



Attitudes toward sexual behaviors: relationship with gender and sexual orientation

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Abstract

Most studies that have compared sexual attitudes between men and women have focused on heterosexual individuals or have not controlled for sexual orientation. In addition, many have used measures of general sexual attitudes, which have more difficulty in predicting sexual behaviors and sexual health than measures of attitudes toward specific sexual behaviors. Therefore, the present study aimed to analyze whether gender and sexual orientation are related to attitudes toward specific contextualized sexual behaviors in Spain. The study sample consisted of 1725 participants (55.8% women) aged between 18 and 35 years and of different sexual orientations. All participants completed an instrument to measure attitudes toward specific contextualized sexual behaviors. After controlling for age and current relationship status, the results reveal that while women have more positive attitudes toward solitary sexual behaviors and erotic material than men, men have more positive attitudes toward unconventional and online sexual behaviors than women. Bisexual people have more positive attitudes toward frequent dyadic sexual behaviors with casual partners than homosexual people. Finally, bisexual and homosexual people have more positive attitudes towards solitary sexual behaviors and erotic material, unconventional sexual behaviors, and online sexual behaviors than heterosexuals. It is concluded that gender and sexual orientation are related to attitudes toward different types of sexual behaviors.

Keywords Gender · Sexual orientation · Attitudes toward sexual behaviors · Solitary sexual behaviors · Erotic material · Unconventional sexual behaviors · Online sexual behaviors

Introduction

Attitude can be defined as a psychological tendency expressed by evaluating an entity or attitudinal object as being favorable or unfavorable to a certain degree (Eagly & Chaiken, 2007). Numerous studies have evaluated sexual attitudes, using different concepts such as sexual permissiveness, sexual conservatism-liberalism, and erotophobia-erotophilia (Blanc & Rojas, 2017). The main reason sexual attitudes have received so much attention is their relationship with sexual health (e.g., Carvalho et al., 2013; Sanders et al., 2006; Sierra et al., 2021) and sexual activity (e.g., Blanc et al., 2018b; Lemer et al., 2013). On the one hand, people with positive attitudes toward sexuality tend to report

better sexual functioning (e.g., Carvalho et al., 2013; Sierra et al., 2021) and are more likely to use condom (Sanders et al., 2006) than people with negative attitudes toward sexuality. On the other hand, people with positive attitudes toward sexuality engage in a greater variety of sexual behaviors (Blanc, 2021; Blanc et al., 2018b) and more frequently (Lemer et al., 2013) than people with negative attitudes toward sexuality. These studies have included people from the general population (Sierra et al., 2021), young adults (Blanc, 2021; Lemer et al., 2013), and people with sexual dysfunction (Carvalho et al., 2013). The study of sexual attitudes in young adults is of special relevance because they are the most sexually active (Liu et al., 2015).

Because of the role of the social and cultural context in sexuality—specifically in sexual attitudes—numerous studies have compared sexual attitudes between men and women (Oliver & Hyde, 1993; Petersen & Hyde, 2011). While some studies have found no differences in sexual attitudes (e.g., Dosch et al., 2016; García-Vega et al., 2017; Lawal, 2010; Wolf, 2012), others have found that men have

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more permissive/liberal/erotophilic sexual attitudes than women (e.g., Ojedokun & Balogun, 2008; Ojo, 2014; Scandurra et al., 2022; Sprecher, 2013; Swami et al., 2017; Zuo et al., 2012).

Theories that have attempted to explain the differences in sexuality between men and women include evolutionary theory (Buss, 1998), social structure theory (Eagly & Wood, 1999), and the cognitive theory of social learning (Bussey & Bandura, 1999). Evolutionary theory suggests that women and men use different strategies to maximize the number of genes they pass on (Buss, 1998). A prominent interpretation of this theory—as applied to sexuality—is the sexual strategy theory (Petersen & Hyde, 2010). This theory holds that because women possess a time limit to bearing and caring for children, they focus on ensuring their children’s survival by selectively choosing mates who will provide resources for their families. However, because men have an unlimited reproductive capacity, they desire a higher number of sexual partners to maximize the likelihood of transmitting their genes (Buss, 1998). Social structure theory (Eagly & Wood, 1999) holds that sexuality differences between men and women are due to power inequalities, expecting that there will be fewer differences in the sexual behaviors of men and women in more egalitarian societies (Petersen & Hyde, 2010). On the other hand, the cognitive theory of social learning (Bussey & Bandura, 1999) suggests that these differences exist because, in certain societies, people observe different behaviors associated with each gender. As a result, they are reinforced or punished when they engage in certain behaviors. Generally, men have been reinforced for seeking and engaging in sexual activity, while for women such activities are restricted to relationships based on love and commitment (Sprecher et al., 1997). These theories could explain the different reasons men and women have sex, as reported in some studies (e.g., Mavrikiou et al., 2017). While women have more emotional reasons for having sex, claiming to be in love on their first sexual encounter, men seek more physical pleasure.

Most studies that have analyzed differences between men and women in sexual attitudes have focused on heterosexual individuals (e.g., Dosch et al., 2016; Sierra et al., 2021) or have not controlled for sexual orientation (e.g., Ojo, 2014; Shah et al., 2020). Recent studies conducted in United States (Lentz & Zaikman, 2021; Leri & DelPriore, 2021) and Portugal (Silva et al., 2021) examining the effect of sexual orientation on sexual attitudes in women from the general population and young adults show that non-heterosexual women have more permissive sexual attitudes than heterosexual women. However, in Italy Scandurra et al. (2022) explored the link between sexual orientation and sexual attitudes in men and women aged over 50 years and found no statistically significant relationship. In contrast,

other studies in United States (Grollman, 2017; Nurius, 1983) and England (Swami et al., 2017) with both men and women samples found that non-heterosexuals have more liberal/erotophilic sexual attitudes than heterosexuals.

Various hypotheses have also been proposed to explain differences in sexual attitudes according to sexual orientation, mating costs, mating opportunities, and differential psychosocial stress (Leri & DelPriore, 2021). According to the differential mating costs hypothesis, homosexual women should have more permissive sexual attitudes than heterosexual women because their potential biological costs are lower. The sexual attitudes of bisexual women should be more permissive than those of heterosexual women and less of homosexual women because some of their encounters are with men (high cost) and others with women (low cost). According to the differential mating opportunities hypothesis, homosexual women should have more permissive sexual attitudes because they have fewer mating opportunities. The sexual attitudes of heterosexual women should be more permissive than those of bisexual women and less permissive than homosexual women. Finally, according to the differential psychosocial stress hypothesis, non-heterosexual women should have more permissive sexual attitudes than heterosexual women because they experience more psychosocial stress (because of their sexual orientation) due to problems such as harassment, discrimination, and violence (Hatzenbuehler, 2009).

Much of the research related to the relationship between gender, sexual orientation and sexual attitudes has focused on measures of general sexual attitudes, such as the Sexual Opinion Survey that measures the erotophobia-erotophilia construct (e.g., García-Vega et al., 2017; Swami et al., 2017). However, if we measure attitudes with the goal of predicting behaviors, a measure focused on attitudes toward specific contextualized sexual behaviors is more appropriate than one of sexual attitudes in general (Blanc et al., 2018b). It has been shown that the relationship between attitude and behavior is stronger when the measures are matched in terms of object, context, and time (Glasman & Albarracín, 2006; Kraus, 1995). In addition, in a recent study in Spain, Sierra et al. (2021) found that a measure of attitudes toward a specific behavior has a stronger relationship with sexual health than a measure of general sexual attitudes, such as the Sexual Opinion Survey.

Studies in the literature have reported in young adults that gender and sexual orientation are related to measures of attitudes toward sex in different contexts, such as casual sex. For example, in United States men have been found to have more favorable attitudes toward casual sex than women (England & Bearak, 2014), and women with a non-exclusively heterosexual orientation have more positive attitudes than women with an exclusively heterosexual

orientation (Zhana & Ritch, 2010). Along these lines, Currin et al. (2016), in a study of people from the general population who identified with a heterosexual orientation, found that those attracted to people of the same sex were more open to casual sex than those who indicated a lack of attraction to people of the same sex. Consistent with these studies, in Hungary Keresztes et al. (2020) conducted a cluster analysis and found in young adults that the “Conservative” group (with more conservative attitudes toward casual sex) included more women and heterosexual individuals.

On the other hand, some studies conducted in different countries (United States, Canada, China, Spain, and Norway) and age groups (adolescent, young, adult young, and general population) have explored the link between gender and/or sexual orientation and measures of attitudes toward more specific sexual behaviors. For example, while some studies have found no relationship between gender and attitude toward masturbation (e.g., Driemeyer et al., 2017), others have found that men have more positive attitudes than women (e.g., Wang et al., 2007). Homosexual people have also been found to have more positive attitudes toward masturbation than heterosexual people (Cowden & Koch, 1995). Similarly, previous studies have shown that men have more positive attitudes toward sexual fantasies (Sierra et al., 2020, 2021), pornography use (Træen et al., 2004), engaging in threesomes (Thompson & Byers, 2017; Thompson et al., 2021), and online sexual behaviors (Byers & Shaughnessy, 2014; Samimi & Alderson, 2014) than women. Likewise, non-heterosexuals have been found to have more positive attitudes toward threesomes (Thompson et al., 2021) and various types of online sexual activities (Byers & Shaughnessy, 2014) than heterosexuals.

Although some studies relate gender and/or sexual orientation to measures of attitudes toward sex in different contexts (e.g., casual sex) or to measures of attitudes toward more specific sexual behaviors (e.g., masturbation), relatively few have studied the relationship between these variables and measures of attitudes toward specific sexual behaviors in different contexts. One exception is the development of the Attitudes Toward Sexual Behaviors Scale (Blanc et al., 2020). The Attitudes Toward Sexual Behaviors Scale was developed in Spain (Blanc et al., 2018b) but was adapted to English and applied in other countries such as Canada (Blanc et al., 2018a) and the United States (Blanc & Rojas, 2020). This scale measures attitudes toward specific sexual behaviors in different contexts, including frequent dyadic sexual behaviors with a steady partner, frequent dyadic sexual behaviors with a casual partner, solitary sexual behaviors (when a person has a partner and does not have a partner), use of erotic material, unconventional sexual behaviors, and online sexual behaviors (Blanc et al., 2020). In addition, it has a greater capacity to predict

sexual behaviors than the Sexual Opinion Survey (Blanc et al., 2018b). Studies that have investigated the relationship between scores on this scale and gender have found that the overall scale scores are higher in men than women (Blanc, 2021; Blanc & Rojas, 2020; Blanc et al., 2018b). However, most studies have focused on heterosexual individuals and have not differentiated between the various subscales (types of sexual behavior).

Objective and hypothesis

Given the above, the present study aimed to analyze whether gender and sexual orientation are related to attitudes towards specific contextualized sexual behaviors in Spain. The behaviors of interest are frequent dyadic sexual behaviors with a steady partner, frequent dyadic sexual behaviors with a casual partner, solitary sexual behaviors and the use of erotic material, unconventional sexual behaviors, and online sexual behaviors. According to previous studies, it is expected that:

Hypothesis 1 Women have more positive attitudes towards frequent dyadic sexual behavior with a stable partner than men (Mavrikiou et al., 2017).

Hypothesis 2 Men have more positive attitudes toward unconventional sexual behaviors (Thompson & Byers, 2017; Thompson et al., 2021) and online sexual behaviors (Byers & Shaughnessy, 2014; Samimi & Alderson, 2014) than women.

Hypothesis 3 Non-heterosexuals have more positive attitudes towards solitary sexual behaviors and the use of erotic material (Cowden & Koch, 1995), unconventional sexual behaviors (Thompson et al., 2021), and online sexual behaviors (Byers & Shaughnessy, 2014) than heterosexuals.

Method

Participants

The sample consisted of 1725 participants aged between 18 and 35 years ($M=22.83$; $SD=3.65$). 44% were men ($n=762$), and 55.8% were women ($n=963$). A total of 60.9% had completed vocational training or high school ($n=1050$), 30.0% had completed university studies ($n=533$), 7.2% had completed compulsory secondary education ($n=124$), and 1.0% had no studies or had completed primary education ($n=18$). At the time of the study, 49.4% had a steady partner ($n=853$) and 50.6% did not have a steady partner ($n=872$).

Table 1 Reliability estimated by Cronbach's alpha coefficient for the different gender and sexual orientation groups and the total sample

	Women	Men	Heterosexual	Homosexual	Bisexual	Total
Frequent dyadic sexual behaviors with a steady partner	0.96	0.95	0.96	0.84	0.98	0.95
Frequent dyadic sexual behaviors with a casual partner	0.92	0.90	0.92	0.82	0.91	0.91
Solitary sexual behaviors and erotic material	0.87	0.88	0.88	0.84	0.83	0.87
Unconventional sexual behaviors	0.84	0.80	0.85	0.80	0.82	0.83
Online sexual behaviors	0.87	0.87	0.87	0.88	0.88	0.87

In addition, 72.3% identified with a heterosexual orientation ($n = 1248$), 17.5% with a bisexual orientation ($n = 302$), and 10.1% with a homosexual orientation ($n = 175$).

Measures

Sociodemographic variables. Gender, age, educational level, current relationship status, and sexual orientation.

The scale of Attitudes toward Sexual Behaviors (Blanc et al., 2020). This instrument measures attitudes towards specific sexual behaviors in different contexts. It consists of 22 items and five subscales for attitudes toward sexual behaviors.

The subscales are attitudes toward frequent dyadic sexual behaviors with a steady partner (4 items; e.g., *caressing/touching any intimate part of the body of a steady partner*), attitudes toward frequent dyadic sexual behaviors with a casual partner (4 items; e.g., *oral sex with a casual partner*), attitudes toward solitary sexual behaviors and use of erotic material (6 items; e.g., *watching erotic movies [for example, showing sexual activities]*), attitudes toward unconventional sexual behaviors (4 items; e.g., *sexual activity with a group of persons at the same time [orgy or group sex]*), and attitudes toward online sexual behaviors (4 items; *sex over the internet [cybersex] with a casual partner*). The subscales have a Likert-type format with five response options from 1 (*very negative*) to 5 (*very positive*). The total score on the subscales is obtained by summing all the items and can range from 4 to 20, except for the 6-item subscale, which can range from 6 to 30. The higher the score, the more positive the attitudes towards sexual behaviors. The reliability estimated by Cronbach's alpha coefficient for the different gender and sexual orientation groups and the total sample are shown in Table 1.

Procedure

The questionnaire was developed using Google Forms. The link to the questionnaire was disseminated through social networks. Specifically, the information about the study was disseminated to students from different universities in Spain so that they could spread it on their social networks. University students were encouraged to share the information and link to participate in the study through Instagram,

Facebook, as well as WhatsApp. University students were given the information both in the classroom and via email. At the outset, we provided a description of the objective of the research, and emphasized that the data would be treated globally, with responses being completely anonymous. In addition, the risks derived from participation in the study were reported and an email address was included for any questions or information about the study. The participants were required to give their informed consent online before taking part in the study. The questionnaire took approximately 10 min to complete and the administration was conducted from November 2021 to March 2022. The study was approved by the bioethics committee of the Junta de Andalucía (registration code: 2391-N-21).

Data analysis

First, correlations between age and the different subscales were examined using Pearson's Correlation Coefficient (r). In addition, the mean scores of the subscales according to current relationship status (with and without a steady partner) were compared using Student's t statistic and the effect size was calculated using Cohen's d . The descriptive statistics (M and SD) of the scores obtained on the different subscales according to gender and sexual orientation were also analyzed. Then, to test for statistically significant differences in attitudes towards sexual behaviors according to gender and sexual orientation, separate two-factor MANOVAs were conducted. For each MANOVA, a subscale was included as a dependent variable and gender and sexual orientation as independent variables. Moreover, age and current relationship status were included as a covariate in the analyses. The effect size was calculated using partial eta squared (η^2_p). When there was an effect of sexual orientation on the dependent variable, post-hoc analyses (multiple comparisons) were conducted using the Bonferroni statistic to test for differences between groups. When there was an interaction effect, simple effects analyses were carried out. All data analyses were conducted using the SPSS version 25 statistical software.

Table 2 Correlations between age and the different subscales

	2	3	4	5	6
1. Age	-0.060*	-0.032	-0.019	0.004	0.068**
2. Frequent dyadic sexual behaviors with a steady partner	-	0.526**	0.486**	0.267**	0.264**
3. Frequent dyadic sexual behaviors with a casual partner	-	-	0.468**	0.483**	0.390**
4. Solitary sexual behaviors and erotic material	-	-	-	0.473**	0.347**
5. Unconventional sexual behaviors	-	-	-	-	0.431**
6. Online sexual behaviors	-	-	-	-	-

* $p < .05$; ** $p < .01$ **Table 3** Descriptive statistics of the scores for the five subscales according to current relationship status and comparison of the mean scores

	With a steady partner	Without a steady partner	Comparison of the mean scores	
	M (SD)	M (SD)	<i>t</i>	Cohen's <i>d</i>
Frequent dyadic sexual behaviors with a steady partner	18.76 (2.43)	18.47 (2.58)	-2.39*	0.12
Frequent dyadic sexual behaviors with a casual partner	15.82 (3.44)	16.47 (3.20)	4.10**	0.20
Solitary sexual behavior and erotic material	24.76 (4.48)	24.68 (4.50)	-0.38	
Unconventional sexual behaviors	13.28 (3.56)	13.82 (3.46)	3.20*	0.15
Online sexual behaviors	11.89 (4.20)	12.02 (4.49)	0.54	

* $p < .05$; ** $p < .001$ **Table 4** Descriptive statistics of the scores for the five subscales according to gender and sexual orientation

	Gender	Heterosexual	Homosexual	Bisexual	Total
		M (SD)	M (SD)	M (SD)	M (SD)
Frequent dyadic sexual behaviors with a steady partner	Women	18.65 (2.40)	19.11 (1.81)	18.87 (1.19)	18.74 (2.31)
	Men	18.57 (2.68)	17.94 (2.72)	18.29 (3.09)	18.46 (2.73)
	Total	18.61 (2.54)	18.38 (2.48)	18.75 (2.40)	
Frequent dyadic sexual behaviors with a casual partner	Women	15.69 (3.49)	15.97 (2.98)	16.64 (3.00)	15.94 (3.37)
	Men	16.48 (3.27)	15.74 (3.19)	16.89 (3.27)	16.41 (3.28)
	Total	16.06 (3.41)	15.83 (3.10)	16.70 (3.08)	
Solitary sexual behavior and erotic material	Women	24.72 (4.54)	25.89 (4.48)	26.00 (3.70)	25.11 (4.38)
	Men	23.89 (4.60)	25.69 (4.00)	24.72 (4.83)	24.22 (4.83)
	Total	24.33 (4.58)	25.77 (4.18)	25.73 (4.00)	
Unconventional sexual behaviors	Women	12.36 (3.46)	13.39 (3.91)	14.16 (3.44)	12.87 (3.57)
	Men	14.08 (3.28)	15.76 (2.73)	15.34 (3.09)	14.43 (3.25)
	Total	13.17 (3.48)	14.83 (3.43)	14.41 (3.40)	
Online sexual behaviors	Women	10.67 (4.15)	12.41 (4.34)	12.49 (4.10)	11.24 (4.23)
	Men	12.51 (4.25)	14.06 (4.36)	13.98 (4.39)	12.85 (4.32)
	Total	11.53 (4.30)	13.43 (4.41)	12.81 (4.20)	

Results

The Table 2 shows the correlations between age and the different subscales. Table 3 shows the descriptive statistics (M and SD) of the scores for the five subscales according to current relationship status and comparison of the mean scores. The results show statistically significant differences in attitudes toward frequent dyadic sexual behaviors with a steady partner, in attitudes toward frequent dyadic sexual behaviors with a casual partner, and in attitudes toward online sexual behaviors. As shown in Table 3, people with steady partner have more positive attitudes toward frequent dyadic sexual behaviors with a steady partner than people without steady partner. However, people without steady

partner have more positive attitudes toward frequent dyadic sexual behaviors with a casual partner and toward unconventional sexual behaviors than people with steady partner. Although the significant relationships found were small, the effect of current relationship status, and age were controlled by including them as covariates in the analyses.

Table 4 shows the descriptive statistics (M and SD) of the scores for the five subscales according to gender and sexual orientation. For the attitudes toward frequent dyadic sexual behaviors with a steady partner, the results revealed an interaction between gender and sexual orientation ($F_{(2,1717)}=3.855$, $p=.021$, $\eta^2_p=0.004$). Analyses of the simple effects revealed statistically significant differences only between homosexual women and homosexual men ($p=.004$). As shown in Table 4, homosexual women

have more positive attitudes toward frequent dyadic sexual behaviors with a steady partner than homosexual men.

For the attitudes toward frequent dyadic sexual behaviors with a casual partner, the results revealed an effect of sexual orientation ($F_{(2,1717)}=3.493, p=.031, \eta^2_p=0.003$). However, there was no gender effect ($F_{(1,1717)}=0.528, p=.468$) and no interaction between these two variables ($F_{(2,1717)}=2.439, p=.088$). Multiple *a posteriori* comparisons revealed differences between homosexual and bisexual individuals ($p=.048$). As shown in Table 4, bisexuals have more positive attitudes toward frequent dyadic sexual behaviors with a casual partner than homosexuals. However, there are no differences in attitudes toward these behaviors between heterosexuals and homosexuals ($p>.999$) or between heterosexuals and bisexuals ($p=.057$).

For the attitudes toward solitary sexual behaviors and use of erotic material, the results show an effect of gender ($F_{(1,1717)}=5.438, p=.030, \eta^2_p=0.003$) and sexual orientation ($F_{(2,1717)}=11.723, p<.001, \eta^2_p=0.013$), but no significant interaction between these variables ($F_{(2,1717)}=0.656, p=.519$). Table 4 shows that women have more positive attitudes toward solitary sexual behaviors and erotic material than men. Multiple *a posteriori* comparisons also revealed differences between heterosexuals and homosexuals ($p<.001$) and between heterosexuals and bisexuals ($p=.005$). Homosexuals and bisexuals have more positive attitudes toward solitary sexual behaviors and use of erotic material than heterosexuals. Finally, no differences in attitudes towards these behaviors were found between homosexuals and bisexuals ($p>.999$).

For the attitudes toward unconventional sexual behaviors, the results also show an effect of gender ($F_{(1,1717)}=50.234, p<.001, \eta^2_p=0.028$) and sexual orientation ($F_{(2,1717)}=24.839, p<.001, \eta^2_p=0.028$), with no interaction between these variables ($F_{(2,1717)}=1.767, p=.171$). Table 4 shows that men have more positive attitudes toward unconventional sexual behaviors than women. Multiple *a posteriori* comparisons also showed differences between heterosexuals and homosexuals ($p<.001$) and between heterosexuals and bisexuals ($p<.001$). Homosexuals and bisexuals have more positive attitudes toward unconventional sexual behaviors than heterosexuals, while no differences in attitudes were found between homosexuals and bisexuals ($p>.999$).

For the attitudes toward online sexual behaviors, the results indicate an effect of gender ($F_{(1,1717)}=28.595, p<.001, \eta^2_p=0.016$) and sexual orientation ($F_{(2,1717)}=22.582, p<.001, \eta^2_p=0.026$), with no interaction between these variables ($F_{(2,1717)}=0.143, p=.867$). Table 4 shows that men have more positive attitudes toward online sexual behaviors than women. Multiple *a posteriori* comparisons also show differences between heterosexuals and

homosexuals ($p<.001$) and between heterosexuals and bisexuals ($p<.001$). Homosexuals and bisexuals have more positive attitudes toward unconventional sexual behaviors than heterosexuals. Finally, homosexuals and bisexuals did not differ in their attitudes toward these behaviors ($p>.999$).

Discussion

Most studies concerned with the relationship between gender and sexual attitudes have focused on people with a heterosexual orientation (e.g., Dosch et al., 2016; Sierra et al., 2021) or have not controlled for sexual orientation (e.g., Ojo, 2014; Shah et al., 2020). In addition, many have used measures of general sexual attitudes (e.g., García-Vega et al., 2017; Swami et al., 2017), which have more difficulty in predicting sexual behaviors (Blanc et al., 2018b) and sexual health (Sierra et al., 2021) than measures of attitudes toward specific sexual behaviors. While recent studies (Blanc, 2021; Blanc & Rojas, 2020; Blanc et al., 2018b) have examined the association between gender and scores obtained on a measure of attitudes toward specific contextualized sexual behaviors, these studies have focused on heterosexual individuals and did not distinguish between different types of sexual behaviors. Therefore, the present study aimed to analyze whether gender and sexual orientation are related to attitudes toward specific contextualized sexual behaviors in Spain. These behaviors were frequent dyadic sexual behaviors with a steady partner, frequent dyadic sexual behaviors with a casual partner, solitary sexual behaviors and use of erotic material, unconventional sexual behaviors, and online sexual behaviors.

First, as expected (Hypothesis 1), and in accord with other studies (Mavrikiou et al., 2017), homosexual women have more positive attitudes toward frequent dyadic sexual behaviors with a steady partner than homosexual men. This result is consistent with theories that attempt to explain the differences between men and women sexuality (e.g., cognitive theory) and with the results of studies showing the different reasons why women have sex (e.g., Mavrikiou et al., 2017). Women have been reinforced for limiting sexual activity to relationships based on love and commitment (Sprecher et al., 1997) and, therefore, may value sexual behaviors with stable partners more positively than men. In addition, women have more emotional reasons for having sex than men (Mavrikiou et al., 2017), and emotions such as love are stronger in stable relationships than in casual relationships. This result also supports the notion that women more frequently engage in romantic behaviors than men (García-Vega et al., 2005). However, contrary to our expectations (Hypothesis 1), no differences were found between heterosexual and bisexual women and men in attitudes

toward frequent dyadic sexual behaviors with a steady partner. Nor were differences found between women and men in attitudes toward frequent dyadic sexual behaviors with a casual partner. These results indicate that, in general, there are no differences between men and women in attitudes toward frequent dyadic sexual behaviors with a partner (e.g., fondling, vaginal intercourse, or oral sex).

Regarding attitudes toward solitary sexual behaviors (masturbation and sexual fantasies) and use of erotic material, it has been found that women have more positive attitudes than men. These results are inconsistent with those reported in other studies where no differences in attitudes toward masturbation were found between men and women (Abramson et al., 1981; Driemeyer et al., 2017; Kelley et al., 1997; Sümer, 2013) or in those studies where men were found to have more positive attitudes towards masturbation (Sümer, 2015; Wang et al., 2007), sexual fantasies (Santos-Iglesias et al., 2013; Sierra et al., 2021), or pornography use (Træen et al., 2004) than women.

On the other hand, as expected (Hypothesis 2), and in line with other studies (Byers & Shaughnessy, 2014; Samimi & Alderson, 2014; Thompson & Byers, 2017; Thompson et al., 2021), men have more positive attitudes toward unconventional sexual behaviors such as threesomes and group sex and online sexual behaviors such as sexting and cybersex than women. These results are also compatible with theories that attempt to explain the differences between men and women (e.g., evolutionary theory) and the results of studies showing the different reasons men have sex (e.g., Mavrikiou et al., 2017). The reproductive capacity of men is not limited (Buss, 1998), and men have been reinforced for seeking and engaging in sexual activity (Sprecher et al., 1997). Therefore, they may value more positively unconventional sexual behaviors such as threesomes or group sex.

Online sexual behaviors, such as cybersex, are also an easy and quick way to have a lot of sex. For this reason, men may have rated such behaviors more positively than women. Previous studies have also found that men have more positive attitudes toward a partnered-arousal online sexual activity (Byers & Shaughnessy, 2014) or, more specifically, more positive attitudes toward sexting (Samimi & Alderson, 2014) than women. These results could explain why men have more sexual partners and engage in more online sexual behaviors than women (Shaughnessy et al., 2011) and are also consistent with the observation that men engage in more cybersex with strangers compared with women (Shaughnessy & Byers, 2014).

Concerning attitudes toward frequent dyadic sexual behaviors with a casual partner, it has been found that bisexual people have more positive attitudes than homosexuals. These results are consistent with those found in other studies where bisexual women have more sexual partners than

homosexual (Jankowiak & Escasa-Dorne, 2016). However, unlike other studies (e.g., Leri & DelPriore, 2021), no differences were found between homosexuals and heterosexuals or between bisexuals and heterosexuals. The discrepancies between these findings and those of other studies could be due to the measures employed.

On the other hand, as expected (Hypothesis 3) and in accord with other studies (Byers & Shaughnessy, 2014; Cowden & Koch, 1995; Thompson et al., 2021), non-heterosexuals—both homosexuals and bisexuals—have more positive attitudes toward solitary sexual behaviors, erotic material, and non-conventional and online sexual activities than heterosexuals. These results are consistent with the differential psychosocial stress hypothesis, which proposes that non-heterosexual women should have more permissive sexual attitudes than their heterosexual counterparts because they experience more psychosocial stress (Leri & DelPriore, 2021). The findings are also consistent with homosexuals having more positive attitudes toward masturbation (Cowden & Koch, 1995) and non-heterosexuals having more positive attitudes toward threesomes (Thompson et al., 2021) than heterosexuals. Furthermore, these results are in line with the observations of Byers and Shaughnessy (2014), who reported that non-heterosexual people had more positive attitudes toward various types of online sexual activities than heterosexual people. These results might also explain why non-heterosexual people engage in more threesome (Thompson et al., 2021) and online sexual behaviors such as sexting (Gámez-Guadix et al., 2017) than heterosexual people. In particular, non-heterosexual people may value online sexual behaviors more positively because they have more difficulty expressing their sexuality, and the Internet provides an avenue for interacting with others without fear of negative social consequences, such as rejection (Brown et al., 2005). In addition, the number of potential sexual partners for homosexual people is also more limited and they experience more difficulties finding a partner, and online sexual activity offers the possibility of accessing sex quickly.

The results of the current study cannot be compared with those of previous studies using the scale of attitudes toward sexual behaviors (Blanc, 2021; Blanc & Rojas, 2020; Blanc et al., 2018b). This is because those focused on the total scale score (they have not differentiated between the subscale scores) and all or the most of the participants were heterosexual.

Limitations

The current study has certain limitations that must be considered when interpreting the results. The first limitation to note is that participants needed to have social networks and

have email address to access the online questionnaire. This could have led to a sampling bias, since not all people have these resources and access to internet. Another limitation is that the sample was not randomly selected. Both limitations mean that the generalization of some of the results obtained should be made with some caution. The type of research carried out (quantitative), where software is used to analyze the data globally and statistically, has also some limitations. For example, it does not allow for an individual understanding of why people have these attitudes toward sexual behaviors. Therefore, in future studies it would be highly relevant to carry out qualitative studies to understand the attitudes of people toward sexual behaviors. In this type of studies, where the required sample is smaller, people who identify with other genders (e.g., fluid gender) and other sexual orientations (e.g., pansexuality or asexuality) could be included.

Conclusion

Despite the limitations, this study shows that both gender and sexual orientation are related to attitudes toward different types of sexual behaviors. On the one hand, gender is related to attitudes towards frequent dyadic sexual behaviors with a stable partner (in homosexuals), solitary sexual behaviors and erotic material, unconventional sexual behaviors, and online sexual behaviors. While homosexual women value frequent dyadic sexual behaviors with steady partners more positively than homosexual men and women generally value solitary sexual behaviors and erotic material more positively than men, men rate unconventional sexual behaviors and online sexual behaviors more positively than women.

Sexual orientation is also related to attitudes toward frequent dyadic sexual behaviors with casual partners, solitary sexual behaviors and erotic material, unconventional sexual behaviors, and online sexual behaviors. Bisexual people rate frequent dyadic sexual behaviors with casual partners more positively than homosexual persons. Finally, non-heterosexuals (both homosexuals and bisexuals) rate solitary sexual behaviors and erotic material, unconventional sexual behaviors, and online sexual activities more positively than heterosexuals.

These results suggest that while women show favorable attitudes towards certain sexual behaviors, men have more positive attitudes to other behaviors. The results also show that, in general, non-heterosexuals have positive attitudes toward a greater number of sexual behaviors than heterosexuals. The results of the present study could be useful for predicting specific sexual behaviors in people of different genders and sexual orientations, and for the design of

sexual prevention and intervention programs. According to the results of this study, it would be expected that women engage in more solitary sexual behaviors than men, while men engage in more unconventional and online sexual behaviors than women. Furthermore, it would be expected that non-heterosexual people engage in more solitary, unconventional, and online sexual behaviors than heterosexual people. Finally, in the same way that has been examined in previous studies with heterosexual people (e.g., Sierra et al., 2021), in future studies it will be important to explore the relationship between attitudes toward sexual behaviors and sexual functioning among sexual minority.

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Data Availability The database is available at <https://osf.io/zxb4p>.

Disclosure statement

Competing interests No potential competing interest was reported by the author.

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