using raw scale scores: "High" (score 25—30), "Moderate" (score 20—24), or "Low (score 0—19)." The clinical cutoff for sexual dysfunction in the originally published scale, used widely in clinical research, corresponds to the low sexual functioning group in this sample.

### Independent Variables

5 domains of independent variables were selected for bivariate analyses due to their high prevalence in transgender populations and plausible associations with sexual functioning.[6] These were (i) access to gender-affirming medical care (type of health insurance, experienced a barrier to gender-affirming care in the past 12 months, number of months on testosterone, and chest surgery (ie, chest reconstruction or mastectomy); (ii) participant characteristics (age, race, educational attainment, gender identity, and sexual orientation); (iii) sexual partner characteristics (currently have a sexual partner, number and gender of sexual partners in the past 12 months); (iv) protective barrier use during high-risk sexual acts in the past 12 months (receptive genital, receptive anal, and performing oral sex); (v) psychosocial context (psychological conditions [PTSD, depression, psychological distress, body image self-consciousness], lifetime history of sexual abuse/assault, and substance use [binge drinking, illicit drug use {non-marijuana}, tobacco use]). We hypothesized that medical gender affirmation, a known correlate of sexual functioning, would be a statistically significant predictor of higher sexual functioning, even with adjustment for contextual and psychosocial covariates and confounders.

## Statistical Analysis

### Psychometric Evaluation: Reliability and Validity

Initial psychometric evaluation included estimation of internal consistency reliability using Cronbach's alpha ($\alpha$) where 0.70—0.79 was acceptable, 0.80—0.89 was considered good, and $\geq$0.90 was considered excellent.[9] An exploratory factor

**Table 1.** Transmasculine Sexual Functioning Index (TM-SFI) (Column I) and Female Sexual Function Index (FSFI-6) (Column II)

| (I) TM-SFI | (II) FSFI-6 |
|---|---|
| The next 6 questions are about your libido and the quality of your sex life. The questions ask specifically about the past 4 weeks and will give you a scale with response options to choose from. | Over the past 4 weeks: |
| 1. Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?<br>○ Very low or none at all (1)<br>○ Low (2)<br>○ Moderate (3)<br>○ High (4)<br>○ Very high (5)<br>○ I prefer not to answer (99) | 1. How would you rate your level (degree) of sexual desire or interest?<br>○ Very high (5)<br>○ High (4)<br>○ Moderate (3)<br>○ Low (2)<br>○ Very low or none at all (1) |
| 2. Over the past 4 weeks, how would you rate your level of sexual arousal ("turned on") during sexual activity or intercourse?<br>○ No sexual activity (0)<br>○ Very low or none at all (1)<br>○ Low (2)<br>○ Moderate (3)<br>○ High (4)<br>○ Very high (5)<br>○ I prefer not to answer (99) | 2. How would you rate your level of sexual arousal ("turn on") during sexual activity or intercourse?<br>○ No sexual activity (0)<br>○ Very high (5)<br>○ High (4)<br>○ Moderate (3)<br>○ Low (2)<br>○ Very low or none at all (1) |
| 3. Over the past 4 weeks, how often did you become lubricated ("wet") during sexual activity or intercourse?<br>○ No sexual activity (0)<br>○ Almost never or never (1)<br>○ A few times (less than $\frac{1}{2}$ the time) (2)<br>○ Sometimes (about $\frac{1}{2}$ the time) (3)<br>○ Most times (more than $\frac{1}{2}$ the time) (4)<br>○ Almost always or always (5)<br>○ I prefer not to answer (99) | 3. How often did you become lubricated ("wet") during sexual activity or intercourse?<br>○ No sexual activity (0)<br>○ Almost always or always (5)<br>○ Most times (4)<br>○ Sometimes (3)<br>○ A few times (2)<br>○ Almost never or never (1) |
| 4. Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you reach orgasm (climax)?<br>○ No sexual activity (0)<br>○ Almost never or never (1)<br>○ A few times (less than $\frac{1}{2}$ the time) (2)<br>○ Sometimes (about $\frac{1}{2}$ the time) (3)<br>○ Most times (more than $\frac{1}{2}$ the time) (4)<br>○ Almost always or always (5)<br>○ I prefer not to answer (99) | 4. When you had sexual stimulation or intercourse, how often did you reach orgasm?<br>○ No sexual activity (0)<br>○ Almost always or always (5)<br>○ Most times (4)<br>○ Sometimes (3)<br>○ A few times (2)<br>○ Almost never or never (1) |
| 5. Over the past 4 weeks, how satisfied have you been with your overall sexual life?<br>○ Very dissatisfied (1)<br>○ Moderately dissatisfied (2)<br>○ About equally satisfied and dissatisfied (3)<br>○ Moderately satisfied (4)<br>○ Very satisfied (5)<br>○ I prefer not to answer (99) | 5. How satisfied have you been with your overall sexual life?<br>○ Very satisfied (5)<br>○ Moderately satisfied (4)<br>○ About equally satisfied and dissatisfied (3)<br>○ Moderately dissatisfied (2)<br>○ Very dissatisfied (1) |
| 6. Over the past 4 weeks, how often did you experience discomfort or pain during frontal penetration?<br>○ Did not attempt intercourse (0)<br>○ Almost always or always (1)<br>○ Most times (more than $\frac{1}{2}$ the time) (2)<br>○ Sometimes (about $\frac{1}{2}$ the time) (3)<br>○ A few times (less than $\frac{1}{2}$ the time) (4)<br>○ Almost never or never (5)<br>○ I prefer not to answer (99) | 6. How often did you experience discomfort or pain during vaginal penetration?<br>○ Did not attempt intercourse (0)<br>○ Almost never or never (5)<br>○ A few times (4)<br>○ Sometimes (3)<br>○ Most times (2)<br>○ Almost always or always (1) |

analysis was conducted to assess the construct validity of the instrument. Because scale items were modified for the TM patient population, exploratory factor analysis was selected to empirically appraise the underlying factor structure of the measure. The hypothesis tested was that all items would load onto a single factor, thereby representing one construct. Unidimensionality was evaluated by examining factor loadings using a threshold of $> 0.50$.[9]

### Descriptive Statistics and Regression Models

Descriptive statistics were used to summarize sample demographics and distribution across the sexual functioning tertiles. Cumulative logistic regression models were fit to estimate participants' odds of being high sexually functioning versus moderate or low. Bivariate models were used to investigate associations between independent predictor variables of interest and levels of sexual functioning. A multivariable model was then constructed using gender-affirming medical care variables and psychosocial context variables which demonstrated a statistically significant association ($P < .05$) with sexual functioning in bivariate analyses. The final multivariable model included type of health insurance, experienced a barrier to gender-affirming medical care in the past 12 months, number of months on testosterone, chest surgery, PTSD, body image self-consciousness, and lifetime history of sexual abuse/assault.

## RESULTS

### Psychometric Evaluation: Initial Psychometric Evaluation

Internal consistency reliability of the TM-SFI was good (Cronbach's alpha = 0.80). Item correlations ranged from 0.21–0.80) and were statistically significant ($P < .05$). Factor analysis revealed that the 6 scale items loaded onto a single factor (eigenvalue = 11.13) and each factor loading was $>0.50$.

### Descriptive Characteristics

Overall, the sample had a mean sexual functioning score of 20.5 (STD = 7.30, range 1–30) and a median sexual functioning score of 22.5 (interquartile range = 8, range 1–30), which lie within the moderate tertile (range 20–24).

In Table 2, the distribution of sample characteristics is shown overall and by sexual functioning tertiles. The 150 participants had a mean age of 27.5 years (STD = 5.74, range 21–50) and were predominantly white (74.7%). Most participants identified as transgender men (FtM) (50.4%), followed by man/male (28.7%), genderqueer/non-binary (20.0%), and another gender (3.3%). Most frequently reported sexual orientations were queer (44.7%), bisexual/pansexual (23.3%), and straight/heterosexual (12.0%). Roughly two-thirds (63.3%) reported being in a relationship. The majority were on testosterone, with 35% < 24 months and 45% ≥ 24 months. Approximately 40% had had chest surgery.

### Bivariate and Multivariable Regression Models

In bivariate analyses, chest surgery was the only statistically significant correlate of higher sexual functioning. Factors that were associated with a lower odds of sexual functioning were public health insurance, experiencing a barrier to gender-affirming care in the past 12 months, not having a sexual partner in the past 12 months, PTSD, moderate to high body image self-consciousness, and any lifetime experience of sexual abuse/assault.

Using a multivariable cumulative logistic regression model, participants with chest surgery had 2.75 times the odds of being highly sexually functioning vs moderate or low, relative to participants with no history of chest surgery (adjusted odds ratio = 2.75; 95% confidence interval = 1.19–6.34; $P = .018$). Moderate to high body image self-consciousness was associated with statistically significantly lower odds of sexual functioning (adjusted odds ratio = 0.42; 95% confidence interval = 0.18–0.94; $P = .035$). No other variables in the model reached statistical significance.

## DISCUSSION

This study conducted an initial psychometric evaluation of the TM-SFI, a brief screening tool to assess sexual functioning in TM adults. There was evidence of good reliability and validity, demonstrated by the Cronbach's alpha and unidimensional single factor loading. Findings support future formal psychometric validation of the screener against clinical diagnoses of sexual concerns in TM patients.

Consistent with prior research,[3–5] this study demonstrates an association between chest surgery and increased odds of high sexual functioning. This finding builds on previous research showing the positive effect of medical gender affirmation on sexual functioning by adjusting for relevant covariates and confounders in a single multivariable model, thereby strengthening the inference being made. The present study also found that high levels of body image self-consciousness (ie, body image concerns) were associated with poorer sexual functioning. Thus, for TM individuals, perceived body image concerns during intimacy may interfere with sexual functioning, regardless of whether or not chest surgery for medical gender affirmation has been obtained. Additional research is needed to explore the types and sources of body image concerns TM adults experience that may hinder sexual functioning.

Several limitations are noteworthy. First, prior research has considered gender affirmation treatment desire in relation to sexual functioning,[10] yet the present study did not evaluate whether TM participants desired body modifications or had unfulfilled gender affirmation desires. Second, this sample is restricted to TM adults eligible to undergo cervical cancer screening; thus, this study was unable to assess differences in sexual functioning in those who have and have not had genital surgery. Third, TM adults were a selected group who opted to participate in a clinical research study; the extent to which

**Table 2.** Descriptive sample characteristics by sexual functioning tertiles: binary and adjusted cumulative logistic regression models for participant sexual functioning (n = 150)

| | Total sample | | Sexual functioning score | | | Cumulative logit regression models | | | | | |
| | | | 3 Low | 2 Moderate | 1 High | Unadjusted | | | Adjusted | | |
| | n = 150 | % | n = 49 | n = 49 | n = 52 | OR | 95% CI | P-value | aOR | 95% CI | P-value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Access to gender-affirming medical care** | | | | | | | | | | | |
| Health insurance | | | | | | | | | | | |
| Public | 45 | 30.0 | 18 | 16 | 11 | **0.49** | **0.24–0.99** | **.046** | 0.82 | 0.33–2.07 | .679 |
| Parent's health insurance | 31 | 20.7 | 10 | 9 | 12 | 0.81 | 0.37–1.77 | .591 | 1.03 | 0.41–2.61 | .947 |
| Private | 68 | 45.3 | 17 | 23 | 28 | Ref | - | - | Ref | - | - |
| Missing* | 6 | 4.0 | 4 | 1 | 1 | | | | | | |
| Experienced barrier to gender-affirming medical care[†] | | | | | | | | | | | |
| Yes | 37 | 24.7 | 19 | 11 | 7 | **0.34** | **0.16–0.70** | **.003** | 0.45 | 0.20–1.03 | .060 |
| No | 95 | 63.3 | 24 | 34 | 37 | Ref | - | - | | | |
| Missing | 18 | 12.0 | 6 | 4 | 8 | | | | | | |
| Months on testosterone | | | | | | | | | | | |
| Never | 29 | 19.3 | 14 | 7 | 8 | 0.59 | 0.26–1.32 | .197 | 0.76 | 0.16–3.54 | .724 |
| Less than 24 mo | 53 | 35.3 | 14 | 17 | 22 | 1.36 | 0.70–2.65 | .359 | 1.65 | 0.69–3.92 | .259 |
| 24 mo or longer | 68 | 45.3 | 21 | 25 | 22 | Ref | - | - | Ref | - | - |
| Chest surgery (reconstruction/ mastectomy)[‡] | | | | | | | | | | | |
| Yes | 60 | 40.0 | 11 | 23 | 26 | **2.46** | **1.31–4.60** | **.005** | **2.75** | **1.19–6.34** | **.018** |
| No | 82 | 54.7 | 35 | 24 | 23 | Ref | - | - | Ref | - | - |
| Missing | 8 | 5.3 | 3 | 2 | 3 | | | | | | |
| **Participant characteristics** | | | | | | | | | | | |
| Age group, y | | | | | | | | | | | |
| 35–50 | 15 | 10.0 | 7 | 4 | 4 | 0.62 | 0.21–1.84 | .392 | | | |
| 30–34 | 27 | 18.0 | 8 | 6 | 13 | 1.57 | 0.65–3.78 | .312 | | | |
| 25–29 | 61 | 40.7 | 18 | 24 | 19 | 1.04 | 0.52–2.08 | .922 | | | |
| 21–24 | 47 | 31.3 | 16 | 15 | 16 | Ref | - | - | | | |
| Racial identity | | | | | | | | | | | |
| Persons of color (POC)[§] | 37 | 24.7 | 12 | 11 | 14 | 0.92 | 0.46–1.82 | .809 | | | |
| White | 112 | 74.7 | 36 | 38 | 38 | Ref | - | - | | | |
| Missing | 1 | 0.7 | 1 | 0 | 0 | | | | | | |
| Educational attainment | | | | | | | | | | | |
| High school/some college | 58 | 38.7 | 24 | 15 | 19 | 0.68 | 0.37–1.24 | .204 | | | |
| 4-year degree/graduate degree | 92 | 61.3 | 25 | 34 | 33 | Ref | - | - | | | |

(continued)

**Table 2.** Continued

| | Total sample | | Sexual functioning score | | | Cumulative logit regression models | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 2 | 1 | Unadjusted | | | Adjusted | | |
| | | | Low | Moderate | High | | | | | | |
| | n = 150 | % | n = 49 | n = 49 | n = 52 | OR | 95% CI | P-value | aOR | 95% CI | P-value |
| Gender identity | | | | | | | | | | | |
| Man/male | 43 | 28.7 | 15 | 16 | 12 | 0.67 | 0.33−1.34 | .256 | | | |
| Genderqueer/non-binary | 30 | 20.0 | 14 | 7 | 9 | 0.52 | 0.24−1.14 | .104 | | | |
| Another gender | 5 | 3.3 | 0 | 2 | 3 | 2.88 | 0.45−18.27 | .263 | | | |
| Trans man/FtM | 72 | 48.0 | 20 | 24 | 28 | Ref | - | - | | | |
| Sexual orientation | | | | | | | | | | | |
| Gay/homosexual/same-gender attracted | 14 | 9.3 | 6 | 2 | 6 | 0.82 | 0.29−2.37 | .714 | | | |
| Straight/heterosexual | 18 | 12.0 | 5 | 7 | 6 | 0.92 | 0.36−2.41 | .871 | | | |
| Bisexual/pansexual | 35 | 23.3 | 12 | 12 | 11 | 0.77 | 0.36−1.63 | .496 | | | |
| Another sexual orientation | 7 | 4.7 | 3 | 1 | 3 | 0.82 | 0.20−3.42 | .786 | | | |
| I do not label my sexual orientation | 7 | 4.7 | 3 | 3 | 1 | 0.45 | 0.11−1.95 | .287 | | | |
| Queer | 67 | 44.7 | 19 | 23 | 25 | Ref | - | - | | | |
| Missing | 2 | 1.3 | 1 | 1 | 0 | | | | | | |
| Sexual partner characteristics | | | | | | | | | | | |
| Currently have a sexual partner | | | | | | | | | | | |
| Yes | 95 | 63.3 | 23 | 39 | 33 | 1.73 | 0.93−3.20 | .083 | | | |
| No | 55 | 36.7 | 26 | 10 | 19 | Ref | - | - | | | |
| Number of sexual partners[†] | | | | | | | | | | | |
| 0 | 8 | 5.3 | 6 | 1 | 1 | **0.15** | **0.03−0.75** | **.021** | 0.18 | 0.02−1.90 | .153 |
| 1 | 65 | 43.3 | 19 | 24 | 22 | 0.9 | 0.47−1.73 | .755 | 0.82 | 0.37−1.81 | .622 |
| 2 | 19 | 12.7 | 6 | 7 | 6 | 0.82 | 0.31−2.12 | .674 | 1.04 | 0.27−4.13 | .946 |
| 3+ | 57 | 38.0 | 18 | 16 | 23 | Ref | - | - | Ref | - | - |
| Gender of sexual partners[†] | | | | | | | | | | | |
| Cisgender man | | | | | | | | | | | |
| Yes | 61 | 40.7 | 18 | 18 | 25 | 1.24 | 0.67−2.29 | .501 | | | |
| No | 79 | 52.7 | 24 | 29 | 26 | Ref | - | - | | | |
| Missing | 10 | 6.7 | 7 | 2 | 1 | | | | | | |
| Cisgender woman | | | | | | | | | | | |
| Yes | 91 | 60.7 | 27 | 32 | 32 | 0.94 | 0.49−1.77 | .840 | | | |
| No | 49 | 32.7 | 15 | 15 | 19 | Ref | - | - | | | |
| Missing | 10 | 6.7 | 7 | 2 | 1 | | | | | | |

(continued)

**Table 2.** Continued

| | Total sample | | Sexual functioning score | | | Cumulative logit regression models | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 2 | 1 | Unadjusted | | | Adjusted | | |
| | | | Low | Moderate | High | | | | | | |
| | n = 150 | % | n = 49 | n = 49 | n = 52 | OR | 95% CI | P-value | aOR | 95% CI | P-value |
| Transman | | | | | | | | | | | |
| Yes | 23 | 15.3 | 10 | 6 | 7 | 0.58 | 0.25–1.33 | .198 | | | |
| No | 117 | 78.0 | 32 | 41 | 44 | Ref | - | - | | | |
| Missing | 10 | 6.7 | 7 | 2 | 1 | | | | | | |
| Transwoman | | | | | | | | | | | |
| Yes | 18 | 12.0 | 7 | 5 | 6 | 0.73 | 0.29–1.82 | .498 | | | |
| No | 122 | 81.3 | 35 | 42 | 45 | Ref | - | - | | | |
| Missing | 10 | 6.7 | 7 | 2 | 1 | | | | | | |
| AMAB/GNC/nonbinary‖ | | | | | | | | | | | |
| Yes | 8 | 5.3 | 2 | 3 | 3 | 1.14 | 0.31–4.27 | .841 | | | |
| No | 131 | 87.3 | 40 | 43 | 48 | Ref | - | - | | | |
| Missing | 11 | 7.3 | 7 | 3 | 1 | | | | | | |
| AFAB/GNC/nonbinary¶ | | | | | | | | | | | |
| Yes | 30 | 20.0 | 12 | 5 | 13 | 0.93 | 0.44–1.95 | .845 | | | |
| No | 109 | 72.7 | 30 | 41 | 38 | Ref | - | - | | | |
| Missing | 11 | 7.3 | 7 | 3 | 1 | | | | | | |
| Sexual risk behavior† | | | | | | | | | | | |
| Protective barrier use during high-risk sex acts† | | | | | | | | | | | |
| Receptive genital sex with barrier | | | | | | | | | | | |
| Yes | 45 | 30.0 | 13 | 16 | 16 | 1.07 | 0.45–2.58 | .877 | | | |
| No | 27 | 18.0 | 8 | 10 | 9 | Ref | - | - | | | |
| Did not engage in this behavior or missing | 78 | 52.0 | 28 | 23 | 27 | | | | | | |
| Receptive anal sex with barrier | | | | | | | | | | | |
| Yes | 22 | 14.7 | 3 | 9 | 10 | 0.26 | 0.02–2.94 | .276 | | | |
| No | 4 | 2.7 | 0 | 1 | 3 | Ref | - | - | | | |
| Did not engage in this behavior or missing | 124 | 82.7 | 46 | 39 | 39 | | | | | | |
| Performed oral sex with barrier | | | | | | | | | | | |
| Yes | 25 | 16.7 | 7 | 7 | 11 | 1.36 | 0.61–3.04 | .458 | | | |
| No | 106 | 70.7 | 31 | 40 | 35 | Ref | - | - | | | |

(continued)

**Table 2.** Continued

| | Total sample | | Sexual functioning score | | | Cumulative logit regression models | | | | | |
| | | | 3 | 2 | 1 | Unadjusted | | | Adjusted | | |
| | | | Low | Moderate | High | | | | | | |
| | n = 150 | % | n = 49 | n = 49 | n = 52 | OR | 95% CI | P-value | aOR | 95% CI | P-value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Did not engage in this behavior or missing | 19 | 12.7 | 11 | 2 | 6 | | | | | | |
| Psychosocial context | | | | | | | | | | | |
| Psychological conditions | | | | | | | | | | | |
| Clinically significant PTSD** | | | | | | | | | | | |
| Yes | 62 | 41.3 | 29 | 15 | 33 | **0.45** | **0.25−0.84** | **.012** | 0.70 | 0.31−1.58 | .388 |
| No | 85 | 56.7 | 19 | 33 | 18 | Ref | - | - | Ref | - | - |
| Missing | 3 | 2.0 | 1 | 1 | 1 | | | | | | |
| Clinically significant depression** | | | | | | | | | | | |
| Yes | 66 | 44.0 | 27 | 18 | 21 | 0.64 | 0.35−1.16 | .137 | | | |
| No | 82 | 54.7 | 21 | 31 | 30 | Ref | - | - | | | |
| Missing | 2 | 1.3 | 1 | 0 | 1 | | | | | | |
| Clinically significant psychological distress** | | | | | | | | | | | |
| Yes | 41 | 27.3 | 18 | 10 | 13 | 0.63 | 0.33−1.23 | .177 | | | |
| No | 107 | 71.3 | 30 | 39 | 38 | Ref | - | - | | | |
| Missing | 2 | 1.3 | 1 | 0 | 1 | | | | | | |
| Body image self-consciousness | | | | | | | | | | | |
| Moderate to high (10−15) | 105 | 70.0 | 38 | 37 | 30 | **0.47** | **0.25−0.91** | **.025** | **0.42** | **0.18−0.94** | **.035** |
| Low (0−9) | 45 | 30.0 | 11 | 12 | 22 | Ref | - | - | Ref | - | - |
| History of sexual abuse/assault‡ | | | | | | | | | | | |
| Yes | 32 | 21.3 | 16 | 8 | 8 | **0.45** | **0.21−0.93** | **.032** | 0.75 | 0.29−1.96 | .562 |
| No | 113 | 75.3 | 32 | 38 | 43 | Ref | - | - | Ref | - | - |
| Missing | 5 | 3.3 | 1 | 3 | 1 | | | | | | |
| Substance use | | | | | | | | | | | |
| Binge drinking (alcohol)# | | | | | | | | | | | |
| Yes | 76 | 50.7 | 20 | 30 | 26 | 1.30 | 0.72−2.35 | .379 | | | |
| No | 74 | 49.3 | 29 | 19 | 26 | Ref | - | - | | | |
| Illicit drug use (non-marijuana)# | | | | | | | | | | | |
| Yes | 50 | 33.3 | 13 | 19 | 18 | 1.27 | 0.68−2.38 | .454 | | | |
| No | 99 | 66.0 | 35 | 30 | 34 | Ref | - | - | | | |
| Missing | 1 | 0.7 | 1 | 0 | 0 | | | | | | |
| Tobacco use† | | | | | | | | | | | |
| Yes | 64 | 42.7 | 21 | 23 | 20 | 0.92 | 0.47−1.82 | .819 | | | |

(continued)

**Table 2.** Continued

| | Total sample | | Sexual functioning score | | | Cumulative logit regression models | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 2 | 1 | Unadjusted | | | Adjusted | | |
| | | | Low | Moderate | High | | | | | | |
| | n = 150 | % | n = 49 | n = 49 | n = 52 | OR | 95% CI | P-value | aOR | 95% CI | P-value |
| No | 50 | 33.3 | 19 | 11 | 20 | Ref | - | - | | | |
| Missing | 36 | 24.0 | 9 | 15 | 12 | | | | | | |
| Frequency of current tobacco use | | | | | | | | | | | |
| Every day | 15 | 10.0 | 8 | 4 | 3 | 0.46 | 0.16–1.30 | .142 | | | |
| Some days | 16 | 10.7 | 4 | 5 | 7 | 1.47 | 0.54–3.96 | .449 | | | |
| Not at all | 84 | 56.0 | 29 | 25 | 30 | Ref | - | - | | | |
| Missing | 35 | 23.3 | 8 | 15 | 12 | | | | | | |

Bold font indicates *P* < .05.

*Includes participants with no medical insurance (n = 4).

[†]Within the last 12 mo.

[‡]Within participant's lifetime.

[§]POC category (n = 37) is comprised of multiracial (62.2%), Asian (24.3%), Black/African American (10.8%), and Native Hawaiian or other Pacific Islander (2.7%) participants.

[||]Assigned male at birth (AMAB)/gender non-conforming (GNC)/nonbinary.

[¶]Assigned female at birth (AFAB)/gender non-conforming (GNC)/nonbinary.

[#]Within the last 6 mo.

[**]Clinical Psychological Measures: (i) PTSD: Ouimette P, Wade M, Prins A, Schohn M. Identifying PTSD in primary care: Comparison of the Primary Care-PTSD screen (PC-PTSD) and the General Health Questionnaire-12 (GHQ). *Journal of anxiety disorders*. 2008;22(2):337-343. (ii) Depression: Andersen E, Malmgren JA, Carter WB, Patrick DL. Screening for depression in well older adults: Evaluation of a short form of the CES-D. *American journal of preventive medicine*. 1994;10(2):77-84. (iii) Psychological distress: Derogatis LR. *BSI 18, Brief Symptom Inventory 18: Administration, scoring and procedures manual*. NCS Pearson, Incorporated; 2001.

findings may generalize beyond this sample is unknown. Fourth, sexual functioning is multifaceted for TM people and may include aspects such as sexual esteem or sexual pleasure, among others. The current measure is not able to assess these many facets. However, a strength of this study is that it is not restricted to TM adults who meet criteria for a formal clinical diagnosis of gender dysphoria. Participants were recruited based on their identity as transgender which may represent a different group than is typically seen in research on this topic.[11,12]

## CONCLUSION

In conclusion, the TM-SFI is a tool that can be used to assess sexual functioning in TM adults. The tool was designed for easy use in outpatient visits, epidemiologic studies, and assessment of treatment and medical gender affirmation outcomes. This instrument may identify TM adults who could benefit from clinical interventions to improve sexual functioning. The questionnaire may serve as a useful means to initiate conversations on issues of sexuality with TM patients in clinical settings. For example, consistent with the PLISSIT (Permission [P], limited information [LI], specific suggestions [SS], and intensive therapy [IT]) model,[13,14] providers might use the TM-SFI to obtain permission from TM patients to discuss and treat problems in sexual functioning.

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