

## VALIDITY AND RELIABILITY OF THE GENITAL SELF IMAGE SCALE

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### Aims of study:

Body image dissatisfaction is increasing in women [1]. Also increasing is the numbers of women undergoing genital cosmetic surgery [2], suggesting that for some women body image dissatisfaction may extend to those parts of their bodies that are usually hidden from view, their genitals. Anecdotally, woman's genital body image is purported to be affected by vaginal childbirth and pelvic organ prolapse. Yet, data to support these relationships and relate genital body image to a broad variety of clinical phenomena is limited by lack of adequate assessment tools. The Genital Self Image Scale (GSIS) [3] is a 29 item previously published scale designed to measure genital body image, limited by the lack of established reliability and validity. This study's purpose was to establish reliability and validity of the GSIS.

### Study design, materials and methods

To test the GSIS, we used a study design following standard procedures for validity and reliability testing of psychometric scales. For content validity, 5 experts assessed the content representativeness of the items within the scale. The experts used were two urogynecologists, one OB/GYN, and two sex therapists. The experts were asked to rate the relevance of each item and to indicate if they felt content was missing from the scale. Individual items in the scale were assessed; if an item in the scale was rated relevant/very relevant by at least four of the five experts was considered valid. A content validity index was created for the entire scale by quantifying the extent of agreement between experts using the *alpha coefficient*.

For the next portion of validity and reliability testing study participants were recruited using purposeful sampling to provide variance by including women with and without life events associated with genital changes. Nulliparous women were recruited from an undergraduate Women's Studies course, women with prolapse as well as age matched controls were participants from a previous study, and a limited chart review was performed to identify women after vaginal birth with significant genital tract trauma (forceps, vacuum, 3<sup>rd</sup> and 4<sup>th</sup> degree lacerations. We used exploratory and confirmatory factor analysis to determine if the scale adequately measures and reflects the desired constructs. Internal reliability (the extent to which the items are all measuring the same construct) was assessed for each group using Cronbach's Alpha. Test-retest reliability was determined using a subpopulation of 20 participants surveyed twice; at baseline and three weeks post baseline. Correlations between responses and limits of agreement for the two time points were also assessed.

### Results:

**Content Validity:** Seven items were determined to be content invalid and were removed from the scale. With these items removed the content validity index for the entire scale was  $\alpha = .83$ , indicating excellent content validity. In response to expert's suggestions two items were added to the original scale (bolded items in Table 1).

**Factor Analysis:** Included in the total sample were 192 nulliparas, 47 with prolapse, 45 age matched controls, and 56 post vaginal childbirth. Initial exploratory factor analysis using SPSS was undertaken separately for each participant group. Because the factors were similar for all groups it was determined that the data could be merged, yielding a total sample size of 277, sufficient for a 20 item factor analysis. During exploratory factor analysis four additional items that either did not correlate or exhibited multicollinearity with other items were removed. Four factors, or subscales were identified: Genital Confidence, Appeal, Function, and Comfort. The four subscale, 20 item confirmatory factor analysis explained 58.9% of the variance. Table 1 shows the subscales, factor loadings and communalities. Negatively worded items were reverse coded.

**Internal and Test-retest Reliability:** The final 20 item scale exhibited good to excellent internal reliability across all sample groups ( $\alpha = .79 - .89$ ). Pearson's correlation between the test-retest scores was  $r = .85$  indicating excellent test-retest reliability. Additionally, the limits of agreement between the two time period scores demonstrated that the scores would be repeatable within 2.5 points for 95% of the participants on this final 20 point scale.

### Interpretation of results:

Currently there are no published studies that provide validity and reliability for measures of genital body image. This study determined that results of a revised and reduced previously published scale [3] shows both reliability and validity. Generalizability of these results is limited due to the sample demographics; for instance, the majority of the participants were Caucasian and heterosexual. Nevertheless, to our knowledge this is the first scale validated to explore whether genital body image dissatisfaction may influence women's decisions to seek surgery such as genital cosmetic procedures but also surgeries not specifically viewed as cosmetic such as those for pelvic organ prolapse.

### Concluding message:

The revised Genital Self Image Scale (the GSIS-20) provides a twenty question scale that demonstrates reliability and validity across several populations of women. This scale offers opportunity to advance understandings about the influence of genital body image on women's emotional and sexual health, and on decisions about surgery for pelvic floor disorders and genital cosmetic surgery. Additional research is needed to provide data regarding psychometric testing of the GSIS-20 within more ethnically diverse populations of women.

Table 1

Item	Genital Confidence	Genital Appeal	Genital Function	Genital Comfort	Communality
I feel ashamed about the shape of my genitals	.852				.690

When I think about my genitals, I feel ashamed	.668			.585
My genitals are embarrassing	.620			.558
My genitals are unattractive	.615			.533
I feel sad when I think about my genitals	.570			.529
I feel my genitals are desirable		.807		.639
I feel that my genitals would arouse my partner		.784		.632
My genitals are attractive		.707		.538
<b>I enjoy my genitals</b>		.650		.554
I feel comfortable about my partner seeing my genitals		.605		.456
My genitals are well-shaped		.575		.494
My genitals are functional			.771	.578
I feel like my genitals are healthy			.701	.496
I feel my genitals work/function as they should			.592	.395
<b>I feel my genitals are like other women's</b>			.511	.574
I worry when I think about how my genitals function			.503	.465
My genitals are malodorous			.712	.555
My genitals are offensive			.673	.492
I feel my genitals are inadequate			.628	.476
I feel ashamed about the odor of my genitals			.581	.392

#### References

1. Sanchez, D., & Kiefer, A. (2007). Body concerns in and out of the bedroom: Implications for sexual pleasure and problems. Archives of Sexual Behavior, 36, 808-820.
2. Liao, L., & Creighton, S. (2007). Requests for cosmetic genitoplasty: How should healthcare providers respond? British Medical Journal, 334, 1090-1092.
3. Berman, L., Berman, J., Miles, M., Pollets, D., & Powell, J. (2003). Genital self-image as a component of sexual health: Relationship between genital self-image, female sexual function, and quality of life measures. Journal of Sex & Marital Therapy, 29(s), 11-21.

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**Is this a clinical trial?**

No

**What were the subjects in the study?**

HUMAN

**Was this study approved by an ethics committee?**

Yes

**Specify Name of Ethics Committee**

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**Was the Declaration of Helsinki followed?**

Yes

**Was informed consent obtained from the patients?**

Yes