SOCIETAL SEXUAL DOUBLE STANDARD MEASURE

A proposal of a measure of societal sexual double standard

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Abstract

A version of the Double Standard Scale (SDSS) is presented to assess the subjective perception of society's support for the Sexual Double Standard (SDS). We examine its psychometric properties in a sample of Spanish population heterosexual of 1,206 individuals (50% males), distributed across three groups (18-34, 35-49, and 50 years old or older). We performed Exploratory Factor Analysis and Confirmatory. The found version consists of 18 item distributed into three factors (Acceptance for Male Sexual Shyness, Acceptance for Female Sexual Freedom and Acceptance for Traditional Double Standard). A second-order factor structure was also adequate. Internal consistency, temporal stability and validity evidence are reported. This version of the SDSS is reliable and valid. It allows to assess the perception of societal sexual double standard. Its usefulness to improve the predictive validity of the standardized scales that evaluate the individual adhesion to SDS is discussed.

Keywords: sexual double standard; social referents; norms; psychometric properties.

Introduction

The sexual double standard (SDS) consists of judging heterosexual men and women differently for the same sexual behavior. The traditional SDS implies that men always think about sex and women must be “gate-keepers” of their own sexuality [1]. As a result, the traditional SDS favors highly sexually active heterosexual men to be evaluated more positively than women who exhibit the same behavior [2]. The assessment of the prevalence of SDS is relevant for understanding sexual health, which is related to the ability to freely enjoy and express sexuality [3]. In accordance with this, SDS has been associated with several sexual related issues, such as sexual victimization [4,5], sexual assaults [4,6,7], higher risk of acquiring sexually transmitted infections [8,9], and lower sexual satisfaction [10,11]. There are data that support the presence of SDS in Spanish society [12,13], as well as the existence of differential traditional sexual schemes for men and women, for example, in the field of sexual pleasure [14] or sexual satisfaction [15]. Therefore, the study of SDS in this cultural context continues to be relevant.

Sexual liberation has gradually contributed to the manifestation of traditional SDS to be expressed in a more subtle way in some fields. For example, premarital sex is increasingly accepted in men and women [16]. However, the age of sexual initiation of men is lower than that of women [17,18] and men have more number of sexual partners [19,20]. In other words, the SDS seems a pervasive phenomenon in society, but the empirical evidence is inconsistent. It has been suggested that studies using standardized questionnaires provide evidence of the double sexual standard [21]. However, studies that use a person perception task rarely show that people evaluate men and women differently based on their sexual activity [22].

To explain the difficulty of assessing the SDS, it has been pointed out that many empirical studies on the topic have not considered certain methodological aspects (e.g., [16,

21,23)). It is also suggested that researchers take a more theoretical approach to understanding the SDS [2].

The assessment of the prevalence of Sexual Double Standard:

Methodological limitations

A possible cause for the inconsistency observed in the prevalence of the SDS is that results obtained with different designs are sometimes used to determine the incidence of this phenomenon. In within-subject designs, participants respond to the same questions for each target (targets: men and women); thus, the direct response of the subject yields a measure of individual endorsement of the sexual double standard [21]. By contrast, in between-subject designs each participant assesses a single target (either a man or a woman). In this case, the direct response of each subject yields a measure of individual acceptance of certain sexual behaviors in men or in women [21]. As a result, each type of design is useful to determine the incidence of a different attitude. For this reason, [24] recommended using appropriate study designs to capture such differences.

On the other hand, sometimes the items of the standardized instruments used to measure the SDS may assess individuals' attitude toward different topics (e.g., attitude toward the sexual double standard vs. attitude toward sexual behaviors in men and women). For example, according to Sagebin et al., [23], the Sexual Double Standard Scale (SDSS [25]) measures the attitudes of subjects toward both the sexual double standard (e.g., "Women are naturally more monogamous – inclined to stick with one partner –than are men") and certain sexual behaviors in men and women (e.g., "A woman should be sexually experienced when she gets married"). The same diversity is found in the items of the Scale for the Assessment of Sexual Standards among Youth (SASSY [26]); five of their nineteen items assess the attitude of the respondent towards some sexual behaviors either in boys or girls (e.g., "Sometimes a boy should apply some pressure to a girl to get what he wants

sexually”; “I think that a girl who takes the initiative in sex is pushy”), and the remaining items directly assess the attitude of the respondent towards SDS (e.g., “I think sex is less important for girls than for boys”). The main limitation of this diversity of items is that the response will only allow to predict the attitude toward the topic referred to in the items (i.e., double standards or certain sexual behaviors in men or women) [27].

Social norms and assessment of personal adherence to the Sexual Double Standard

From a theoretical approach based on Social Cognition [28] we suggest that SDS research should involve macro-level and societal factors to explain personal adherence to SDS. In this study, we propose a new measure that will serve to obtain a score for each subject about their perception of societal sexual double standard. The proposed measure is based on the SDSS [25] and is designed to be applied in conjunction with another measure also based on SDSS that assesses the individual attitude of the respondent towards SDS (SDSS-S [29]). Next, we discuss the basis of this measure, and in what way it makes it possible to obtain a macro-social indicator of the sexual double standard.

The Theory of Planned Behavior [30] proposes that the intention of behavior is determined by the attitude towards that behavior and its subjective norm. Attitude refers to the general evaluation towards a behavior (e.g., “I believe that a woman who takes the initiative in a sexual encounter is worthy of admiration” or “I feel contempt for a woman who takes the initiative”). The subjective norm refers to the person's beliefs about what others think he/she should do (e.g., “Most people agree that a woman who takes the initiative in a sexual encounter is worthy of admiration”). The social norms have been pointed to as a cause of prejudice, “about half of all prejudiced attitudes are based only on the need to conform” [31]. Gawronski et al. [32] found that implicit and explicit measures of prejudice against black people were more positively correlated with one another when

subjects perceived that their subjective beliefs about black people were consistent with the perceived prejudice of society. According to these findings, individuals respond according to how they feel as long as they perceive that their environment validates their attitude [33]. Hence, it is necessary to assess not only individuals' endorsement of the SDS but also their perception of society's endorsement of the SDS (i.e., perception of societal sexual double standard). The question is how to operationalize that measure.

To assess individuals' endorsement of the SDS through standardized self-reports, subjects are asked to respond based on their own affective reactions and beliefs. This type of response is self-referred, that is, it refers to subjects' personal endorsement of the SDS. By contrast, to assess subjects' perception of societal sexual double standard, responses should be hetero-referred, that is, the respondent uses society as a reference to make a judgment. In operational terms, respondents are asked to use their social environment as a reference to estimate society's endorsement of the SDS. Note that research using standardized instruments to measure the SDS indicates that although most young adults believe that there is a sexual double standard in society, individuals differ in their degree of endorsement of the SDS [34].

The subjective perception of the collective Sexual Double Standard as a macro-psychological indicator

Methodologists from Social Sciences have pointed out that analytical units obtained by aggregation of individual or micro level variables may be the easiest methodological and conceptual approach to model processes at the macro level [35,36]. In this sense the aggregation of the responses to the hetero-referred measure will be a collective or macro-psychological indicator of the SDS phenomenon [37], and different from the individual level indicator provided by the self-referred measure. How can we verify this supposed validity of the hetero-referred measure to evaluate SDS at the level of macro-psychological

analysis? One way is to check whether the responses of individuals to the hetero-referred measure are related to their group membership (e.g., sex, education, educational level). Another, if we assume that the mean score in the hetero-referred measure is a macrosocial indicator of SDS [35,36], and the average score in a self-referred measure to SDS (e.g., SDSS-S [29]) is an indicator of individual level, we will check the link among certain individual characteristic through both measures.

Some authors consider that the SDS is a product of the patriarchal system that promotes male structural power [38]. Therefore, responses to the hetero-referred measure may be related to the group membership of the individuals to the social category of men or women. From the Theory of Social Identity [39], masculinity is a form of social identity that makes up the self-concept of oneself as a member of a social group. Social identity is conceived as a causal mechanism that intervenes in situations of social change [40]; such change is observed, anticipated, desired or feared by the individuals involved [41]. In this sense, individuals can determine or desire those sexual norms and behaviors that are most advantageous for the collective interests of the group with which they are identified [42]. From this approach, the SDS can be seen as an expression of individuals' social motivation to maintain the differentiation of their group (i.e., ingroup) [43,44]. If the hetero-referred measure represents a level of macro-psychological analysis of SDS, then it should capture the bias triggered by the social motivation to obtain advantages and privileges for the own group. From this framework, we assume that men, compared to women, will tend to underestimate the presence of traditional SDS in society. Likewise, although men show more personal adherence to SDS than women [29,45,46], we expect that in the hetero-referred measure men have lower scores than women.

Moreover, system justification and social dominance theories suggest that individuals who justify social inequality are motivated to support ideologies of discrimination against women's rights [47] (Pratto, Sidanius, Stallworth, & Malle, 1994)

and accept traditional gender roles. From this approach, the SDS can be understood as the consequence of resistance to equality [38]. Consequently, individuals that more commonly support social inequality [47] will manifest more personal adherence to SDS[29]; and will be more sensitive to social changes that threaten the traditional distribution of roles between both sexes (e.g., overestimating society's support for this kind of change in traditional heterosexual relationships) [48].

Finally, a higher educational level has been negatively associated with personal endorsement of the SDS [29,49], perhaps because people with more education are more sensitive to the asymmetry of sex roles in society. Although the differences among different age groups in self-referred measures of the SDS do not reach statistical significance [29], older participants score higher [50]. This may be because they have a greater motivation to maintain the asymmetric social norm and therefore minimize society's endorsement of the SDS [51]. On the other hand, Spain initiated its democracy 40 years ago, and during that period the belief system and the norms on differences between both sexes have been progressively liberalized. In this sense, the generational socialization of the person can be a determining factor in their adherence to SDS. Within the cultural context of Spanish society there may be generational groups that adopt more or less traditional sexual scripts [52].

The SDSS [25], is the most commonly used standardized instruments to assess SDS. This scale has recently been adapted to the Spanish heterosexual population (SDSS-S [29]). This version is a measure of the respondent's attitude towards SDS and toward certain sexual behaviors in men and women (i.e., self-referred responses). The two-factor structure of the SDSS-S allows self-referred assessment of the subject's attitude towards traditional and inverse SDS (i.e., inverse: SDS more in favor of women than men) in two areas: sexual freedom and sexual shyness. In this study, we propose a measure based on the SDSS [25] to assess the perception of societal sexual double standard. This scale is intended to be a complementary measure to the self-referred version in order to understand the role of the

social norms of SDS on the personal support to SDS. The specific objective of this study was to explore the following features of the hetero-referred version of the SDSS: factor structure, internal consistency reliability, test-retest reliability, and some evidence of its validity. We tested the following hypotheses:

H1. We expected that the hetero-referred version of the SDSS (SDSS-H) would capture the norms maintained by Spanish society towards SDS. Therefore, we expect a multifactorial structure.

H2. The common items from both scales (SDSS-H and SDSS-S) evaluate two different attitude topics (towards certain sexual behaviors in men or women and towards the double sexual standard). We expect that, regardless of the direction, the magnitude of the correlation between the self-referred and hetero-referred measure will be greater when subscales from both versions reflect the same topic [21, 24].

H3. We expected that both scales (SDSS-H and SDSS-S) would be differently associated with the dispositional characteristic of social dominance orientation (SDO [38]). The SDO will positively correlate with SDSS-S [38, 47, 53] and negatively with SDSS-H.

In general, we expect that the mean score from the hetero-referred measure of SDS (SDSS-H) will be related to the individual's group membership [35- 37]. This assumption is specified in the hypotheses that follow.

H4. We expected that the mean score of men in SDS traditional hetero-referred would be lower than that of women [43,44].

H5. We expected that people with more educational level (i.e. university degree) would obtain higher scores in traditional SDS hetero-referred than those with less educational level (e.g., with primary or secondary education) [29,49].

H6. We expected younger subjects (18-34 years) would obtain higher scores in traditional SDS hetero-referred than older subjects (35-49, and 50 years old or older) [29,50-52].

Materials and methods

Participants

The sample was composed of 1,206 Spanish with heterosexual orientation. Inclusion criteria were: (a) being 18 or older and (b) heterosexual orientation. The latter criterion was established because, consistently with previous research [22], and as recently defined in Zaikman and Marks (2017) [2] “the sexual double standard (SDS) is the phenomenon whereby heterosexual men and women are evaluated differently regarding sex and sexuality” (p. 407). Also, items from the SDSS contain a greater depiction of traditional heterosexual scripts for both male and female. A convenience quota sampling method was used to obtain the same number of men and women. To depict all age ranges with a similar number of individuals distributed across them, we recruited participants from the following cohorts, used in previous Spanish research on sexuality and on the Sexual Double Standard Scale (see Sierra et al., 2018[29]) and that allows an equivalent distribution: 18-34, 35-49, and 50 years old or older. In order to perform statistical analyses, the sample was randomly divided into two subsamples: Sample 1 (33.33%) and Sample 2 (66.67%). The sociodemographic information for each sample was as follows: (a) Sample 1: Range age 18-80, mean age 41.69 ($SD=13.49$), most of them completed university studies (62.7%). Regarding some sexual-related information: their mean age at first sexual intercourse was 18.73 ($SD = 3.53$), mean number of sexual partners was 6.08 ($SD=11.01$) and 80.85% was enrolled in a relationship at the time of the study from which 97.8% have sex with their partner; and (b) Sample 2: Range age 18-84, mean age 41.05 ($SD=14.62$), most of them had university degree (66.6%). Regarding their sexuality, their mean age at first sexual intercourse was 18.42 ($SD=3.31$), mean number of sexual partners was 5.22 ($SD=10.49$)

and 76% reported to be enrolled in a relationship, from which 97% have sex their current partner.

In order to estimate test-retest reliability, we incidentally selected a sample of 103 undergraduate students (85.4% women and 14.6% men) with a mean age of 19.17 years old ($SD = 3.69$). This group was compared to a sample of 126 undergraduate students who were randomly extracted from the total sample of 1,206 individuals. This group was composed of 75 women (59.5%) and 51 men (40.5%) with a mean age of 19.80 years ($SD = 1.04$). Both groups did not differ in relationship status ($\chi^2_{1, 228} = 0.01, p = .906$), age of first sexual intercourse ($t_{193} = -0.12, p = .902$) or number of sexual partners ($t_{203} = 1.91, p = .058$).

Instruments

We designed a questionnaire on sociodemographic data and sexual history to obtain information about participants' sex, age, nationality, educational level, sexual orientation (i.e., *Which of these options better define your sexual orientation? Heterosexual, Same-sex orientation, Other in that case please specify*), age of first sexual intercourse, number of sexual partners, relationship status, and sexual activity.

Sexual Double Standard Scale (SDSS [25]). It consists of 26 items (e.g., “It’s worse for a woman to sleep around than it is for a man”) answered on a 4-point Likert scale ranging between 0 (*disagree strongly*), 1 (*disagree mildly*), 2 (*agree mildly*), and 3 (*agree strongly*). As indicated by Muñiz, Elosua, and Hambleton (2013) [54], a forward-translation of the items was conducted from English into Spanish by two researchers -what adequate knowledge on sexuality and English- and a bilingual psychologist. Several modifications were performed based on their initial translation and adaptation, and also based on experts and a Spanish sample. Therefore, some experts evaluated the content comprehension and equivalence of each item, and finally a pilot study with a sample of Spanish undergraduate students was conducted. The sum of all items provides a global score. Higher scores indicate greater acceptance of the traditional sexual double standard (i.e., greater sexual

freedom for men). Regarding evidences of validity, the scale has shown associations with decreased sexual and relationship satisfaction for both men and women [55]. Recently, among Spanish adolescents, the scale has shown associations with ambivalent sexism and sexist beliefs [56]. A Cronbach's alpha coefficient of .73 in women and .76 in men are reported [25]. In order to assess hetero-referred endorsement of the sexual double standard, subjects received the following instructions to respond to the items: "We would like to know to what extent you believe that most people agree or disagree with each of the following statements". In the link the readers have an online supplement with: the items in English and in Spanish of the SDSS-H, the final version in Spanish, and the instructions for its correction: XXX.

Spanish version of Sexual Double Standard Scale (SDSS [25,29]). This version is a self-referred measure of the sexual double standard (SDSS-S): subjects respond to it indicating to what extent they personally agree or disagree with the statements included in its items. It consists of 16 items, which are a translation into Spanish of the sixteen corresponding items of the original scale [25], answered on a 4-point Likert scale ranging from 0 (*disagree strongly*) to 3 (*agree strongly*). Its two factors –Acceptance of sexual freedom (e.g., "It's okay for a man to have sex with a woman he is not in love with"; ordinal Cronbach alpha = .84) and Acceptance of sexual shyness (e.g., "A woman who initiates sex is too aggressive"; ordinal Cronbach alpha = .87) – yield a Global Index of the SDS with adequate validity evidence. The score for each subscale is provided by the sum of their corresponding items. In Sample 2 of the present study, we found internal consistency values equal to .84 and .87 for Factor 1 and 2 respectively.

Social Dominance Orientation Scale (SDOS [47,57]). Its 16 items (e.g., "Some groups of people are simply not the equals of others") are answered on a 7-point Likert scale ranging from 1 (*completely disagree*) to 7 (*completely agree*). A total score can be obtained through the sum of the items. Higher scores indicate higher social dominance

orientation. Silván- Ferrero and Bustillos (2007) [57] demonstrated associations between the SDO, authoritarianism and gender. The reliability of the original scale was .91 [47]. This version has adequate reliability values ($\alpha=.85$) [57]. In Sample 2, Cronbach's alpha was .78.

Procedure

This study was approved by the Ethics Committee on Human Research of XXXX University.

The SDSS (i.e., hetero-referred and self-referred) along with the informed consent form, the questionnaire on sociodemographic data and sexual history and SDO were administered by two evaluators in different universities, social centers, and associations. Participants answered the scales in an individual and private way. That is, participants completed the questionnaires in groups of approximately 30-40 or fewer in an available classroom in the described places, and they were sitting sufficiently far apart to ensure privacy. Once they had finished, they handed all the measures in a closed envelope. Some of the respondents, aged between 18 and 54, answered questionnaires available online. The URL of the questionnaires was distributed through the press and social media.

To calculate the test-retest reliability of the SDSS, the instrument was administered to university students in their respective classrooms at three different times by an expert researcher. In the first session, each participant was given three envelopes and three copies of the SDSS along with the informed consent form. All documents had the same code as well as the exact date of the second and third administration (at 4 and 8 weeks, respectively). After answering the scales, the students put them in a sealed envelope and delivered them to the evaluator.

Data analysis

In order to assess construct validity, the sample was randomly divided into two subsamples. Sample 1, composed of 402 individuals, was used to perform an exploratory

factor analysis (EFA). Sample 2, composed of 804 individuals, was used to conduct a confirmatory factor analysis (CFA). The additional analyses were performed on the global sample. The EFA was performed with Factor 10.4 software. We used the robust unweighted least squares (RULS) as an extraction method due to its performance with outliers and heteroscedastic errors [58]. Normality distribution of data was not met (Mardias' test = 63.53). The number of factors was explored with the optimal implementation of parallel analysis (PA [59]) applied to the polychoric matrix. As we expected relationship between factors -confirmed a posteriori in the CFA- we decide to use an Oblimin rotation [60]. Confidence intervals were obtained by using Bootstrap in 500 samples. The CFA was conducted with EQS 6.1 software, also using a robust method (Maximum Likelihood, Robust; ML, R) applied again on the polychoric matrix. The overall fit indices used were the root mean square error of approximation (RMSEA) and its 90% confidence interval, as well as the comparative fit index (CFI) and the Bentler-Bonett Non-Normed Fit Index (NNFI). RMSEA values lower than .06 are indicative of good fit, and values lower than .08 indicate adequate fit [61]. CFI and NNFI values higher than .90 are considered as good fit, although ideally such values should be higher than .95 [61]. The Akaike Information Criterion (AIC [62]) was also taken, which indicates absence of FI if the increase with respect to the least restrictive model is considerable. The remaining analyses were performed with SPSS (Version 22.0) and R software. Missing data were imputed with listwise deletion.

Results

Exploratory factor analysis (EFA)

The PA indicated the existence of three factors (real-data % of variance was: 30.2, 17.6, 13.2 and 7.4 while the mean of random % of variance was: 11.8, 10.9 and 10.1 and 9.3 furthermore the 95 percentile of random % of variance was 13.2, 12.0, 11.0 and 10.1).

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However, some items had low factor loadings and some factor loadings were distributed across several factors. For this reason, items 4, 5, 7, 8, 9, 10, 12, and 25 were eliminated and the EFA was performed again without modifying any parameters. Again, the PA yielded three factors that explained 56.63% of the variance. Table 1 shows the items and their factor loading distribution across the factors with their corresponding explained variances. In the lower limit and at a 95% confidence interval, all items had factor loadings greater than .30.

Table 1. Exploratory factor analysis with Sample 1

Item	Acceptance of male sexual shyness	Acceptance of female sexual freedom	Acceptance of sexual double standard	Communalities
1			.73 (.65 to .80)	.57
2			.64 (.53 to .71)	.48
3		.49 (.34 to .61)		.30
6		.48 (.33 to .60)		.35
11			.72 (.64 to .78)	.62
13			.73 (.65 to .80)	.60
14	.44 (.30 to .56)			.22
15			.82 (.76 to .87)	.70
16			.80 (.73 to .86)	.78
17			.85 (.78 to .91)	.73
18	.59 (.43 to .70)			.39
19			.50 (.37 to .58)	.32
20		.30 (.19 to .43)	.61 (.52 to .69)	.51
21	.78 (.68 to .88)			.64
22		.65(.54 to .76)		.55
23		.58 (.39 to .69)		.34
24		.64 (.50 to .75)		.44
26	.78 (.68 to .86)			.61
	29.28%	15.02%	12.33%	

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% explained variance				
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Note. 95% Confidence intervals are shown in brackets. Values under .30 in the lower limit of the confidence interval are omitted. Bold indicates items that are included in the final factor scores.

Psychometric properties of the items

Before attempting to confirm the factor structure obtained with the EFA, we assessed the psychometric properties of the items in order to better identify whether any item was undermining the scale. Table 2 shows that all ordinal alphas were higher than .70; the ordinal alpha would improve if item 14 was eliminated; however, that improvement was minimum (+.02) and the item-total correlation was adequate, as was the case of the remaining items. For everything, finally item 14 was not deleted.

Table 2. Psychometric properties of the items

Item	<i>M</i>	<i>SD</i>	Kurtosis	Skewness	Corrected item-total correlation	Cronbach's ordinal α if item deleted	Cronbach's ordinal α	Total <i>M</i> (<i>SD</i>)
Factor 1. Acceptance of male sexual shyness								
14. I admire a man who is a virgin when he gets married	0.88	0.86	.17	.85	.30	.75	.73	3.66 (2.29)
18. I question the character of a man who has had a lot of sexual partners	1.04	0.82	-.17	.52	.45	.69		
21. A guy who has sex on the first date is "easy"	0.93	0.86	-.08	.72	.46	.62		
26. A woman should be sexually experienced when she gets married	0.81	0.78	.41	.83	.42	.62		
Factor 2. Acceptance of female sexual freedom								
3. It's okay for a woman to have more than one sexual relationship at the same time	0.71	0.77	.47	.94	.42	.67		
6. I kind of admire a girl has had sex with a lot of guys	0.85	0.79	.07	.70	.39	.67		
22. It's okay for a woman to have sex with a man she is not in love with	1.19	0.89	-.64	.33	.48	.62	.70	5.22 (2.66)

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23. A woman should be sexually experienced when she gets married	1.50	0.87	-.69	-.13	.41	.65		
24. It's best for a girl to lose her virginity before she's out of her teens	0.96	0.78	.01	.57	.29	.63		
Factor 3. Acceptance of sexual double standard								
1. It's worse for a woman to sleep around than it is for a man	1.53	1.08	-1.26	-.13	.67	.88		
2. It's best for a guy to lose his virginity before he's out of his teens	1.45	0.91	-.83	-.00	.52	.89		
11. A woman who initiates sex is too aggressive	1.61	1.00	-.103	-.16	.69	.88		
13. I question the character of a woman who has a lot of sexual partners	1.62	0.95	-.84	-.38	.68	.88		
15. A man should be more sexually experienced than his wife	1.51	1.02	-1.12	-.03	.75	.88	.90	15.14 (6.33)
16. A girl who has sex on the first date is "easy"	1.87	1.01	-.78	-.54	.72	.88		
17. I kind of feel sorry for a 21-year-old man who is still virgin	1.61	1.04	-1.18	-.11	.46	.88		

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19. Women are naturally more monogamous —inclined to stick with one partner— than are men	1.93	0.88	-.30	-.58	.49	.90		
20. A man should be sexually experienced when he gets married	2.01	0.85	.03	-.72	.44	.89		

Confirmatory factor analysis (CFA)

The three-factor structure obtained previously showed adequate fit indices (see Table 3). However, all tridimensional models need 3 covariances between errors, as suggested by the Lagrange Multiplier test. These three pairs of items (1-2, 16-21, and 20-23) have a similar grammatical structure (e. g., item 20 “A man should be sexually experienced when he gets married” and item 23 “A man should be sexually experienced when he gets married”). Therefore, a similar distribution of their errors should be expected. Although none of the models reached optimal fit ($RMSEA < .06$, $CFI > .95$, $NNFI > .95$), they all reached acceptable fit. In fact, the model with three related factors showed the best fit. However, for theoretical reasons – the need to use a global score for the scale –, we decided to explore in greater detail the three-factor model with a second-order factor, as this model also yielded acceptable fit indices.

Table 3. Proposed models and model fit indices

	S-B χ^2	<i>df</i>	<i>p</i>	RMSEA	RMSEA CI 90%	CFI	NNFI	AIC	χ^2 difference test
Unidimensional	1533.78	135	<.01	.114	.108 to .119	.830	.809	1263.78	—
3 independent factors	767.93	135	<.01	.076	.071 to .082	.924	.913	497.93	—
3 independent factors with 3 covariances	624.29	132	<.01	.068	.063 to .074	.941	.931	360.30	144.64***
3 related factors	707.41	132	<.01	.074	.068 to .079	.931	.920	443.41	—
3 related factors with 3 covariances	542.80	129	<.01	.063	.058 to .069	.950	.941	284.80	164.61***
3 factors with a 2nd order factor	774.33	132	<.01	.078	.073 to .083	.923	.910	510.33	231.53***
3 factors with a 2nd order factor and 3 covariances	623.37	129	<.01	.069	.064 to .074	.940	.929	365.37	150.96***

Note. S-B χ^2 = is Satorra Bentler χ^2 ; *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation;

CI RMSEA 90% = 90% confidence interval of the root mean square error of approximation; NNFI = Bentler-Bonett non-normed fit index; AIC =

Akaike's Information Criterion.

Test-retest reliability

To explore the temporal stability of this version, we used Pearson's correlation coefficient. A 4-week period elapsed between the first time of data collection (T1) and the second time (T2); the third collection (T3) took place 8 weeks after T1. Overall, test-retest reliabilities were good for all three factors, with correlation values ranging from .44 to .79 (Table 4). We also used repeated-measures ANOVA to explore differences between the three time points. A multivariate analysis revealed no significant effect of time for either Factor 1 [$F_{(2, 91)} = 0.57, p = .566$], Factor 2 [$F_{(2, 91)} = 2.75, p = .069$] or Factor 3 [$F_{(2, 91)} = 1.19, p = .307$].

Table 4. Four and eight-week test-retest reliability of the SDSS –hetero-referred version

	Time 1-Time 2 (4 weeks)	Time 1-Time 3 (8 weeks)
Factor 1. Acceptance of male sexual shyness	.62***	.44***
Factor 2. Acceptance of female sexual freedom	.70***	.67***
Factor 3. Acceptance of sexual double standard	.79***	.64***

Note. $n = 102$ (Time 1), $n = 98$ (Time 2), $n = 94$ (Time 3). *** $p < .001$.

Evidence of validity

As for convergent validity, we calculated Pearson's correlations between the following variables: Factor 1, Factor 2, and the Global Index of the self-referred version (SDSS-S); Factor 1, Factor 2, and the Global Index of the hetero-referred version (SDSS-H); and the total SDO score (see Table 5). As hypothesized, we found that the strength of the correlation between the self-referred version (SDSS-S) and the hetero-referred version

(SDSS-H) was greater between similar attitude topics than between different attitude topics. Factor 1 of the SDSS-S (i.e., Acceptance of sexual freedom) was correlated with Factor 2 of the SDSS-H (i.e., Acceptance of female sexual freedom) ($r = .25, p < .001$). Factor 2 of the SDSS-S (i.e., Acceptance of sexual shyness) and Factor 1 of the SDSS-H (i.e., male sexual shyness) were correlated ($r = .42, p < .001$), and the GI-SDS-S was significantly correlated with the GI-SDS-H ($r = .13, p < .001$). However, very low correlations were obtained between Factor 1 of the SDSS-S (i.e., Acceptance of sexual freedom) and the GI-SDS-H ($r = .07, p < .05$), between the GI-SDS-S and Factor 2 of the SDSS-H (i.e., Acceptance of female sexual freedom) ($r = -.07, p < .05$); no correlations were found between the GI-SDS-S and Factor 1 of the SDSS-H. Altogether, H2 was supported. Although scores on the GI-SDS-H were not significantly associated with SDO scores, Factor 1 of the SDSS-H (i.e., Acceptance of male sexual shyness) was correlated with SDO ($r = .18, p < .001$), partially supporting H3.

Table 5. Zero-order correlations between the factors and global indices of the self-referred and the hetero-referred version of the SDSS and SDO

	1	2	3	4	5	6	7
1. SDSS-S Factor 1. Acceptance of sexual freedom		-.39***	-.12**	.25***	-.10**	.07*	-.04
2. SDSS-S Factor 2. Acceptance of sexual shyness			.42***	.01	.23***	-.06	.34***
3. SDSS-H Factor 1. Acceptance of male sexual shyness				.09**	-.04	-.31***	.18***
4. SDSS-H Factor 2. Acceptance of female sexual freedom					-.07	-.60***	.04
5. GI-SDS-S. Global Index of the Sexual Double Standard – Self-referred						.13***	.24***
6. GI-SDS-H. Global Index of the Sexual Double Standard – Hetero-referred							-.04
7. SDO. Social dominance orientation							
<i>M</i>	11.25	6.36	3.64	4.24	0.47	30.01	43.20
<i>SD</i>	4.75	4.67	2.28	2.27	2.92	7.01	13.10
Range possible	0 to 24	0 to 24	0 to 12	0 to 12	-12 to 21	11 to 48	16 to 84
α	.84	.87	.73	.70	–	–	.78

Note. *** $p < .001$, ** $p < .01$, * $p < .05$.

SOCIETAL SEXUAL DOUBLE STANDARD MEASURE

We performed several MANOVAs to explore the differences in the mean scores of the Global Index of the Sexual Double Standard – Hetero-referred as a function of sex and education (Table 6). No significant differences were found in the GI-SDS-H according to sex ($F_{(1, 802)} = 1.28$; $p = .257$), thus H4 was not supported. Regarding education, significant differences were shown in the GI-SDS-H ($F_{(3, 797)} = 5.88$; $p = .001$); Bonferroni post-hoc comparisons showed that scores on the GI-SDS-H were significantly higher in individuals with a university degree than in individuals with primary or secondary education; thus, H5 was supported. We also compared scores on the GI-SDS-H across age groups. To do so, we considered the following age groups: 18-34 years old, 35-49 years old, and 50 years old and older. We found significant differences in the Global Index ($F_{(2, 800)} = 26.41$; $p = .000$). Bonferroni *post-hoc* comparisons showed that scores on the GI-SDS-H were significantly higher in the youngest group (18-34 years old) than in the second and the third group (35-49 years old and 50 years or older); thus, H6 was supported (see Table 6).

Table 6. Means and standard deviations for the GI-SDS-H according to sex, education, and age groups

	<i>M (SD)</i>
Sex	
Male ($n=402$)	33.55 (7.50)
Female ($n=402$)	34.19 (8.50)
Education level	
Primary ($n=79$)	32.08 (7.08)
Secondary ($n=172$)	32.43 (7.68)
University degree ($n=535$)	34.68 (8.12)
Age groups	

18-34 (<i>n</i> =267)	37.22 (8.28)
35-49 (<i>n</i> =269)	32.34 (7.59)
50-older (<i>n</i> =267)	32.03 (7.05)

Discussion

So far, empirical evidence shows difficulties for determining the prevalence of SDS [22,63]. We consider a theoretical approach based on social cognition models [28], and a methodological one [35-37]. We suggest that the prediction of individual support to SDS requires to bear in mind the role of collective norms on double sexual standard [31]. Therefore, we propose a hetero-referred version of the SDSS (SDSS-H) [25] that aims to be an indicator of the perception of societal sexual double standard.

The findings from the psychometric analyses show a three-factor structure which is not congruent with the two-factor structure of the self-referred form (SDSS-S [29]). Likewise, the relationship between both versions (i.e., SDSS-H and SDSS-S) is good when the association between factors which assess the same issue is considered. Also, we found that the orientation to social dominance (SDO) is associated with different factors of both scales (i.e., SDSS-H and SDSS-S). Based on sociodemographic information, we did not find differences in the average score of SDSS-H between men and women. However, the results show that the context of group membership, based on age and education, is related to the response to SDSS-H. In particular, higher scores are found for the youngest subjects (18-34 years) (vs. the oldest) and for individuals with the highest education (university degree) (vs. primary or secondary education).

The main objective of this study was to examine the factor structure, reliability (internal consistency and test-retest reliability), and some evidences of validity of the

SDSS-H in a sample of the heterosexual Spanish population. For this purpose, respondents were asked to use their social environment as a reference (i.e., hetero-referred responses) to estimate the endorsement that society provides to SDS. The Exploratory Factor Analysis showed a three factor structure. Once some items were deleted, this structure showed an adequate adjustment through Confirmatory Factor Analysis. In the first factor, items that assess the Acceptance of male sexual shyness are grouped; the second, comprised items that assess the Acceptance of women's sexual freedom, and the third factor, measures the Acceptance of the traditional double sexual standard.

Out of the 26 original items from the SDSS, eight were eliminated due to their poor psychometric properties. It is likely that some topics depicted by these items, such as virginity for marriage, are considered as outdated. That is, for the Spanish society of contraception, where the average age of girls for sexual debut is 16 years [64], the majority considers that virginity is no longer a requirement for marriage,

Additionally, the three factors that emerged can be grouped into a second order factor that justifies the use of a global score which indicates the individual perception of societal sexual double standard. Also, it should be noted that the factor structure of SDSS-H does not match the structure of the self-reported version of SDSS (SDSS-S [29]). We assume that this is because each measure assesses the SDS phenomenon at different levels of analysis (i.e., macrosocial and individual level, respectively) [35-37].

The reliability was good for all three factors, as well as its temporal stability at four and eight weeks. However, factor 1 (Acceptance for male sexual shyness) was the least stable. This may be due to individual factors related to the lack of individual's willingness to accommodate to social change [48]. The fact that consistency progressively decreases across time, may be due to the interaction between the normative context and the respondent's motivations to truly preserve the group distinctiveness [65](Falomir-Pichastor, Chatard, Selimbegovic, Konan, & Mugny, 2013) or perhaps the traditional hetero-

patriarchy structure. That is, factor 1 of SDSS-H prescribes a norm that threatens the traditional differentiation of sex roles for men and women. Consistently, recent research suggests that egalitarian norms may have the side effect of intensifying opposed-normative stances as egalitarianism threatens the desired distinctiveness [66].

Partial support is provided for H3, since the same individual characteristic (SDO) has been differently associated with factors from both scales. According to previous findings [53,67], SDO correlated positively with favorable attitude towards traditional SDS measured by SDSS-S [29]. In addition, we found positive correlation of SDO with F1 of SDSS-H (i.e., perception that society accepts male sexual shyness). That is, the higher the SDO, the higher the tendency to overestimate the norm contained in F1. This finding indicates that SDSS-H captures the tendency of subjects scoring highly in SDO to "... accept or reject ideologies and policies relevant to group relations" [47].

From a sociocognitive conception on the formation of attitudes [27,30], the adherence to SDS is determined by the individual attitude towards SDS, and by the perception of societal sexual double standard. Therefore, and in order to predict individual endorsement, we recommend that both SDSS-H and SDSS-S are administered together [29], however, this may jeopardize respondent's trustworthiness as they may try to maintain congruence across their scores (i.e., SDSS-H and SDSS-S [27]). As shown by our findings, and according to H2, the association between both scales is stronger when factors that assess the same attitude are correlated (e.g., attitude towards the same sexual behavior or attitude toward SDS), than when the factors assessed different topics.

Finally, our proposal for the joint use of both scales (SDSS-H and SDSS-S) is theoretically based on the assumption that the inconsistency in the prevalence of SDS is due to processes of compliance or opposition to the social norm dominant [31]. The methodological basis leads us to suppose that the aggregation of individual responses to the hetero-referred measure will allow obtaining an assessment of the collective norm on SDS

[37]. Hence, we expect that mean scores from the hetero-referred measure of SDS (SDSS-H) will be related to the individual's group membership [35-37]. Contrary to what was expected (H4) no differences are found for the responses for the hetero-referred version by gender. However, men report more personal adherence to SDS [45,46] and higher scores in the self-reported version of SDSS than women [29]. Considering these studies, our findings regarding H4 are consistent with the assumption that SDSS-H measures SDS at a different analysis level than SDSS-S. As we expected (H5) individuals with greater academic degree (vs. primary or secondary education) obtained a higher average score in SDSS-H. Likewise, younger people (18-34 years) obtained significantly higher scores on SDSS-H than older people (35-49, and 50 years old or older) (H6). Taken together, it is likely that respondents with this demographic profile are more sensitive to the social norm favorable to SDS [51]. In contrast, other studies show that highly educated participants provide less support to SDS [29,49]; while older subjects (50 years old or older) (vs. subjects 18-34 years) indicate greater scores in the self-reported SDS measure [29,50]. Otherwise, the progressive sexual liberalization of Spanish society during the last four decades of democracy, perhaps has promoted less traditional sexual scripts that younger generations would have internalized to a greater extent [52]. Finally, the comparison between the results that confirm our hypotheses (H5 and H6) and the results obtained with the self-referenced measure of SDS, lead us to propose that both measures assess in a different way the role of some demographic characteristics (e.g., age or educational level).

Limitations and Future Research Directions

Some limitations need to be mentioned. First, we cannot assure whether the order in which the self-reported and hetero-referred measure are administered may bias responses. Therefore, future research should check this. Second, research using experimental methodologies will clarify whether processes of social influence, social motivations and

individual characteristics influence, alone or in mutual interaction, would account for the individual attitude of men and women towards SDS. Third, we consider that SDSS-H is a macro-psychological indicator of SDS. Although his assumption was not straightly tested in our study we believe that some of our findings bring us closer to the idea that the level of analysis of SDSS-H is different from that of SDSS-S.

Fourth, the application of our measure across countries would be very useful to validate its usefulness for capturing societal processes. Fifth, we have proposed that differences in SDSS-H by groups (e.g., age, educational level) may be due to the fact that this measure evaluates SDS at a macro level of analysis. A forthcoming investigation on the invariance of the measure will allow to establish more robust conclusions. Finally, it is necessary to test the measure in a representative sample, because the sample used in this study is incidental and composed, in a high percentage, of individuals with university studies.

Conclusions

This research contributes to the debate on the evaluation of SDS at different levels of analysis to ensure the reliability and validity of the standardized scales used to predict individual adhesion to SDS. Our work proposes a measure of the perception of the societal sexual double standard. Our findings argue against the idea that the inconsistency observed in the manifestation of SDS may be due to openness and liberalism in heterosexual relationships in the context of more progressive societies. In contrast, the results suggest that the application of standardized instruments whose items assess individuals' attitude towards the same topic allows obtaining more consistent results. The diversity of constructs in the content of the items get us away from the prediction of an unitary construct [27]; therefore, the researcher must be aware of the diversity of topics assessed by the instrument he/she is using. The measure we propose (SDSS-H) must be applied in conjunction with a self-referred measure of SDS. This proposal is based on the idea that sexism and prejudiced

attitudes, although they may be determined by individual characteristics, occur in a context of intergroup relations that the researcher must involve when he/she wants to predict or explain SDS. The results indicate that the youngest people and those with the highest educational level were the most sensitive to social norms that accept the double sexual standard. These data suggest the importance of designing educational policies and promotion of academic training that reinforce equal attitudes between the sexes. Finally, SDS has been associated with sexual dissatisfaction and with certain dysfunctional sexual behaviors (sexual aggression/victimization, risky sexual behaviors o sexual insatisfaction); grasping in a more reliable and valid way the attitude that truly holds the subject towards this topic can serve to predict behaviors and emotions related to sexual activity.

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