

Beliefs about Penis Size: Validation of a Scale for Men Ashamed about Their Penis Size

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ABSTRACT

Introduction. No measures are available for understanding beliefs in men who experience shame about the perceived size of their penis. Such a measure might be helpful for treatment planning, and measuring outcome after any psychological or physical intervention.

Aim. Our aim was to validate a newly developed measure called the Beliefs about Penis Size Scale (BAPS).

Method. One hundred seventy-three male participants completed a new questionnaire consisting of 18 items to be validated and developed into the BAPS, as well as various other standardized measures. A urologist also measured actual penis size.

Main Outcome Measures. The BAPS was validated against six psychosexual self-report questionnaires as well as penile size measurements.

Results. Exploratory factor analysis reduced the number of items in the BAPS from 18 to 10, which was best explained by one factor. The 10-item BAPS had good internal consistency and correlated significantly with measures of depression, anxiety, body image quality of life, social anxiety, erectile function, overall satisfaction, and the importance attached to penis size. The BAPS was not found to correlate with actual penis size. It was able to discriminate between those who had concerns or were dissatisfied about their penis size and those who were not.

Conclusions. This is the first study to develop a scale for measurement of beliefs about penis size. It may be used as part of an assessment for men who experience shame about the perceived size of their penis and as an outcome measure after treatment. The BAPS measures various manifestations of masculinity and shame about their perceived penis size including internal self-evaluative beliefs; negative evaluation by others; anticipated consequences of a perceived small penis, and extreme self-consciousness. **Veale D, Eshkevari E, Read J, Miles S, Troglia A, Phillips R, Carmona L, Fiorito C, Wylie K, and Muir G. Beliefs about penis size: Validation of a scale for men ashamed about their penis size. J Sex Med **;**,**-***.

Key Words. Penis Size Shame; Assessment; Body Image; Small Penis Syndrome; Penile Anatomy

Introduction

Penis size shame (also known as “small penis syndrome”) is found in men who have a normal-sized penis but experience shame about its size. The medical definition excludes men who have a micropenis [1], which is a penis <7.5 cm in the erect length or <4 cm in the flaccid state [2].

Men tend to view penis size as much more important than women do [3]. There is an aston-

ishing lack of scientific interest in the psychology of male penis size or its treatment. Tiggemann et al. [4] surveyed 200 men, and found that they were concerned primarily about body weight, penis size, and height. In addition, weight, muscularity, height, and penis size were related to overall appearance and self-esteem. They identified at least three dimensions on which aspects of the body may potentially differ: visibility, the ability to control the body part, and signifier of masculinity.

Compared with body weight, for example, the penis can of course be hidden on most occasions. However, there is little control over penis size and it is strongly associated with masculinity and sexual prowess.

The experience of shame about the size of the penis seems especially relevant in some men. Gilbert and Andrews [5] and Gilbert [6] suggest that shame consists of an inner experience of self as an unattractive social agent, or undesirable, which is under pressure to limit possible damage via escape or appeasement. Men with penis size shame appear to be fearful of negative evaluation, rejection, or humiliation *by others* (e.g., in a changing room or by a sexual partner). This would be regarded as external shame in which men commonly respond by performance anxiety, submissive and avoidance behavior. Internal shame would refer to one's own self-evaluation about being abnormal or defective in penis size. Some men are very specific in their aesthetic standards (e.g., a desire for their penis to be symmetrical on both sides) without any fear of negative evaluation by others [7,8].

Some men with shame about the size of their penis may be diagnosed with body dysmorphic disorder (BDD) [9], where the preoccupation is focused on their genitals [10,11]. It is not known how many men with shame about their penis size also meet the criteria for BDD. Some surgical studies have described men as having "penile dysmorphic disorder" but these were not reported as based on any structured diagnostic interview or scale [12,13].

In clinical practice, sexual health physicians, urologists, counselors, and psychotherapists may assess men whose penis size is within the normal range, but who may be seeking a surgical procedure to increase the length or girth of their penis. However, most men may be too ashamed and may rather seek help and seek solutions on the Internet. These include visiting sites that promote lotions, exercises, or penile extenders. There are no case series or controlled trials of any psychological intervention for men experiencing shame about their penis size, other than an outcome of preventing surgery [14,15]. There is no standardized, psychometrically validated measure of beliefs about penis size [16]. Such a measure might assist in understanding the condition or for treatment planning [17]. This involves having a good understanding of the beliefs that motivate an individual. Previous studies have utilized a range of outcomes such as nonstandardized satisfaction scales [18,19].

Aims

The aim of this study was therefore to develop and validate a measure of beliefs about perceived penis size that will be useful for assessment, treatment planning, and measuring outcomes. From an understanding of shame outlined previously, we hypothesized that the new scale might have two factors relating to internal and external shame.

Methods

Participants

Men were recruited from three sources: (i) staff and students at King's College London (n = 108); (ii) the Mind Search¹ database at the Institute of Psychiatry, King's College London (n = 27); and (iii) a link on the website "Embarrassing Bodies" (n = 38). In total, 173 participants from a nonclinical population completed the questionnaires. The demographic data are shown in Table 1. Of these participants, 46 agreed to attend a urology clinic at King's College Hospital, to have the size of their penis measured.

Participants were categorized depending on whether they expressed concern over their penis size (see Table 1). Pearson's chi-square was calculated across groups, comparing marital status, employment status, education level, ethnicity, and sexual orientation.

Procedure

We sought in our e-mail to recruit men to a study that was interested in understanding their beliefs and fears about their penis size. We stated that we were interested in recruiting men for the first study whether they were concerned or not concerned about their penis size. In order to take part, male participants had to be aged 18 or above and proficient in English in order to provide consent and complete the questionnaires online for the first part of the study. They were also invited to participate in a second part of the study, which involved measuring the size of their penis (flaccid and erect) by a urologist in a hospital outpatient clinic. On arrival, participants completed a consent form, and were then given privacy in an air-conditioned consulting room at a constant temperature (21°C) at sea level. Then, using a disposable tape measure, each participant had

¹This database contains details for over 3,500 individuals in the local community who have volunteered to participate in psychological or psychiatric research.

Table 1 Frequency distributions of demographic variables

Demographic variables	Total frequency (%)	Frequency with concerns about penis size (%)	Frequency without concerns over penis size (%)	Statistic
N	173	93 (54%)	79 (46%)	
Age (median, IQR)	28 (17)	27 (15)	24 (9)	$U = 2,971, Z = -2.16, P = 0.03, d = 0.41$
Marital status				Fisher's exact test $P = 0.45$
Single	118 (68)	60 (65)	57 (72)	
Married	50 (29)	29 (31)	21 (27)	
Separated/Divorced	5 (3)	4 (4)	1 (1)	
Widowed	0 (0)	0 (0)	0 (0)	
Employment				Fisher's exact test $P = 0.15$
Unemployed	18 (11)	11 (12)	7 (9)	
Self-employed/Employed	50 (29)	32 (34)	18 (23)	
Student (full-time)	99 (58)	46 (49)	53 (67)	
Long-term sick leave	4 (2)	3 (3)	1 (1)	
Education level				Fisher's exact test $P = 0.70$
GCSE/O-level	6 (4)	5 (5)	1 (1)	
NVQ	7 (4)	4 (4)	3 (4)	
A-level	52 (30)	25 (27)	27 (34)	
Other (e.g., diploma)	17 (10)	10 (12)	7 (9)	
University degree	53 (31)	27 (29)	25 (32)	
Postgraduate	37 (21)	21 (23)	16 (20)	
Sexual orientation				Fisher's exact test $P = 0.03$
Heterosexual	120 (70)	58 (62)	62 (78)	
Homosexual/Bisexual	52 (30)	35 (38)	17 (22)	

GCSE = General Certificate of Secondary Education; NVQ = National Vocational Qualification; O-Level = General Certificate of Education Ordinary Level

three parameters measured: circumference (girth) of the penile mid shaft; length from suprapubic skin to distal glans (skin-to-tip); and pubis to distal glans (bone-to-tip). The three measurements were recorded in the stretched flaccid state, grasping the glans and exerting a stretching force until the patient felt mild discomfort to obtain maximum stretch.

After the flaccid measurements were taken, each participant was offered the choice of watching pornography on a laptop provided. Watching pornography was either accepted and chosen privately and anonymously, or declined. At this point the urologist left the room. Participants pressed a digital bell to alert the urologist when they were erect and ready to repeat the measurements. Three men required an intracavernous injection of 10 µg of prostaglandin E1 in order to sustain an erection. The three measurements were then repeated in the fully erect state without stretching. Participants were given a £10 shopping voucher to thank them for their time for participating in each part of the study. All participants completed the following questionnaires online.

Measures

Beliefs about Penis Size (BAPS)

The statements in the new scale were generated from an initial item pool of 18 items based on clinical interviews and case reviews of eight men

who were preoccupied and anxious about their penis size (and whose sizes were in the normal range). A process of iteration occurred so that both men who were ashamed about their penis size and clinicians reviewed the items and the wording was accordingly modified. It was then pilot tested before the final version was used for the study. The final items are listed in Table 2. The respondent is asked to rate how strongly he agrees or disagrees with each of the statements, using a five-point Likert scale from 0 ("Strongly disagree") to 4 ("Strongly agree"). The possible range of the final version is 0–40. A higher score therefore represents a greater level of shame about penis size.

Hospital Anxiety and Depression Scale (HADS) [20]

The 14 items corresponding to the depression and anxiety subscales from the HADS were used to examine the severity of anxiety and depression symptoms. Each subscale is comprised of seven items and higher scores represent increased severity of anxiety and depression. Cronbach's alpha values for the anxiety subscale (0.86) and depression subscale (0.83) were acceptable.

Social Phobia Inventory (SPIN) [21]

The SPIN is a 17-item self-report scale that measures the severity of performance and social

Table 2 Sequence of factor analyses to obtain final 10 item scale

Iteration	Items	Factors	KMO Index	Bartlett's test of sphericity	Determinant of the matrix	Items eliminated*
1	18	2	0.96136	$\chi^2 = 3,651.6$ df = 153 $P = 0.00001$	0.00000000044261	Nil
2	18	1	0.96136	$\chi^2 = 3,651.6$ df = 153 $P = 0.00001$	0.00000000044261	Nil
3	12	1	0.93287	$\chi^2 = 1,969.2$ df = 66 $P = 0.00001$	0.000003080009135	I will be humiliated by a partner. I will never be able to sexually satisfy a partner. I will be rejected by a partner. I will never be able to enjoy a sexual relationship. I will not feel masculine enough. I will feel unattractive.
4	10	1	0.91790	$\chi^2 = 1,513.4$ df = 45 $P = 0.00001$	0.000060556627830	I will be humiliated by a partner. I will never be able to sexually satisfy a partner. I will have a partner who is less attractive than I would like. I will be rejected by a partner. I will never be able to stop thinking about it. I will never be able to enjoy a sexual relationship. I will not feel masculine enough. I will feel unattractive.

*Items eliminated because of too high a correlation between the items on the covariance matrix

anxiety. None of the items is specific to sexual situations. Each item is rated by the participant on a five-point Likert scale. The possible range of scores is 0 (not at all) to 4 (extremely). Higher scores represent increased severity of social phobia. Cronbach's alpha was 0.95, indicating high internal reliability.

Body Image Quality of Life Inventory (BIQLI) [22,23]

The BIQLI is a 19-item self-report scale that measures the impact of body image concerns on a broad range of life domains (e.g., social functioning, sexuality, emotional well-being). Each item is rated by the participant on a seven-point Likert scale, ranging from -3 (very negative effect) to +3 (very positive effect). The BIQLI is scored as an average numeric score of the 19 items where a more negative score reflects a more negative body image. Cronbach's alpha was 0.97.

International Index of Erectile Function (IIEF) [24]

The IIEF is a 15-item self-report scale that has five subscales: erectile function (range 1–30), orgasmic function (range 0–10), sexual desire (range 2–10), intercourse satisfaction (range 0–15), and overall satisfaction (range 2–10). Across all five subscales, a higher score indicates higher erectile function and sexual satisfaction. For all five subscales, internal reliability is high, ranging from a minimum Cronbach's alpha value of 0.87 (sexual desire), to a

maximum of 0.94 (erectile function, intercourse satisfaction, and total IIEF score).

Overall Satisfaction with Penis Size

Participants were asked to rate a single item "Overall how satisfied are you with the size and appearance of your penis?" They answered the question on a nine-point rating scale from 0 ("not at all") to 8 ("extremely"). The higher the score, the greater the overall satisfaction a participant felt with the size or appearance of his penis.

Importance Attached to Penis Size

Participants were asked to rate their degree of conviction on a scale between 0% and 100% as to how strongly they believed the phrase "Size does not matter." Higher scores indicated less importance placed on penis size.

Concerns about Penis Size

Participants were asked, "Do you have any concerns about the size, shape or appearance of your penis (whether it is erect or not)?" and subsequently classified as either concerned or not concerned.

Statistical Analysis

Horn's Parallel Factor Analysis [25] was performed to examine factorial validity of the BAPS. This was performed with the factor analysis programme "FACTOR" [26]. This method is chosen as it is more accurate than Cattell's scree and Kaiser-Guttman methods [27,28]. The

Table 3 Initial exploratory factor analysis (loadings lower than 0.3 omitted)

Item	Factor 1	Factor 2
1. I will be alone and without a partner.	0.31	0.31
2. I will be humiliated by a partner.	0.83	
3. I will be laughed at by a partner in a sexual situation.	0.91	
4. I will never be able to sexually satisfy a partner.	0.94	
5. I will have a partner who is less attractive than I would like.	0.71	
6. I will be rejected by a partner.	0.84	
7. I will never be able to stop thinking about it.	0.90	
8. I will never be able to enjoy a sexual relationship.	0.87	
9. I will not feel masculine enough.	0.97	
10. I will not be able to have children.		0.86
11. I will never feel just "right."	0.89	
12. I will not be able to be naked in front of other men (e.g., in changing rooms or the bedroom).	0.94	
13. I will not be able to be naked in front of women.	0.84	
14. Others will talk or laugh about my penis.	0.95	
15. Others will be able to see the size or shape of my penis even when I have my trousers on.	0.41	0.5
16. I will feel self-conscious in sexual situations.	0.89	
17. I will feel abnormal.	0.83	
18. I will feel unattractive.	0.86	

Kaiser–Meyer–Olkin (KMO) is reported to verify the sampling adequacy for the analysis of the correlational matrix. The Bartlett's test of sphericity is used to determine whether correlations between items were sufficiently large for factor analysis. Excessive correlation was measured by the determinant of the matrix which should be >0.00001 .

The internal consistency was evaluated using Cronbach's alpha. Spearman's rho correlation was used between the scales to test convergent validity. The validity of group differences on the BAPS was determined by the response to the item on whether they were concerned about the size of their penis.

Results

Item Reduction and Factor Analysis

There were 12 participants with missing data who were excluded from the exploratory factor analysis, resulting in $n = 161$ participants. We attempted to extract two components (hypothesizing internal and external shame as the two factors), using optimal implementation of parallel analysis procedure

for determining the number of dimensions in the original pool of 18 items. We used principal components analysis and direct oblimin rotation. Analysis of the Mardia's [29] multivariate asymmetry found that the data were not normally distributed (Kolmogorov–Smirnov: 0.16, $P = 0.00$, skewness corrected for small sample: 3,931.323, $df = 1,140$, $P = 1.00$ and kurtosis = 46.675, $P < 0.0001$). Therefore, the polychoric analysis was run. The KMO and Bartlett's test of sphericity indicated that correlations between items were sufficiently large for factor analysis and that communality was >0.3 for all items (Table 2). One factor was too small with two items [9,14] and one of these was a complex loading of >0.4 on both factors (Table 3). Furthermore, because the correlations of the covariance matrix between several items were excessive (>0.8), the determinant of the matrix was too high. The explained variance based on eigenvalues also suggested one factor with one variable with an eigenvalue of 13.3 that accounted for 74% of the variance. Eight items were eliminated to ensure that the determinant of the matrix was high enough. This final 10-item solution was retained for further analyses (Table 4). All items had a communality of >0.3 . The KMO and the Bartlett's test of sphericity were sufficiently large. There was only one variable with an eigenvalue greater than 1 explaining 69.8% of the variance.

Reliability—Internal Consistency

Internal consistency for the BAPS was conducted. Cronbach's alpha was 0.95, indicating good internal consistency.

Table 4 Final 10 item scale based on 1 factor

Item	Factor 1	Communality
1. I will be alone and without a partner.	0.82	0.67
3. I will be laughed at by a partner in a sexual situation.	0.88	0.78
10. I will not be able to have children.	0.57	0.32
11. I will never feel just "right."	0.87	0.76
12. I will not be able to be naked in front of other men (e.g., in changing rooms or the bedroom).	0.77	0.60
13. I will not be able to be naked in front of women.	0.86	0.75
14. Others will talk or laugh about my penis.	0.88	0.78
15. Others will be able to see the size or shape of my penis even when I have my trousers on.	0.68	0.46
16. I will feel self-conscious in sexual situations.	0.85	0.72
17. I will feel abnormal.	0.92	0.85

Validity—Concurrent and Discriminant

Concurrent validity was analyzed through Spearman’s rho correlations with related measures. We examined the relationship between the BAPS and the HAD-Depression, HAD-Anxiety, SPIN, BIQLI, IIEF subscales, overall satisfaction, and the importance of penis size (see Table 5). The BAPS measure was significantly correlated with all the other psychological measures, indicating strong concurrent validity. There was strong correlation with overall satisfaction with size and the importance attached to penis size; moderate correlation with HAD-Anxiety and HAD-Depression, SPIN, BIQLI, and IIEF erectile function and overall satisfaction; and low correlation with the remaining subscales of the IIEF. The weakest correlation was with IIEF Orgasmic function and IIEF Sexual desire.

The range of the participants’ penis size was 70 to 180 mm (flaccid length); 100–200 mm (erect length); 70–130 mm (flaccid girth) and erect girth (90–170 mm). The BAPS scores were not significantly correlated with either penis length in a flaccid state to tip nonstretched measure ($r_s = -0.19, R^2 = 0.38, P = 0.21$), or erect state ($r_s = -0.25, R^2 = 0.5, P = 0.10$). In addition, BAPS scores were not significantly correlated with penis girth in a flaccid ($r_s = -0.26, R = 0.07, P = 0.08$) or erect state ($r_s = 0.01, R = 0.000121, P = 0.94$).

Validity—Group Differences

There were no significant differences in the demographics between the two groups, except age (men with concerns about penis size were older) and an association between sexual orientation (homosexual or bisexual men were more likely to have concerns about penis size) ($\chi^2(1) = 5.26, P < 0.05$).

The total BAPS score was significantly higher in the group that expressed concern about their penis size (median = 19, IQR = 15) compared with the group that did not express any concern (median = 0, IQR = 7.5) ($U = 646.00, Z = -9.24, P < 0.001, d = -1.96$).

Participants were also categorized according to whether they were satisfied with their penis size or not. Of the 173 participants, 30% (n = 52) had rated their satisfaction with the size of their penis scoring between 0 and 2, and were considered dissatisfied with their penis size. In comparison, 35.2% (n = 61) rated their penis satisfaction as scores 6 to 8, which were considered satisfied. BAPS scores in those satisfied with their penis size and appearance were significantly lower (median = 2, IQR = 7) than those who were not

Table 5 Spearman’s rho correlation between questionnaires

	HAD-Anxiety	HAD-Depression	SPIN	BIQLI	IIEF erectile function	IIEF orgasmic function	IIEF sexual desire	IIEF intercourse satisfaction	IIEF overall satisfaction	Overall satisfaction with penis size	Importance attached to penis size
BAPS	0.51**	0.54**	0.63**	-0.65**	-0.37**	-0.22*	-0.20*	-0.30**	-0.47**	-0.79**	-0.78**
HAD-Anxiety		0.67**	0.68**	-0.51**	-0.20*	-0.13	-0.08	-0.21**	-0.35**	-0.43**	-0.37**
HAD-Depression			0.55**	-0.55**	-0.35**	-0.27**	-0.15*	-0.37	-0.41**	-0.47**	-0.34**
SPIN				-0.57**	-0.33**	-0.19*	-0.14	-0.28**	-0.40**	-0.53**	-0.47**
BIQLI					0.33**	0.14	0.26*	0.37**	0.44**	0.60**	0.52**
IIEF erectile function						0.51**	0.26*	0.83**	0.64**	0.50**	0.33**
IIEF orgasmic function							0.27*	0.45**	0.37**	0.33**	0.26*
IIEF sexual desire								0.26**	0.21*	0.26*	0.16
IIEF intercourse satisfaction									0.74**	0.48**	0.30**
IIEF overall satisfaction										0.60**	0.42**
Overall satisfaction with penis size											0.68**

* $P < 0.05$

** $P < 0.001$

BAPS = Beliefs about Penis Size; BIQLI = Body Image Quality of Life Inventory; HAD = Hospital Anxiety and Depression; IIEF = International Index of Erectile Function; SPIN = Social Phobia Inventory

satisfied (median = 24, IQR = 11) ($U = 48.00$, $Z = -8.89$, $P < 0.001$, $d = -1.85$.)

Conclusions

This is the first study to develop a scale for measurement of BAPS. Exploratory factor analysis reduced the number of items in the BAPS from 18 to 10, and the variance could be best explained by one factor. We were able to demonstrate that the 10-item measure had good internal consistency, with a high Cronbach's alpha. It correlated significantly with the HAD-Depression, HAD-Anxiety, BIQLI, Social Anxiety, all the IIEF subscales, overall satisfaction, and the importance attached to size of the penis. Of note, the weakest correlation was with two IIEF subscales "Orgasmic function" and "Sexual desire" which we would not expect to be affected by shame about penis size.

The BAPS was able to discriminate between those who had concerns about their size and those who did not. We did not match the demographics of both groups, though those who were concerned or dissatisfied with the size of their penis had higher likelihood of being older, homosexual, or bisexual. Compared with heterosexual men, homosexual men are at greater risk of body dissatisfaction [30,31]. They are also exposed to more opportunities to compare their size with other men. Future studies will be required to determine if homosexuality is a risk factor for development of shame about penis size [32–34].

The BAPS therefore measures various manifestations of masculinity and shame about penis size. It can provide practitioners with an understanding of their patient's beliefs about their penis size. Two of the items measure internal self-evaluative beliefs (such as being "abnormal"). There are three items that describe a social cognitive component with predictions such as being talked about by others. There are four items on anticipated consequences of a small penis size such as having to avoid situations where they may be naked. Lastly, there are two items on extreme self-consciousness—for example, the belief that others will be able to see the size of their penis even when they are not naked. The scale was not able to separate internal or external shame in our sample presumably because the two constructs overlap in the majority of men. That is, if a man believes that he is abnormal in his penis size then he is likely also to believe that others will evaluate him negatively and may reject or humiliate him.

Of note is that the BAPS was not correlated with actual penis size. This is consistent with previous research in body image that has found that there is no relationship between objective unusualness of a body feature and psychological distress [35,36]. This may help in psycho-education for men to know that there is no relationship between shame about size and the actual size. Thus, there are men with larger penis than average who are ashamed about their size and there are men with smaller than average size in whom size is not an issue.

BAPS, cognitive processes, and behaviors are likely to be related in a model of maintenance and a target for therapy. The BAPS may therefore be one component of an assessment and would be expected to correlate with the frequency of avoidance (e.g., of sexual situations); safety-seeking behaviors (e.g., comparing penile size to others); compensatory strategies (e.g., the use of objects to increase the bulk of the genital area); or cognitive processes (such as worry and self-focused attention).

Limitations and Future Directions

The main limitation of this study was the use of a nonclinical population although a number of participants were significantly distressed and too ashamed to seek help. It was, however, initially necessary to recruit a large sample to investigate the psychometric properties of the scale. Future studies will be required to validate the scale in a clinical setting, in different cultures and in conditions such as Peyronie's Disease, hypospadias, and a micropenis [37,38]. In this study, we also depended on a simple self-report question on satisfaction and or concerns with penis size to demonstrate theory-consistent group differences.

The scale has not yet been validated for sensitivity to change after any treatment. However, it was able to differentiate between those men who were concerned or dissatisfied with their penis size and those who were not. Future studies will need to validate the scale in men who are undergoing a psychological therapy or receiving a physical treatment. A further limitation is that no test-retest reliability has been conducted and this will also need to be evaluated in future studies. Although we did not find any correlation between the BAPS and the actual size, our sample size may be underpowered. Thus, we were powered with 46 subjects to detect a moderate correlation (a rho of 0.4) when the probability of getting a significant result

of $P < 0.05$ is 80%. To detect a small correlation of 0.2, then about 200 subjects are required.

Two items in the final scale had a low communality (items 10 and 15). We thought it was important to retain these two items on clinical grounds, as these items were nearly identified as a separate factor. These items represent a more severe form of self-consciousness and avoidance in a minority of men (e.g., that others will be able to see their size through their trousers or that they will never be able to have children).

BAPS may be closely correlated with the importance of sexual performance, about a woman's insatiable demands, and sexual conservatism [39]. Thus, future research might examine the relationships between the BAPS and scales that measure such beliefs—for example, the Sexual Dysfunctional Beliefs Questionnaire [40] or Sexual Beliefs and Information Questionnaire [41] both assess sexual myths and lack of information about normal sexuality. Lastly, the Sexual Self-Schema questionnaire [42] may assess attitudes that are associated with guiding sexual behavior.

In summary, the current study has therefore conducted an initial validation on a brief self-report scale that can be used for audit and outcome research in men worried about their penis size. It can be downloaded for free from <http://www.kcl.ac.uk/cadat> under “Research,” “Questionnaires for Clinical use and Research,” and “Body Image Questionnaires.” It is of potential use in treatment planning to identify some of the specific fears and beliefs that may have been shaped by past experiences.

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References

- Wylie KR, Eardley I. Penile size and the “small penis syndrome”. *BJU Int* 2007;99:1449–55.
- Wessells H, Lue TF, McAninch JW. Penile length in the flaccid and erect states: Guidelines for penile augmentation. *J Urol* 1996;156:995–7.
- Lever J, Frederick DA, Peplau LA. Does size matter? Men's and women's views on penis size across the lifespan. *Psychol Men Masc* 2006;7:129–43.
- Tiggemann M, Martins Y, Churchett L. Beyond muscles: Unexplored parts of men's body image. *J Health Psychol* 2008;13:1163–72.
- Gilbert P, Andrews B. Shame: Interpersonal behavior, psychopathology, and culture. New York: Oxford University Press; 1998.
- Gilbert P. Body shame: A biopsychosocial conceptualisation and overview, with treatment implications. In: Gilbert P, Miles J, eds. *Body shame: Conceptualisation, research and treatment*. London: Brunner-Routledge; 2002:3–54.
- Nugteren HM, Balkema G, Pascal A, Schultz WCMW, Nijman J, van Driel M. 18-year experience in the management of men with a complaint of a small penis. *J Sex Marital Ther* 2010;36:109–17.
- Veale DM, Lambrou C. The importance of aesthetics in body dysmorphic disorder. *CNS Spectr* 2002;7:429–31.
- American Psychiatric Association. *Diagnostic & statistical manual of mental disorders*. 4th edition. Washington DC: American Psychiatric Association; 1994.
- Phillips KA, Menard W, Fay C, Weisberg R. Demographic characteristics, phenomenology, comorbidity, and family history in 200 individuals with body dysmorphic disorder. *Psychosomatics* 2005;46:317.
- Veale D, Boocock A, Gournay K, Dryden W, Shah F, Willson R, Walburn J. Body dysmorphic disorder. A survey of fifty cases. *Br J Psychiatry* 1996;169:196–201.
- Li C, Kayes O, Kell PD, Christopher N, Minhas S, Ralph DJ. Penile suspensory ligament division for penile augmentation: Indications and results. *Eur Urol* 2006;49:729–33.
- Perovic SV, Byun J-S, Scheplev P, Djordjevic ML, Kim J-H, Bubanj T. New perspectives of penile enhancement surgery: Tissue engineering with biodegradable scaffolds. *Eur Urol* 2006;49:139–47.
- Ghanem H, Glina S, Assalian P, Buvat J. Position paper: Management of men complaining of a small penis despite an actually normal size. *J Sex Med* 2013;10:294–303.
- Shamloul R. Treatment of men complaining of short penis. *Urology* 2005;65:1183–5.

- 16 Davis S, Paterson L, Binik Y. Male genital image: Measurement and implications for medical conditions and surgical practice. *Sexologies* 2011;21:43–7.
- 17 Veale D, Gournay K, Dryden W, Boocock A, Shah F, Willson R, Walburn J. Body dysmorphic disorder: A cognitive behavioural model and pilot randomised controlled trial. *Behav Res Ther* 1996;34:717–29.
- 18 Gontero P, Di Marco M, Giubilei G, Bartoletti R, Pappagallo G, Tizzani A, Mondaini N. A pilot phase-II prospective study to test the “efficacy” and tolerability of a penile-extender device in the treatment of “short penis”. *BJU Int* 2008;103:793–7.
- 19 Spyropoulos E, Christoforidis C, Borousas D, Mavrikos S, Bourounis M, Athanasiadis S. Augmentation phalloplasty surgery for penile dysmorphism in young adults: Considerations regarding patient selection, outcome evaluation and techniques applied. *Eur Urol* 2005;48:121–8.
- 20 Zigmond A, Snaith RP. The hospital depression and anxiety scale. *Acta Psychiatr Scand* 1983;67:361–70.
- 21 Connor KM, Davidson JRT, Churchill LE, Sherwood A, Weisler RH, Foa E. Psychometric properties of the Social Phobia Inventory (SPIN) New self-rating scale. *Br J Psychiatry* 2000;176:379–86.
- 22 Cash TF, Fleming EC. The impact of body-image experiences: Development of the body image quality of life inventory. *Int J Eat Disord* 2002;31:455–60.
- 23 Hrabosky JJ, Cash TF, Veale D, Neziroglu F, Soll EA, Garner DM, Strachan-Kinser M, Bakke B, Clauss LJ, Phillips KA. Multidimensional body image comparisons among patients with eating disorders, body dysmorphic disorder, and clinical controls: A multisite study. *Body Image* 2009;6:155–63.
- 24 Rosen RC, Riley A, Wagner G, Osterloh IH, Kirkpatrick J, Mishra A. The international index of erectile function (IIEF): A multidimensional scale for assessment of erectile dysfunction. *Urology* 1997;49:822.
- 25 Horn J. A rationale and test for the number of factors in factor analysis. *Psychometrika* 1965;30:179–85.
- 26 Lorenzo-Seva U, Ferrando PJ. FACTOR: A computer programme to fit the exploratory factor analysis model. *Behav Res Methods* 2006;38:88–91.
- 27 Zwick WR, Velicer WF. Comparison of five rules for determining the number of components to retain. *Psychol Bull* 1986;99:432–42.
- 28 Wilson P, Cooper C. Finding the magic number. *Psychologist* 2008;21:866–7.
- 29 Schröder A, Heider J, Zaby A, Göllner R. Cognitive behavioral therapy versus progressive muscle relaxation training for multiple somatoform symptoms: Results of a randomized controlled trial. *Cognit Ther Res* 2013;37:296–306.
- 30 Siever MD. Sexual orientation and gender as factors in socioculturally acquired vulnerability to body dissatisfaction and eating disorders. *J Consult Clin Psychol* 1994;62:252.
- 31 Beren SE, Hayden HA, Wilfley DE, Grilo CM. The influence of sexual orientation on body dissatisfaction in adult men and women. *Int J Eat Disord* 1996;20:135–41.
- 32 Grov C, Parsons JT, Bimbi DS. The association between penis size and sexual health among men who have sex with men. *Arch Sex Behav* 2010;39:788–97.
- 33 Drummond MJN, Filiault SM. The long and the short of it: Gay men’s perceptions of penis size. *Gay Lesb Issues Psychol Rev* 2007;3:121–9.
- 34 Grov C, Wells BE, Parsons JT. Self-reported penis size and experiences with condoms among gay and bisexual men. *Arch Sex Behav* 2013;42:313–22.
- 35 Moss TP. The relationships between objective and subjective ratings of disfigurement severity, and psychological adjustment. *Body Image* 2005;2:151–9.
- 36 Ong J, Clarke A, White P, Johnson M, Withey S, Butler PEM. Does severity predict distress? The relationship between subjective and objective measures of appearance and psychological adjustment, during treatment for facial lipoatrophy. *Body Image* 2007;4:239–48.
- 37 Davis S, Paterson L, Binik Y. Male genital image: Measurement and implications for medical conditions and surgical practice. *Sexologies* 2012;21:43–7.
- 38 Costa RM, Miller GF, Brody S. Women who prefer longer penises are more likely to have vaginal orgasms (but not clitoral orgasms): Implications for an evolutionary theory of vaginal orgasm. *J Sex Med* 2012;9:3079–88.
- 39 Wincze J, Barlow D. Enhancing sexuality: A problem solving approach. Client work-book. Santo Antonio, TX: Graywind Publications; 1997.
- 40 Nobre P, Gouveia JP, Gomes FA. Sexual dysfunctional beliefs questionnaire: An instrument to assess sexual dysfunctional beliefs as vulnerability factors to sexual problems. *Sex Relat Ther* 2003;18:171–204.
- 41 Adams SG Jr, Dubbert PM, Chupurdia KM, Jones A Jr, Lofland KR, Leermakers E. Assessment of sexual beliefs and information in aging couples with sexual dysfunction. *Arch Sex Behav* 1996;25:249–60.
- 42 Andersen BL, Cyranowski JM, Espindle D. Men’s sexual self-schema. *J Pers Soc Psychol* 1999;76:645–61.