

RESEARCH ARTICLE

Behavioral intention to have risky sex in young men and women: The role of sexual excitation and assertiveness

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Abstract

Due to the complex role of sexual excitation in risky sexual behaviors, this study aimed to disentangle this phenomenon by jointly analyzing the combined role of three forms of sexual excitation: genital and subjective, and individual's propensity. Therefore, we examined the relationship between the components of the Dual Control Model, that is, propensity for sexual excitation/inhibition, in addition to genital and subjective arousal, and sexual assertiveness and intention to engage in casual sexual encounters in which sexual risk was implicitly or explicitly present. The sample consisted of 99 heterosexual young adults (55 men and 45 women) with ages ranging from 18 to 32 years. Participants performed an experiment in the laboratory, which involved them watching a sexual clip and then being presented with two erotic excerpts (stories) depicting casual sexual encounters in which there was an existence of implicit and explicit sexual risks. In men, the propensity for sexual inhibition was the most determining variable in preventing them from sexual risk-taking. In women, intention to engage in risky sexual behaviors was better determined by their propensity for sexual excitation and sexual assertiveness in negotiating the use of contraceptive methods. This research highlights the relevance of excitation and inhibition as a trait, in addition to subjective arousal and sexual assertiveness in intention to engage in risky sexual behaviors.

Introduction

The Dual Control Model of sexual response (DCM) proposes that the sexual excitation and inhibition systems present in each individual are essential for adequate sexual functioning, which is made possible by the balance and interaction between the two [1]. These two systems are relatively independent, and individuals differ in their propensity for sexual excitation and sexual inhibition [1–3]. Thus, it has been observed that high levels of sexual inhibition are associated with greater vulnerability to sexual dysfunctions, particularly when high sexual inhibition is paired with low levels of sexual excitation [2]. In contrast, low levels of sexual

inhibition are associated with a greater likelihood to engage in risky sexual behaviors, particularly when paired with high sexual excitation [4]. In this context, inhibition of the sexual response is considered a relevant adaptive mechanism for sexual risk-taking [5]. Individuals generally have a base level of inhibition that prevents a sexual response from taking place until the situation or sexual stimulus has been assessed as non-threatening [1–2,6]. As proposed by the DCM, in certain individuals, this adaptive mechanism might be absent, or the propensity for inhibition might be lower, implying a higher probability of getting involved in risky sexual situations [3,5]. If these individuals additionally show high propensity for excitation, a sexual response may develop even in presence of a threat [2], thus associating this scenario with risky sexual behaviors [3,5]. In general terms, although the presence of sexual excitation does imply lower risk control, it is sexual inhibition that effectively counteracts this effect [6].

Sexual activity provides individuals with positive reinforcements, but it also implies a cost in terms of risk [1,7]. In this regard, risky sexual behaviors (RSBs) increase the probability of experiencing negative consequences as a result of sexual activity [8], potentially affecting individuals' physical, mental, and social well-being [9]. Some examples of RSBs are the use of alcohol and/or drugs in sexual encounters [10–11], non-use of contraceptive methods, casual sex, and sex with multiple partners [12, 13]. Some of the physical consequences of these behaviors are sexually transmitted infections (STIs) [7,14], and unplanned pregnancies [15]. More than one million individuals, worldwide, contract STIs every day, and unplanned pregnancies are also common. This leads to significant effects on health and quality of life [14, 16]. Definitions of sexual risk behaviors also include both psychological and social well-being. Therefore, some of their negative consequences are feelings of fear [17,18], guilt [18], regret [19], and stigma [17, 20]. Despite our knowledge about RSBs and their negative consequences, prevalence among youngsters is still high [21]. This may be explained by their low perception of risk [22]. Therefore, the lack of concordance between knowledge and attitudes toward health and taking risks in sexual interactions is shown [22,23]. Other authors attribute risky behaviors to lack of profound knowledge about (de)protection and its negative consequences [24], near-fatalistic expectations for the future [25], lack of sexual health education and the need to strengthen social support networks [26], lack of social/communicative abilities, such as sexual assertiveness [27], higher levels of sexual sensation seeking [28,29], and also sexual decision-making [30], among others.

Due to the consequences and implications of RSBs in several sexual health aspects, some studies have addressed the factors associated with some indicators of RSBs. A research line that derived from the DCM, which was mostly based on a cross-sectional methodology, has explored the role that sexual excitation/inhibition plays in the performance of risky behaviors by both men and women. Janssen et al. [31] demonstrated that, in heterosexual men, the propensity for sexual excitation (SES) positively predicted the number of sexual partners in the past year, whereas inhibition, due to the threat of performance consequences (SIS2), negatively predicted the number of sexual partners with whom no condoms were used in the past three years. Similar results were later obtained by Bancroft et al. [32] and Peterson et al. [33], who additionally demonstrated that sexual inhibition, due to the threat of performance failure (SIS1), positively predicted the number of lifetime occasional sexual partners and sexual encounters without a condom in the past year. In homosexual men, SES and SIS1 positively predicted the number of casual sexual partners, whereas SIS2 negatively predicted it [4]. In addition, SIS2 negatively predicted the frequency of unprotected anal and oral sex [4,34]. SES was higher in the high sexual risk group in both homosexual and heterosexual men [7].

The relationship between the dimensions of the DCM and RSBs has also been explored in women using the Sexual Excitation/Sexual Inhibition Inventory for Women (SESII-W) [35], and the Sexual Excitation/Sexual Inhibition Inventory for Women and Men (SESII-W/M)

[36]. The number of sexual partners and sexual risk-taking have been found to be positively predicted by SE and negatively predicted by SI [37–39]. Likewise, higher levels of SE have been associated with inconsistent or nonexistent condom use, along with engaging in sexual contact under the influence of alcohol or drugs [40]. SIS2 has also been negatively associated with intention to engage in sexual contact with men who have had more than ten sexual partners with no condom use [41].

One of the variables that have been associated with RSBs is sexual assertiveness [27], that is, the ability of individuals to initiate sexual contact, reject undesired sexual contact, and negotiate the use of contraceptives [42]. This has been related to the number of sexual partners [43] and condom use [44–45]. Although the relationship between sexual assertiveness and sexual excitation has been reported in previous research [46], the study of their joint role in sexual risk-taking has not been thoroughly addressed.

Traditional gender roles have also been associated with RSBs. Indeed, men tend to show more active sexual behaviors (i.e., courtship, take the initiative for a sexual encounter, dominant, etc.), while women tend to perform a more passive role (i.e., sensitive, romantic or submissive, etc.) [47,48]. Moreover, men often report more RSBs than women [47–49].

Sexual arousal has been conceptualized as a complex phenomenon that involves multiple response systems with physiological, psychological (cognitive and affective) and behavioral components [e.g., 2,3,50,51–53]. In his review, Janssen [54] defined sexual arousal as “an emotional/motivational state that can be triggered by internal and external stimuli and that can be inferred from central (including verbal), peripheral (including genital), and behavioral (including action tendencies and motor preparation) responses” (p. 710). Subjective sexual arousal is better defined by cognitive processes as an individual’s experience or feeling, which is related to the affective and cognitive evaluation of sexual excitation [55]. Genital sexual arousal is the most frequent sexual response associated with it [56]. According to Chivers et al. [57], the most common way of measuring sexual arousal has been through self-reported measures (e.g., items answered by Likert-type scales, scales, inventories or mobile lever), and sexual arousal, specifically, has been measured by phallometry, vaginometry and thermography. There is debate about which measure is more appropriate to better register sexual arousal, as notable variation in female sexual concordance between these measures has been evidenced. Therefore, it is relevant to measure sexual arousal based on all these three forms: as a trait, genital and subjective.

The present laboratory study was conducted in order to gain further insight into the relationship between the components of the DCM and RSBs. The study had the following objectives: (a) to explore behavioral intention to engage in sexual contact in two contexts: one with implicit sexual risk and one with explicit sexual risk; (b) to analyze the relationship between the sexual inhibition/excitation patterns proposed by the DCM and the arousal experienced in a specific situation—genitally and subjectively— with the behavioral intention to engage in sexual contact; and (c) to analyze the role of sexual assertiveness regarding behavioral intention to engage in sex in both contexts.

The following hypotheses were developed:

- H1. A higher percentage of participants will decide to initiate a sexual encounter in a context with implicit sexual risk than in a context with explicit sexual risk. According to Becoña [58], decision-making processes take the consequences produced by an act into account, this act being rejected when it is assessed as disadvantaged.
- H2. According to previous research [12,37], greater propensity for sexual excitation has been associated with a greater number of sexual partners and casual encounters. We consider

that, in both contexts, participants with higher levels of sexual excitation -propensity, genital and/or subjective- will report a higher behavioral intention to engage in sexual contact.

- H3. In both contexts, participants with higher levels of sexual inhibition will report a lower behavioral intention to engage in sexual contact [31,37].
- H4. In both contexts, individuals with higher assertiveness to initiate sexual contact will report a higher behavioral intention to engage in such contact; in contrast, individuals with higher assertiveness to refuse unwanted sexual contacts and greater ability to negotiate the use of contraceptive methods will show a lower behavioral intention to engage in sexual behaviors [27].
- H5. Finally, gender differences will be observed. Therefore, in both contexts, men will show a higher intention to initiate a sexual encounter than women. This hypothesis is based on the traditional gender roles that still persist in our society, in which men are allowed to play a more sexually active role than women [59].

Previous research into the relationship between the DCM components and sexual assertiveness, and also into their potential joint influence on RSBs, is lacking. Therefore, the following hypotheses were tested to examine their possible interactions:

- H6. Higher SES and higher assertiveness to initiate sexual contact have been related to higher RSBs [12,27]. Therefore, a positive relationship between them is expected.
- H7. SIS has been negatively related to RSBs [4,12]. According to the DCM, SIS acts as a protective factor against this type of behavior [1–2,31,60]. Moreover, assertiveness to refuse unwanted sexual contacts and assertiveness to negotiate the use of contraceptive methods have been negatively related to RSBs [27]. Thus, a positive relationship between SIS and both dimensions of assertiveness is expected.

Materials and methods

Participants

The sample consisted of 99 heterosexual young adults from southern Spain (54 men, 45 women). Ages ranged from 18 to 30 years ($M = 20.93$, $SD = 2.42$) in men, and from 19 to 32 years ($M = 21.43$, $SD = 3.18$) in women. The age of first intercourse ranged from 15 to 20 years (men: $M = 16.98$, $SD = 1.41$; women: $M = 16.17$, $SD = 1.62$). All participants reported having had previous sexual intercourse. At the time of the study, 9.3% of the men and 21.4% of the women were in a relationship. The mean number of sexual partners was 5.60 ($SD = 5.84$) in men and 6.83 ($SD = 9.33$) in women.

The inclusion criteria were being aged between 18 and 35 years-old and having a heterosexual orientation. The exclusion criteria were having a psychological disorder, a sexual or a medical condition, and using medication (e.g., antidepressants, antihypertensives, antipsychotics), and/or drugs or alcohol that might interfere with sexual function.

Measures

Demographic and sexual history questionnaire. This questionnaire includes questions about age, education level and sexual orientation, measured by the Heterosexual–Homosexual Rating Scale [61], relationship status (0 = Not involved in a steady relationship, 1 = In a steady relationship), age of first sexual intercourse, and number of sexual partners. Questions were also raised about psychological, medical, or sexual problems, whether the participants were

receiving some type of treatment (medical and/or psychological), and the consumption of drugs and alcohol.

Sexual excitation and sexual inhibition. In men, the Spanish version of the Sexual Inhibition/Sexual Excitation Scales (SIS/SES) [31] by Granados et al. [62] was used to determine propensity for sexual inhibition/excitation. The SIS/SES consist of 34 items distributed into four scales: Sexual Excitation Scale (SES), Sexual Inhibition Scale 1 or Inhibition due to the threat of performance failure (SIS1), Sexual Inhibition Scale 2 or Inhibition due to the threat of risk of being caught while having sex (SIS2), and Sexual Inhibition Scale 3 or Inhibition due to the threat of performance consequences (SIS3). Higher scores indicate greater sexual excitation/inhibition. Reliability for the Spanish version, indicated by Cronbach's alpha values, was .87 for SES, .83 for SIS1, .68 for SIS2, and .49 for SIS3. In women, sexual excitation and sexual inhibition were assessed with the Spanish version of the SESII-W [35,37], which comprises 33 items distributed into eight subfactors—four grouped into SE and four grouped into SI. The reliability coefficients in previous Spanish samples have been adequate [37]. The Spanish version has adequate values of reliability for each component: .84 for SE and .76 for SI.

Sexual assertiveness. Sexual assertiveness was assessed with the Sexual Assertiveness Scale (SAS) [42,63]. This scale comprises 18 items grouped into three dimensions: Initiation ($\alpha = .85$), Refusal ($\alpha = .76$), and Pregnancy/Sexually Transmitted Disease (STD) prevention ($\alpha = .85$).

Subjective sexual arousal. Subjective sexual arousal was evaluated with the Spanish versions [64] of the Ratings of Sexual Arousal (RSA) and the Ratings of Genital Sensations (RGS), both included in the Multiple Indicators of Subjective Sexual Arousal [55]. The RSA estimates subjective sexual arousal using 5 items that are answered on a 7-point Likert scale (from 1 = no sexual arousal at all—to 7 = extremely sexually aroused). The RGS measures the level of genital sensations with an 11-item checklist scale (from 1 = no genital sensation—to 11 = multiple orgasm). The RSA showed an internal consistency reliability of .90, and its correlation with the RGS was .73 [63].

Genital sexual arousal. The genital response of men was measured with an indium-gallium strain gauge [65,66]. This device measures the changes in penile circumference when an erection is taking place. Vaginal photoplethysmography [67] was used to measure the genital response of women. This device measures vaginal pulse amplitude (VPA) [50,68]. The Biopac MP 150 system was used, with AcqKnowledge software for data acquisition and processing (BIOPAC Systems, Inc., Goleta, CA, USA). Each VPA signal was visually inspected and movement artefacts were removed. After this, peak-to-peak amplitudes were calculated. The genital sexual responses were standardized within participants to z-scores. Genital responses were defined in terms of differences between sexual and baseline stimuli.

Stimulus materials. As a baseline measure, two neutral content films (geographic documentaries) were used. Each one lasted for 3 minutes. Participants watched one of these neutral films before each sexual clip. Two sexual clips were used in the study, lasting for 3 minutes each and showing heterosexual couples having oral and vaginal sex [69–73]. After watching the sexual clip, participants were presented with one of two erotic excerpts (stories), describing a potential sexual encounter between the participant and an attractive partner. The stories were written in the second person so as to involve the participant in them, and their narrative evolved from a casual encounter to an imminent sexual encounter, similarly to those previously used in other research studies [74,75]. The *explicit sexual risk context* included a sexual risk situation in the form of lack of contraceptive methods whereas the *implicit sexual risk context* did not refer to the presence or absence of these methods. These sexual risk contexts were derived from previous research [see 50,74]; that is, casual sexual intercourse with no specific reference to any type of preventive method.

Behavioral intention to engage in sexual contact. In order to measure intention to engage in casual sexual contact, once participants had read the erotic excerpts (i.e., explicit sexually risky and implicit sexually risky contexts), they were asked to answer the following question: “In the situation that you have just read about, how would you behave? Please select only one option.” Response options were: 1) “I would take the initiative in order to have intercourse” (Initiate sex); 2) “I would wait for the other person to take the initiative and accept having intercourse” (Wait); and 3) “I would not continue with the sexual contact so as to avoid having intercourse” (Not continue).

Procedure

Pre-experimental instructions and initial procedures. The sample was obtained by convenience sampling. Participants were recruited using flyers, noticeboards and advertisements in social networks (i.e., Facebook). Individuals, who were willing to take part, were first required to complete a questionnaire to better determine if they met the inclusion criteria. Before arriving at the laboratory, volunteers were informed by e-mail and by telephone of the experimental procedure, the stimuli, the devices to be used, the purpose of the study, and what their participation consisted of. Eligible participants received study information by e-mail along with a copy of informed consent. Women were not evaluated during menstruation. In addition, they were asked to abstain from caffeine, alcohol, and sexual activity during the 24 hours prior to the experimental session to minimize possible physiological sources that might vary the responses [76]. Participants signed the informed consent in the laboratory. All volunteers were undergraduate students at the time the study was conducted.

Arrival at laboratory. Once at the laboratory, participants were shown the photoplethysmographs and were trained in their placement. They were also given the informed consent document to read and sign. Afterward, they answered the SIS/SES or SESII-W, and the SAS on a computer. The experimental sequence was carried out in a soundproof room under the same temperature, light and humidity conditions in all cases. After providing the explanation, the researcher left the room, and once alone, the participant fitted the photoplethysmograph. With the photoplethysmograph in place, the participant sat comfortably in front of a screen and remained on hold for a 5-minute adaptation period before the experiment began.

Sexual arousal induction and sexual-risk context. All participants were presented with two experimental sequences: (a) *implicit sexual risk context* (viewing the neutral and sexual films plus reading the implicit sexual risk erotic story) and (b) the *explicit sexual risk context* (viewing the neutral and sexual films plus reading the explicit sexually risky erotic story). These sequences were counterbalanced in order to control any possible effects of the order of presentation of the stimuli. At the end of each sequence, participants answered the subjective measures of sexual arousal (RSA and RGS) and selected one option depending on their intention to engage in sexual contact—initiate sexual contact, wait or not continue-. All instructions were given over the screen. Approximate participation time was 60 minutes. This study was approved by the Ethics Committee on Human Research of the University of Granada.

Data analysis

1) First, we conducted zero-order correlations among the evaluated variables. 2) In order to check sexual arousal induction after the sexual film, we calculated the difference in genital arousal between neutral and sexual visual stimulus through non-parametric tests for related samples using Wilcoxon’s test. 3) An assessment was made of participants’ behavioral intention by sexual risk context to which they had been exposed -implicit and explicit-. 4) A multivariate analysis of variance (MANOVA) was performed to determine whether there were

differences in intention to engage in sex—take the initiative, wait or not continue—, for both implicit and explicit sexual contexts in the following variables: sexual excitation—propensity for SES/SIS, genital and subjective arousal— and sexual assertiveness. These variables were considered independent variables and behavioral intention was considered the dependent variable, which was coded as: take the initiative = 1, wait = 2, and not continue = 3. Wilks' lambda (λ) was used to determine the existence of statistically significant differences in all dependent variables. Post-hoc comparisons were computed with the Bonferroni test. The partial eta squared (η^2) statistic was used to estimate effect size. 5) Following the procedure recommended by Pedhazur [77], hierarchical multiple regression analyses were conducted to evaluate the predictive role of propensity for sexual excitation and inhibition, and of sexual assertiveness, in behavioral intention to engage in casual sexual contact in both implicit and explicit sexual risk contexts. The mediating effect of subjective and genital sexual arousal was explored. The following regression models were tested in men and women in both contexts (i.e., implicit and explicit sexual risks) to determine the direct and mediating effects of the variables assessed:

- Model 1 explored the relationship between 1) SES, SIS1, SIS2, and SIS3 in men, SE and SI in women, and the three dimensions of sexual assertiveness (i.e., Initiation, Refusal, and Pregnancy/STD prevention), and 2) behavioral intention (i.e., take the initiative, wait, or not continue). The sexual excitation/inhibition variables were introduced in Block 1, and the three dimensions of sexual assertiveness were introduced in Block 2.
- Model 2 explored the relationship between sexual excitation/inhibition and sexual assertiveness on both genital and subjective sexual arousal (RSA and RGS).
- Model 3 explored the relationship between 1) both genital and subjective sexual arousal (RSA and RGS) and 2) behavioral intention.
- Model 4 analyzed the mediating effect of genital and subjective sexual arousal (RSA and RGS) in the relationship between propensity for sexual excitation/inhibition and sexual assertiveness (independent variables), and intention to engage in casual sexual contact (dependent variable).

All statistical analyses were performed by SPSS v.22.

Results

Zero-order correlations among the evaluated variables can be seen in Tables 1 and 2 for men and women, respectively. For the implicit sexual risk context, behavioral intention to have sex was unrelated to any of the sexual-related variables in men, while in women, greater intention to initiate sex was related to both propensity for SES and subjective arousal. For the explicit sexual risk context, SIS2 and SAS-P/STD were positively correlated with more secure sexual behavior in men, while in women, more propensity for SE correlated with greater behavioral intention to have sex, while SI and SAS-P/STD correlated with more secure behavior. Surprisingly, more genital arousal was also related to more secure behavior.

Differences in genital arousal between neutral and sexual clips were examined in both experimental sequences by gender. In men, significant differences were found in physiological arousal between the neutral and sexual clips (neutral visual stimulus 1 –sexual visual stimulus 1 ($Z = -6.36, p < .001$) and neutral visual stimulus 2 –sexual visual stimulus 2 ($Z = -6.00, p < .001$), with higher genital arousal during the sexual clips ($M_{neutral\ clip1} = 101.19, SD = 17.60$; $M_{sexual\ clip1} = 117.30, SD = 20.33$; $M_{neutral\ clip2} = 101.25, SD = 14.00$; $M_{sexual\ clip2} = 116.90, SD = 20.32$). In women, significant differences were also found in genital arousal between the

Table 1. Zero-order correlations among the evaluated variables in men.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Relationship status		.14	.01	-.09	-.11	.22	.18	-.13	.01	.02	.18	-.03	-.03	.04
2. Age of first sexual intercourse	.14	—	-.20	.19	.02	.20	.21	.00	.14	.16	.12	-.33*	-.04	.27
3. Number of sexual partners	.01	-.20	—	-.14	.07	-.26	-.17	-.07	.13	-.09	-.12	.04	-.24	-.28
4. Behavioral intention to have sex	-.13	-.01	-.19	—	-.07	.22	.13	.01	-.06	-.25	-.09	-.04	.08	.13
5. SES	-.11	.02	.07	-.11	—	-.24	-.26	-.17	.16	.35*	.38**	.01	-.31*	-.24
6. SIS1	.22	.20	-.26	.06	-.24	—	.28*	.28*	.13	-.01	.10	-.06	.09	.13
7. SIS2	.18	.21	-.17	.39**	-.26	.28*	—	.44**	-.21	-.12	-.06	-.19	.39**	.44**
8. SIS3	-.13	.00	-.07	.26	-.17	.28*	.44**	—	.01	.11	.15	-.23	.16	-.29*
9. Genital arousal	.03	.01	.03	-.08	.13	.03	-.06	.09	—	.39**	.25	-.09	-.20	-.02
10. Subjective arousal—RSA	-.03	.12	-.12	-.02	.38**	-.10	-.06	.15	.23	—	.85***	-.24	-.11	-.02
11. Subjective arousal—RGS	.09	.28	-.28	.00	.42**	-.08	.06	.06	.36**	.84***	—	-.12	-.02	.07
12. SAS-Initiation	-.03	-.33*	.04	-.18	.01	-.06	-.19	-.23	-.18	-.12	-.16	—	-.00	-.14
13. SAS-Refusal	-.03	-.04	-.24	.10	-.31*	.09	.39**	.16	-.14	-.02	-.06	-.00	—	.28*
14. SAS-P/STD	.04	.27	-.28	.41**	-.02	.13	.44**	.29*	.05	.07	.18	-.14	.28*	—

Above the diagonal: Implicit sexual risk context. Under the diagonal: Explicit sexual risk context. Behavioral intention to have sex = 1 = Initiate, 2 = Wait, 3 = Not continue. SES = Sexual Excitation Scale. SIS1 = Sexual Inhibition Scale 1 (Inhibition due to the threat of performance failure). SIS2 = Sexual Inhibition Scale 2 (Inhibition due to negative consequences such as the threat of risk of being caught while having sex). SIS3 = Sexual Inhibition Scale 3 (Inhibition due to the threat of performance consequences). RSA = Ratings of Sexual Arousal; RGS = Ratings of Genital Sensations; Physiological arousal indicated by penile circumference. SAS-Initiation = Initiation assertiveness. SAS-Refusal = Refusal assertiveness. SAS-P/STD = Pregnancy/STD prevention assertiveness.

**p* < .05

***p* < .01

****p* < .001.

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Table 2. Zero-order correlations among the evaluated variables in women.

	1	2	3	4	5	6	7	8	9	10	11	12
1.		—	—	-.03	.05	-.10	-.04	.15	.23	-.19	-.36*	.00
2. Age of first sexual intercourse	—	—	-.30	-.22	-.31	.25	-.10	.21	.41*	-.01	.20	.38*
3. Number of sexual partners	—	-.30	—	-.27	.58***	-.05	-.12	.33	.25	-.00	-.46**	-.56**
4. Behavioral intention to have sex	-.26	.18	-.32	—	-.35*	.10	.00	-.46**	-.49**	-.27	.04	.10
5. SE	.05	-.31	.58**	-.37*	—	-.32*	-.08	.59***	.33*	.30*	-.31*	-.16
6. SI	-.10	.25	-.05	.35*	-.32*	—	.06	.01	-.89	-.25	.08	.20
7. Genital arousal	-.08	-.14	-.12	.32*	-.01	.12	—	-.02	-.02	-.11	-.03	.16
8. Subjective arousal—RSA	.06	.16	.27	-.23	.57***	.01	.01	—	.83***	.17	-.23	-.09
9. Subjective arousal—RGS	.15	.42*	.10	-.13	.40**	-.02	-.16	.86***	—	.16	-.09	-.08
10. SAS-Initiation	-.19	-.01	-.00	-.23	.30*	-.25	-.06	.10	.06	—	.18	-.03
11. SAS-Refusal	-.36*	.19	-.46**	.22	-.31*	.08	-.02	-.27	-.27	.18	—	.27
12. SAS-P/STD	.00	.38*	-.56**	.44**	-.16	.20	.24	-.01	.03	-.03	.27	—

Above the diagonal: Implicit sexual risk context. Under the diagonal: Explicit sexual risk context. Behavioral intention to have sex = 1 = Initiate, 2 = Wait, 3 = Not continue. SE = Sexual Excitation. SI = Sexual Inhibition. RSA = Ratings of Sexual Arousal. RGS = Ratings of Genital Sensations. Genital arousal indicated by vaginal pulse amplitude. SAS-Initiation = Initiation assertiveness. SAS-Refusal = Refusal assertiveness. SAS-P/STD = Pregnancy/STD prevention assertiveness.

**p* < .05

***p* < .01

****p* < .001.

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neutral and sexual clips (neutral visual stimulus 1 –sexual visual stimulus 1 ($Z = -5.60, p < .001$) and neutral visual stimulus 2 –sexual visual stimulus 2 ($Z = -5.11, p < .001$) with higher genital arousal during the sexual visual stimulus ($M_{neutral\ clip1} = 0.05, SD = 0.07; M_{sexual\ clip1} = 0.10, SD = 0.01; M_{neutral\ clip2} = 0.06, SD = 0.01; M_{sexual\ clip2} = 0.10, SD = 0.01$).

Next, we explored the distribution of men and women as a function of their behavioral intention to engage in sexual contact depending on the context (implicit or explicit sexual risk). Table 3 lists the percentages for each behavioral intention option. In both contexts, the highest percentages corresponded to subjects who would decide to take the initiative, with men scoring higher in the implicit sexual risk context (75.5%). The percentage of individuals who reported to “wait” was similarly distributed for both contexts and by gender. Finally, the percentage of participants who would not continue the sexual contact was higher in the sexually explicit risk context than in the implicit sexual risk context, although more women than men chose this option (33.3%). In spite of these differences, the distribution of percentages between the implicit and the explicit context was significant for both men ($Z = -3.42, p < .001$) and women ($Z = -3.62, p < .001$). According to H1, most of the participants chose the option to initiate the sexual encounter in the implicit sexual risk context, although these differences were significant for women. In addition, and regarding the hypothesis about gender differences, although men, apparently, in contrast to women, reported greater intention to engage in sex, gender differences were found for the explicit ($Z = -2.15, p < .05$) but not for the implicit context ($Z = -1.62, p = .104$) (H5). Thus, men, in the explicit context are more willing to have sex. In contrast, women are more conservative in this context.

Differences in sexual excitation–propensity, genital and subjective- and assertiveness as a function of behavioral intention

In the implicit sexual risk context, when participants were asked about their behavioral intention to engage in sex, only one man and two women reported to not continue. Consequently, we excluded these cases, in order to assure more equally distributed groups if there were differences in the examined variables based on their behavioral intention. Therefore, we found no significant differences for any of the examined variables between those who reported to initiate sex or to wait. In the explicit sexual risk context, the men who would take the initiative, in contrast to those who reported to wait, were those with low levels of SIS2 ($F_{(2,47)} = 7.18, p = .002$). In addition, men with higher refusal assertiveness more often reported to wait in contrast to initiate sex, and men with high Pregnancy/STD prevention assertiveness ($F_{(2,47)} = 5.22, p = .009$) were more likely to report to wait or to not continue. See Table 4.

As regards women, for the implicit sexual risk context, those with higher levels of SE ($F_{(2,39)} = 5.67, p = .022$), RSA ($F_{(2,39)} = 11.75, p = .001$) and RGS ($F_{(2,39)} = 13.94, p = .001$) were more numerous at reporting that they would take the initiative in comparison to those who decided to wait. In the explicit sexual risk context, women with higher levels of SE ($F_{(2,39)} = 6.57, p = .003$) and initiation assertiveness ($F_{(2,39)} = 4.13, p = .024$) tended to report that they would take

Table 3. Distribution of men and women as a function of their behavioral intention to have sex depending on the context (implicit or explicit sexual risk).

Behavioral intention	Men		Women	
	Implicit sexual risk	Explicit sexual risk	Implicit sexual risk	Explicit sexual risk
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Initiate sex	40 (75.5)	25 (47.2)	29 (64.4)	17 (37.8)
Wait	12 (22.6)	19 (35.8)	14 (31.1)	13 (28.9)
Not continue	1 (1.9)	9 (17)	2 (4.4)	15 (33.3)

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Table 4. MANOVA of implicit and explicit sexual risk contexts in men.

	Implicit sexual risk context							Explicit sexual risk context								
	Initiate sex (n = 40)		Wait (n = 12)		F	p	n ²	Initiate sex (n = 25)		Wait (n = 19)		Not continue (n = 9)		F	p	n ²
	M	SD	M	SD				M	SD	M	SD	M	SD			
SES	42.51	6.44	41.33	7.68	0.36	.701	.015	42.88	6.10	41.82	6.33	40.71	9.59	0.32	.731	.014
SIS1	20.26	4.89	21.67	3.98	0.39	.679	.017	20.50	4.54	20.94	4.84	20	6.92	0.09	.911	.004
SIS2	9.25	2.49	9.83	2.33	1.34	.271	.055	8.25_b	2.19	10.76_a	2.31	10.70	1.70	7.29	.001	.250
SIS3	10.17	2.05	9.75	1.82	1.13	.333	.047	9.50	2.13	10.88	1.76	10.71	1.38	2.93	.064	.064
Genital arousal (range = -1.32 to 59.13)	16.68	10.49	15.01	10.53	1.37	.248	.029	16.38	16.60	16.95	12.42	12.32	9.19	0.47	.631	.020
Subjective arousal—RSA	18.11	5.72	16.42	5.79	0.78	.381	.017	17.99	5.24	19.94	6.88	14.42	7.59	1.99	.149	.081
Subjective arousal—RGS	3.29	1.41	3.33	1.50	0.01	.921	.000	3.37	1.31	3.76	1.79	2.86	1.95	0.85	.436	.436
SAS-Initiation	12.31	3.87	10.08	4.81	5.76	.006	.200	12.54	3.68	11.82	4.26	11.29	7.57	0.253	.778	.011
SAS-Refusal	11.48	5.15	13.58	6.13	0.65	.526	.028	10.33_b	4.73	14.94_a	4.85	10.72	7.20	4.83	.013	.180
SAS-P/STD	14.80	6.19	15.17	5.49	0.71	.499	.030	12.46_b	5.79	17.35_a	5.11	19.14_a	5.05	6.27	.004	.222

SES = Sexual Excitation Scale. SIS1 = Sexual Inhibition Scale 1 (Inhibition due to the threat of performance failure). SIS2 = Sexual Inhibition Scale 2 (Inhibition due to negative consequences such as the threat of risk of being caught while having sex). SIS3 = Sexual Inhibition Scale 3 (Inhibition due to the threat of performance consequences). Genital arousal: indicated by penile circumference. RSA = Ratings of Sexual Arousal; RGS = Ratings of Genital Sensations. SAS-Initiation = Initiation assertiveness. SAS-Refusal = Refusal assertiveness. SAS-P/STD = Pregnancy/STD prevention assertiveness. Significant results in bold type. Different subscripts indicate significant differences in the pair comparison.

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the initiative, while those with higher levels of SI ($F_{(2,39)} = 6.20, p = .005$), reported to wait or to not continue. Women who reported greater Pregnancy/STD prevention assertiveness ($F_{(2,39)} = 3.41, p = .043$) tended to report that they would not continue with the sexual contact or would wait instead of initiating sex (see Table 5).

Predictive variables of behavioral intention in men

In the implicit sexual risk context, none of the sexual excitation/inhibition and sexual assertiveness dimensions significantly predicted behavioral intention to have sex (Model 1). Next, Model 2 was tested. In this model, only SES was found to significantly predict RSA ($\beta = .36, p$

Table 5. MANOVA of implicit and explicit sexual risk contexts in women.

	Implicit sexual risk context							Explicit sexual risky context								
	Initiate sex (n = 29)		Wait (n = 14)		F	p	n ²	Initiate sex (n = 17)		Wait (n = 13)		Not continue (n = 15)		F	p	n ²
	M	SD	M	SD				M	SD	M	SD	M	SD			
SE	51.04	7.00	45.46	5.01	5.67	.022	.122	53.31_a	6.90	45.08_b	5.22	47.62	6.51	6.57	.003	.252
SI	39.78	5.63	42.00	6.15	0.55	.461	.013	37.06_b	4.91	41.92_a	3.93	43.38_a	6.27	6.20	.005	.241
Genital arousal (range = .01 to .40)	0.10	0.09	0.10	0.08	0.03	.863	.001	0.06	0.05	0.08	0.07	0.12	0.11	1.83	.174	.086
Subjective arousal—RSA	26.61	6.32	19.15	6.45	11.75	.001	.236	21.88	6.11	18.01	8.35	18.38	6.51	1.11	.338	.054
Subjective arousal—RGS	4.22	1.37	2.62	1.04	13.94	.001	.268	3.56	1.15	3.23	1.92	3.08	1.61	0.37	.693	.019
SAS-Initiation	14.30	4.72	12.84	4.04	0.09	.348	.023	15.88_a	4.18	11.38_b	5.04	12.92	3.57	4.13	.024	.175
SAS-Refusal	18.85	3.68	19.62	3.95	0.36	.552	.009	18.94	4.04	17.84	3.93	20.31	3.68	1.30	.284	.063
SAS-P/STD	17.56	6.09	19.46	3.67	1.07	.306	.028	16.06_b	6.69	17.46	4.94	21.15_a	3.39	3.41	.043	.149

SE = Sexual Excitation. SI = Sexual Inhibition. Genital arousal indicated by vaginal pulse amplitude. RSA = Ratings of Sexual Arousal. RGS = Ratings of Genital Sensations. SAS-Initiation = Initiation assertiveness. SAS-Refusal = Refusal assertiveness. SAS-P/STD = Pregnancy/STD prevention assertiveness. Significant results in bold type. Different subscripts indicate significant differences in the pair comparison.

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= .015) and explained 11% of its variance (adjusted $R^2 = .11, p < .011$) ($F_{(1, 50)} = 6.99, p = .011$); in other words, subjects with a higher propensity for sexual excitation reported higher subjective sexual arousal (RSA) when viewing the sexual clip. In Model 3, no significant correlations were found between sexual arousal, both genital and subjective, and behavioral intention to have sex. Due to the lack of significance of the variables tested in the prediction of behavioral intention, Model 4 was not run. Therefore, in men and in an implicit sexual risk context, none of the predictive factors tested were able to predict behavioral intention.

In the explicit sexual risk context, Model 1 showed a significant correlation between SIS2 and behavioral intention ($\beta = .41, p = .003$), explaining 17% of the variance (adjusted $R^2 = .17, p < .001$) of behavioral intention to not engage in casual sexual contact ($F_{(1,52)} = 11.34, p = .001$). Model 2 revealed that only SES has a significant influence on subjective sexual arousal, both on RSA ($\beta = .39, p = .008$), explaining 12.7% of the variance (adjusted $R^2 = .12, p = .038$) ($F_{(4,45)} = 2.77, p = .038$), and on RGS ($\beta = .48, p = .001$), explaining 15.3% of the variance (adjusted $R^2 = .15, p = .023$) ($F_{(1,49)} = 10.96, p = .002$). Model 3, which tested the predictive power of genital and subjective sexual arousal (RSA and RGS) over behavioral intention to engage in casual sexual contact, did not show any significant correlations. Model 4 was not tested for this reason. Thus, in men, in a context in which sexual risk was explicit, behavioral intention to not engage in sex was only predicted by sexual inhibition due to negative consequences (SIS2) (see Fig 1).

Predictive variables of behavioral intention in women

In the implicit sexual risk context, Model 1 indicated that SE predicted behavioral intention ($\beta = -.35, p = .018$), explaining 10.3% of the variance (adjusted $R^2 = .10, p < .05$) of intention to initiate sex ($F_{(1,44)} = 6.07, p = .018$). In Model 2, SE predicted RGS ($\beta = .33, p = .030$), explaining 9% of its variance (adjusted $R^2 = .09, p < .05$) ($F_{(1,41)} = 5.05, p = .030$). Model 3 indicated an effect of RGS on behavioral intention to engage in casual sexual contact ($\beta = -.49, p = .001$), explaining 23% of the variance (adjusted $R^2 = .23, p < .001$) ($F_{(1,41)} = 13.22, p = .001$); no significant correlations were found with RSA or genital response. Finally, when Model 4 was tested to determine if SE and RGS jointly influenced behavioral intention, SE ceased to be significant ($\beta = -.23, p = .11$) while RGS remained significant ($\beta = -.42, p = .005$). This result evidenced the mediating effect of subjective sexual arousal (RGS), which is influenced by the individual's propensity for sexual excitation (SE). In this model, RGS explained 26% of the variance (adjusted $R^2 = .26, p < .001$) of behavioral intention to engage in casual sexual contact ($F_{(1,41)} = 8.23, p = .001$). Together, in a context where sexual risk is implicit, women with greater propensity for sexual excitation and who subjectively experienced greater arousal would be more likely to initiate sex (see Fig 2).

Finally, in the explicit sexual risk context, SE ($\beta = -.37, p = .013$) and SAS-P/STD prevention assertiveness ($\beta = .46, p = .005$) were found to be significantly correlated with behavioral intention to engage in casual sexual contact, explaining 25% of its variance (adjusted $R^2 = .25, p < .001$) ($F_{(1,44)} = 8.32, p = .001$) (Model 1). While greater SE predicted a higher probability to engage in sex, more prevention assertiveness better predicted not continuing the sexual encounter. Model 2 revealed that SE had an effect on RSA ($\beta = .61, p = .000$) and on RGS ($\beta =$

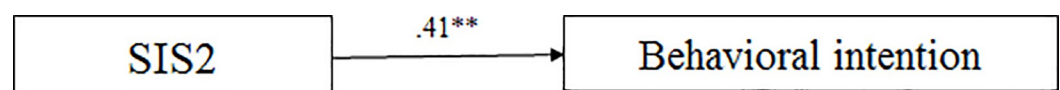


Fig 1. Path model for the prediction of behavioral intention in the explicit context for men. $**p < .01$.

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Fig 2. Path model for the prediction of behavioral intention in the implicit context for women. * $p < .05$, ** $p < .01$.

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.46, $p = .005$). The model predicted 36% of the variance in RSA (adjusted $R^2 = .359$, $p = .000$) ($F_{(1,44)} = 25.63$, $p = .000$) and 14.4% of the variance in RGS (adjusted $R^2 = .144$, $p = .008$; $F_{(1,41)} = 7.89$, $p = .008$). In Model 3, neither RSA nor RGS were associated with behavioral intention to engage in casual sexual contact, thus ruling out their mediating effect. Due to the lack of significance of the mediating variables in behavioral intention, Model 4 was not tested. In short, the best predictors of women's behavioral intention, in a context with explicit sexual risk, were their propensity for sexual excitation and Pregnancy/STD prevention assertiveness, with no mediation of either their genital or subjective arousal. In particular, greater propensity for excitation would foster their intention to have sex, while their greater assertiveness related to the risk of Pregnancy/STD would make them avoid having sex (see Fig 3).

Discussion

The aim of this study was to analyze the role of the components of DCM, along with sexual assertiveness, in intention to engage in casual sexual contact in both implicit and explicit risk contexts. Our findings indicate that a greater percentage of both men and women would take the initiative to continue a sexual contact in an implicit sexual risk context as opposed to an explicit sexual risk context. This was to be expected, as these decisions are taken depending on the assessment of their positive or negative consequences, rejecting any actions that might be disadvantageous [58]. In particular, in men, only propensity for sexual inhibition plays a significant role in intention not to have sex in an explicit risk context. However, propensity for sexual excitation, genital response, subjective arousal or sexual assertiveness have little to do with their behavioral intention to have sex, contrary to our hypotheses. For women, their propensity for sexual excitation and their subjective arousal better predict their likelihood to initiate sex in an implicit risk context, while their propensity for sexual excitation and their assertion to negotiate contraceptive methods are associated with their intention to not initiate risky sex in an explicit risk context, which partially supports our hypotheses.

The DCM indicates that the inhibition system of sexual response acts as an adaptive mechanism with regard to sexual risks, preventing a sexual response from taking place until the situation has been assessed as non-threatening [1–3,5]. It is worth noting that almost 85% of the men and 66.7% of the women in the study reported intention to engage in sexual intercourse in an explicit risk context, either by taking the initiative or by letting their sexual partner take that step. This may be due to a low perception of risk [78–79] as a result of either failing to

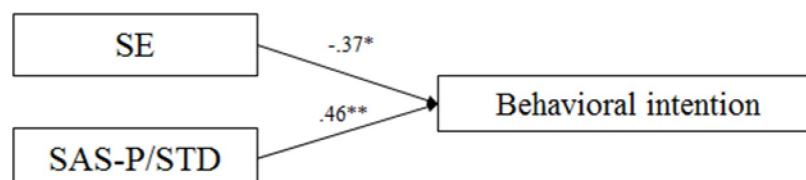


Fig 3. Path model for the prediction of behavioral intention in the explicit context for women. * $p < .05$, ** $p < .01$.

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identify the consequences or considering them to be remote or not related to oneself [58,80]. According to the DCM, every individual has a base level of sexual inhibition [1] that allows for a sexual response to take place once the situation or sexual stimulus has been evaluated as non-threatening [2]. Paradoxically, it may also occur that a real risk is not assessed as such due to factors such as obtaining immediate pleasure, the long time interval between the risky act and its consequences, the assurance that medical advances will solve any problem, or the cultural justification of risky behaviors as correct [81–82]. This study also confirms the hypothesis that men, compared to women, are keener to take the initiative to engage in casual sexual contact. This might be related to the presence of traditional gender roles characterized by the belief that men exhibit active sexual behaviors (i.e., seduction, decisiveness, initiative), whereas women show passive traits (i.e., sensitivity, romanticism, submission) [59].

Regarding the variables associated with behavioral intention to engage in sex, we observed that, for men, in the implicit sexual risk context, there are no variables associated with behavioral intention to have sex or not. However, in the context in which risk is explicitly present, men with higher propensity for sexual inhibition, in particular related to the threat of being caught while having sex (SIS2), are more likely to refuse to have sex. Also, men who report less assertiveness to refuse sex more frequently report to wait, while men who report to be less able to negotiate the use of contraceptive methods with their partners are more likely to decide to wait or to not continue having sex. Therefore, assertiveness of both types is associated with a lower intention to engage in risky sexual contacts. However, when the predictive model was tested, the only predictor factor that emerged as crucial to predict sex refusal was SIS2. These findings are consistent with the DCM in that, due to the variability in individual propensity for sexual inhibition, certain individuals have low or no inhibition, and therefore show a higher probability of engaging in risky sexual contact [1–2,6]. Based on previous research, individuals with lower SIS2 also tend to show a lower propensity for sexual sensation-seeking or erotophilia, which are both associated with RSBs [83–84]. On the other hand, although sexual assertiveness is associated with behavioral intention in men, these variables do not seem crucial as predictors. Refusing sexual assertiveness has not been explored much in men [27] but it has been widely studied in women, in whom its deficit has been associated with a higher number of sexual partners [43]. Additionally, in men, Pregnancy/STD prevention assertiveness has been negatively associated with the number of unprotected sexual contacts [85] and positively associated with protected sex [44,85] and consistent condom use [85].

Regarding women, those who indicate higher propensity for excitation and higher subjective sexual arousal, when they are presented with sexual stimuli, also report higher behavioral intention to engage in sexual contact in an implicit sexual risk context, confirming the proposed hypothesis that postulates these variables as predictors. By not perceiving an explicit sexual risk, these women might be evaluating the situation as non-threatening and thus the basal sexual inhibition threshold may be surpassed by sexual excitation, facilitating the decision and subsequent sexual response [1–3,5].

In the context in which sexual risk is explicit, women with higher propensity for sexual excitation report greater intention to take the initiative to engage in sexual contact. Moreover, in line with the hypotheses proposed in this study, women who are more prone to sexual inhibition and women with greater assertiveness related to the negotiation of contraceptive methods are more likely to say “no” to sex in the presence of a sexual risk concerning this issue. In previous studies, both sexual inhibition [38–39] and Pregnancy/STD prevention assertiveness [43–44] have proven to be protective variables with regard to sexual risk-taking. It was also observed that, even though the women who reported an intention not to continue the sexual contact were physiologically aroused, they reported an intention not to engage in the RSB. This corroborates the protective role of SI and Pregnancy/STD assertiveness. Several studies in

women have shown the relationship between these two variables and RSBs. In fact, a higher score in SE has been associated with sexual risk-taking [38], a higher risk of contracting an STI [40], a higher number of sexual partners [37,39], younger age of first sexual intercourse [37], and a higher frequency of unprotected sexual contact [39], among others. Initiation assertiveness has also been associated with a higher number of sexual partners [43] and lower condom use [86].

According to our findings, propensity for sexual excitation/inhibition as a trait, and subjective sexual arousal as a state, were more relevant for risky sexual behavior than genital response. At this point, we should consider that the sample of participants was physiologically aroused. Therefore, it is likely that, in line with their intention to engage in sex, all participants were, at a certain level of arousal or in “the heat of the moment”, considering the control and artificial setting of the laboratory. Therefore, genital arousal probably played some role in fostering their intention to engage in risky sex.

In short, certain studies have associated RSBs with the measures derived from the DCM [38], and others have found a relationship between this type of behavior, and subjective and physiological measures of sexual arousal [75]. However, to our knowledge, this is the first study that combines propensity for sexual excitation and inhibition (DCM), genital and subjective sexual arousal, and sexual assertiveness in the decision-making process on sexual risk-taking in men and women. Another novelty that can be observed in this study is that the included variables related to sexual risk-taking behave differently according to the sex of the participants. Regarding our findings, the most relevant variable in sexual risk-taking in men is propensity for sexual inhibition, specifically inhibition related to the threat of being caught having sex (SIS2). For this reason, more research should be conducted on SIS2 as a variable that may inhibit RSBs. Moreover, although this study did not show any significant findings regarding SIS3 (i.e., fear of the consequences of sexual contact), further research is also recommended on this topic, as this was the factor that showed to have the closest relationship with RSBs. In women, SE and Pregnancy/STD prevention assertiveness are elements that should be taken into account in explaining intention to engage in RSBs, which also justifies conducting further research on these topics. These variables should be considered when designing RSB prevention and intervention programs.

Certain limitations of this study should be mentioned. The results cannot be extrapolated to the general population because, although this is common practice in psychophysiological studies on human sexuality [67], the sampling method was not random. Additionally, the sample only comprised heterosexual young adults. For this reason, more diverse population groups should be recruited (i.e., non-heterosexual, adolescents, elderly and clinical populations, etc.). Furthermore, although the reliability value for SIS3 was low, in this work its use was considered necessary. This weak reliability value could be explained by the heterogeneity of the content of items that comprised this subfactor (i.e., consequences of risky sexual behavior and the presence of pain felt by oneself or by the sexual partner during sex). Although the reliability value was inadequate, we decided to use this factor because its items represented threatening situations where sexual inhibition would act adaptively and protectively [1]. This factor could also provide valuable information that would contribute to preventing sexual risk behavior and pain in excitation situations.

Conclusions

In summary, the present study highlights the role that sexual excitation/inhibition, sexual arousal and sexual assertiveness play in intention to engage in risky sexual behaviors. We also emphasize that these factors differ between men and women. Therefore, propensity for sexual

inhibition is the most determining variable for intention of sexual risk-taking in men, while propensity for sexual excitation and sexual assertiveness in negotiating the use of contraceptive methods are the variables that are more strongly associated with intention of sexual risk-taking in women. Based on our findings, different approaches should be taken in order to address prevention for sexual risk behaviors by gender. Considering that sexual excitation increases sexual risk-taking and sexual inhibition mostly prevents these behaviors, more studies should be conducted to go much further into the role that these variables play in RSBs. Furthermore, we emphasize the need to measure propensity for sexual excitation/inhibition, as it would help sexual health professionals to prevent and intervene in order to improve the balance between both systems. Taken together, a balance between both systems would provide healthier sexual behavior. To strike this balance, individuals should be more aware of the risks and consequences of their behaviors. In this way, and as explained by the theoretical framework of the DCM, sexual inhibition would act as a preventive system when the evaluation of the sexual situation were labeled as threatening. Sexual education programs are needed to make people aware of their sexual health and their rights to develop a risk-free sex life. Education programs should have a stronger impact on the development of sexual assertiveness and abilities to negotiate condom use as they are crucial to consent to desirable and healthy sexual encounters. Taken together, we should care about the prevention and reduction of the negative consequences derived from this type of sexual behaviors such as STIs, unplanned pregnancies and feelings of fear and guilt, among others. Finally, although previous research has associated RSBs with certain measures of the DCM [39], and others authors have related these behaviors to subjective and genital measures of sexual arousal [71], as far as we know, this is the first study to combine the analysis of both propensity for sexual excitation/inhibition, subjective and genital sexual arousal, and sexual assertiveness in risky sexual decision-making in two different sexual contexts in both genders.

Author Contributions

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Data curation: Reina Granados, Nieves Moyano, Juan Carlos Sierra.

Methodology: Reina Granados, Juan Carlos Sierra.

Resources: Juan Carlos Sierra.

Writing – original draft: Reina Granados, Nieves Moyano, Juan Carlos Sierra.

Writing – review & editing: Nieves Moyano, Juan Carlos Sierra.

References

1. Bancroft J. Central inhibition of sexual response in the male: A theoretical perspective. *Neurosci Biobehav Rev.* 1999; 23:763–84. [https://doi.org/10.1016/s0149-7634\(99\)00019-6](https://doi.org/10.1016/s0149-7634(99)00019-6) PMID: 10541055
2. Bancroft J, Janssen E. The dual control model of male sexual response: A theoretical approach to centrally mediated erectile dysfunction. *Neurosci Biobehav Rev.* 2000; 24:571–79. [https://doi.org/10.1016/s0149-7634\(00\)00024-5](https://doi.org/10.1016/s0149-7634(00)00024-5) PMID: 10880822
3. Janssen E, Bancroft J. The Dual Control Model: The role of sexual inhibition and excitation in sexual arousal and behavior. In: Janssen E, editor. *The psychophysiology of sex.* Bloomington: Indiana University Press; 2007. pp. 197–222.
4. Bancroft J, Janssen E, Strong D, Vukadinovic Z. The relation between mood and sexuality in gay men. *Arch Sex Behav.* 2003; 32:231–342. <https://doi.org/10.1023/a:1023461500810> PMID: 12807295
5. Bancroft J, Graham CA, Janssen E, Sanders SA. The dual control model: Current status and future directions. *J Sex Res.* 2009; 46:121–42. <https://doi.org/10.1080/00224490902747222> PMID: 19308839

6. Bancroft J. Individual differences in sexual risk taking: A biopsychosocial theoretical approach. In: Bancroft J, editor. *The role of theory in sex research*. Bloomington: Indiana University Press; 2000. pp. 177–212.
7. Janssen E, Goodrich D, Petrocelli JV, Bancroft J. Psychophysiological response patterns and risky sexual behavior in heterosexual and homosexual men. *Arch Sex Behav*. 2009; 38:538–50. <https://doi.org/10.1007/s10508-008-9432-z> PMID: 19030978
8. Milhausen RR. *Factors that inhibit and enhance sexual arousal in college men and women* [Doctoral these]. Indiana: University of Indiana, School of Health, Physical Education, and Recreation; 2004.
9. Vasilenko SA, Lefkowitz ES, Maggs JL. Short-term positive and negative consequences of sex based on daily reports among college students. *J Sex Res*. 2012; 49:558–69. <https://doi.org/10.1080/00224499.2011.589101> PMID: 21707408
10. Galeno-Pereira T, Araújo LF, Negreiros F, Neto R. Analysis of risky sexual behavior for HIV infection in adults from the general population. *Psico*. 2016; 47:249–58. <https://doi.org/10.15448/1980-8623.2016.4.23703>
11. Isorna Folgar M, Fariña Rivera F, Sierra JC, Vallejo-Medina P. Binge drinking: Risky sexual behaviors and drug facilitated sexual assault in Spanish youths. *Suma Psicológica*. 2015; 22:1–8. <https://doi.org/10.1016/j.sumpsi.2015.02.001> (2015).
12. Granados R, Sierra JC. Excitación sexual: una revisión sobre su relación con las conductas sexuales de riesgo [Sexual arousal: A review of its relationship with sexual risk behaviors]. *Terapia Psicológica*. 2016; 34:59–70. <https://doi.org/10.4067/S0718-48082016000100007>
13. Schmitt DP, Shackelford TK. Big Five Traits Related to Short-Term Mating: From Personality to Promiscuity across 46 Nations. *Evolutionary Psychology*. 2008; 6: <https://doi.org/10.1177/147470490800600204>
14. World Health Organization (WHO). Sexually transmitted infections. WHO. 2016 [Cited 2019 September 9]. Available from: [https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-\(stis\)](https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis))
15. World Health Organization (WHO). Family planning. WHO. 2016 [Cited 2019 September 9]. Available form: <https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception>
16. Simón TS, Aznar CT. Sociodemographic variables related to unplanned pregnancies in 13–24 year olds. *Revista Española de Salud Pública*. 2014; 88:395–406. <https://doi.org/10.4321/S1135-57272014000300009> PMID: 25028307
17. Anjos DF, Pichelli AAWS. Medos e perspectivas de jovens vivendo com hiv/aids: um estudo qualitativo de sentidos e ressignificações [Fears and perspectives of young people living with HIV / AIDS: A qualitative study of meanings and resignifications]. *Indagatio Didactica*. 2013; 5:1103–17.
18. Foreman FE. Intimate risk. *J. Black Stud*. 2003; 33:637–53. <https://doi.org/10.1177/0021934703033005006>
19. Piko B. Gender differences and similarities in adolescents' ways of coping. *Psychol Rec*. 2001; 51:223–235. <https://doi.org/10.1007/BF03395396>
20. World Health Organization (WHO). Ten facts about sexually transmitted diseases. 2017 [Cited 2020 March]. Available from: http://www.who.int/features/factfiles/sexually_transmitted_diseases/facts/es/
21. Bahamón J, Vianchá MA, Tobos AR. Prácticas y conductas sexuales de riesgo en jóvenes: una perspectiva de género [Behaviors and unsafe sex in adolescence: A gender perspective]. *Psicol Caribe*. 2014; 31:327–53 <https://doi.org/10.14482/psdc.31.2.3070>
22. Arrivillaga M, Salazar IC, Correa D. Creencias sobre la salud y su relación con las prácticas de riesgo o de protección en jóvenes universitarios [Beliefs about health and its relationship with risky or protective sexual practices among undergraduate students]. *Colombia Médica*. 2003; 34:186–95.
23. Chirinos JL, Bardales L, Segura MD. Las relaciones coitales y la percepción de riesgo de adquirir ETS/SIDA en adultos jóvenes varones de Lima, Perú [Sexual intercourse and the perception of risk for STD/AIDS among young adult men in Lima, Peru]. *Cad Saúde Pública*. 2006; 22:79–85. <https://doi.org/10.1590/s0102-311x2006000100009> PMID: 16470285
24. Velo-Higueras C, Cuéllar-Flores I, Sainz-Costa T, Navarro-Gómez ML, García-Navarro C, Fernández-McPhee C, et al. Jóvenes y VIH. Conocimiento y conductas de riesgo de un grupo residente en España [Young adults and HIV. Awareness and risk behaviour of a group living in Spain]. *Enferm Infecc Microbiol Clin*. 2019; 37:176–82. <https://doi.org/10.1016/j.eimc.2018.05.015>
25. Goetz, H. (2010). *The Perils of Pessimism: Predictive effects of negative expectations for future health and education outcomes on adolescent risk behavior* (Doctoral thesis). Cornell University, Ithaca, NY.
26. Seto J, Asfaw T, Folz K, Clark W, Deleary M. A Sheikh1Start with the social determinants of health to tailor sexual health promotion for First Nations, Inuit and Métis youth in Canada. *Sexually Transmitted Infections*. 2011; 87:A57–A58.

27. Santos-Iglesias P, Sierra JC. The role of sexual assertiveness in human sexuality: A systematic review. *Int J Clin Health Psychol.* 2010; 10:553–77.
28. Kalichman SC, Rompa D. Sexual sensation seeking and sexual compulsivity scales: Reliability, validity, and predicting HIV risk behaviors. *J Pers Assess.* 1995; 65:586–602. https://doi.org/10.1207/s15327752jpa6503_16 PMID: 8609589
29. Santos-Iglesias P, Moyano N, Castro C, Granados MR, Sierra JC. Validation of the Sexual Sensation Seeking Scale in Spanish samples. *J Pers Assess.* 2018; 100:421–30. <https://doi.org/10.1080/00223891.2017.1328424> PMID: 28594595
30. Trujillo E, Henao J, González C. Toma de decisiones sexuales y reproductivas en la adolescencia [Sexual and reproductive decision making in adolescence]. *Revista Acta Colombiana de Psicología.* 2007; 10:49–63.
31. Janssen E, Vorst H, Finn P, Bancroft J. The sexual inhibition (SIS) and sexual excitation (SES) scales: I. Measuring sexual inhibition and excitation proneness in men. *J Sex Res.* 2002; 39:114–26. <https://doi.org/10.1080/00224490209552130> PMID: 12476243
32. Bancroft J, Janssen E, Carnes L, Strong DA, Goodrich D, et al. (2004). Sexual activity and risk taking in young heterosexual men: The relevance of sexual arousability, mood, and sensation seeking. *J Sex Res.* 2004; 41:181–92. <https://doi.org/10.1080/00224490409552226> PMID: 15326543
33. Peterson ZD, Janssen E, Heiman JR. The association between sexual aggression and HIV risk behavior in heterosexual men. *J Interpers Violence.* 2009; 25:538–56. <https://doi.org/10.1177/0886260509334414> PMID: 19474034
34. Bancroft J, Carnes L, Janssen E. Unprotected anal intercourse in HIV-positive and HIV-negative gay men: The relevance of sexual arousability, mood, sensation seeking, and erectile problems. *Arch Sex Behav.* 2005; 34:299–305. <https://doi.org/10.1007/s10508-005-3118-6> PMID: 15971012
35. Graham CA, Sanders SA, Milhausen RR. The Sexual Excitation/Sexual Inhibition Inventory for women: Psychometric properties. *Arch Sex Behav.* 2006; 35:397–409. <https://doi.org/10.1007/s10508-006-9041-7> PMID: 16900415
36. Milhausen RR, Graham CA, Sanders SA, Yarber WL, Maitland SB. Validation of the Sexual Excitation/Sexual Inhibition Inventory for women and men. *Arch Sex Behav.* 2010; 39:1091–104. <https://doi.org/10.1007/s10508-009-9554-y> PMID: 19859799
37. Granados R, Salinas JM, Sierra JC. Spanish validation of the Sexual Excitation/Sexual Inhibition Inventory for women. *Int J Clin Health Psychol.* 2017; 17:65–76. <https://doi.org/10.1016/j.ijchp.2016.09.003> PMID: 30487882
38. Turchik JA, Garske JP, Probst DR, Irvin CR. Personality, sexuality, and substance use as predictors of sexual risk taking in college students. *J Sex Res.* 2010; 47:411–19. <https://doi.org/10.1080/00224490903161621> PMID: 19711220
39. Velten J, Scholten S, Graham CA, Margraf J. Unprotected intercourse and one-night stands: Impact of sexual excitation, sexual inhibition, and atypical sexual arousal patterns on risky sexual behaviors in women. *J Sex Res.* 2016; 13:361–73. <https://doi.org/10.1016/j.jsxm.2015.12.027> PMID: 26803457
40. Wood JR, Milhausen RR, Sales JM, Graham CA, Sanders SA, DiClemente RJ, et al. Arousability as a predictor of sexual risk behaviours in African-American adolescent women. *Sex Health.* 2013; 10:160–65. <https://doi.org/10.1071/SH12055> PMID: 23557603
41. Rupp HA, James TW, Ketterson ED, Sengelaub DR, Janssen E, Heiman JR. Neural activation in women in response to masculinized male faces: Mediation by hormones and psychosexual factors. *Evol Hum Behav.* 2009; 30:1–10. <https://doi.org/10.1016/j.evolhumbehav.2008.08.006> PMID: 20046209
42. Morokoff PJ, Quina K, Harlow LL, Whitmire L, Grimley DM, Gibson PR, et al. Sexual Assertiveness Scale (SAS) for women: Development and validation. *J Pers Soc Psychol.* 1997; 73:790–804. <https://doi.org/10.1037//0022-3514.73.4.790> PMID: 9325594
43. Auslander BA, Perfect MM, Succop PA, Rosenthal SL. Perceptions of sexual assertiveness among adolescent girls: Initiation, refusal, and use of protective behaviors. *J Pediatr Adolesc Gynecol.* 2007; 20:157–62. <https://doi.org/10.1016/j.jpag.2007.03.093> PMID: 17561183
44. Morokoff PJ, Redding CA, Harlow LL, Cho S, Rossi JS, Meier KS, et al. Associations of sexual victimization, depression, and sexual assertiveness with unprotected sex: A test of multifaceted model of HIV risk across gender. *J Appl Biobehav Res.* 2009; 14:30–54. <https://doi.org/10.1111/j.1751-9861.2009.00039.x> PMID: 25018617
45. Widman L, Noar SM, Choukas-Bradley S, Francis D. Adolescent sexual health communication and condom use: A meta-analysis. *Health Psychol.* 2014; 33:1113–24. <https://doi.org/10.1037/hea0000112> PMID: 25133828

46. Santos-Iglesias P, Sierra JC, Vallejo-Medina P. Predictors of sexual assertiveness: The role of sexual desire, arousal, attitudes, and partner abuse. *Arch Sex Behav*. 2013; 42:1043–52. <https://doi.org/10.1007/s10508-012-9998-3> PMID: 22875718
47. Gutiérrez-García A, Palacios-Vicario A. Actitud ante relaciones sexuales casuales. Un estudio comparativo entre población universitaria española y sueca [Attitudes toward casual sex. A comparative study between Spanish and Swedish university students]. *Investigación Cualitativa en Ciencias Sociales*. 2016; 3:580–9.
48. Conley TD, Ziegler A, Moors AC. Backlash from the bedroom: Stigma mediates gender differences in acceptance of casual sex offers. *Psychol Women Q*. 2013; 37:392–407. <https://doi.org/10.1177/0361684312467169>
49. Jonason PK, Hatfield E, Boler VM. Who engages in serious and casual sex relationships? An individual differences perspective. *Pers Individ Differ*. 2015; 75:205–9. <https://doi.org/10.1016/j.paid.2014.11.042>
50. Laan E, Everaerd W. Determinants of female sexual arousal: Psychophysiological theory and data. *Annu Rev Sex Res*. 1995; 6:32–76. <https://doi.org/10.1080/10532528.1995.10559901>
51. Rosen RC, Beck JG. *Patterns of sexual arousal: Psychophysiological processes and clinical applications*. New York, NY: Guilford Press; 1988.
52. Singer B. Conceptualizing sexual arousal and attraction. *J Sex Res*. 1984; 20:230–240. <https://doi.org/10.1080/00224498409551222>
53. Janssen E, Prause N, Geer J. The sexual response. In Cacioppo JT, Tassinari LG, Berntson GG (editors), *Handbook of Psychophysiology*. New York, NY: Cambridge University Press; 2007. pp. 245–66.
54. Janssen E. Sexual arousal in men: A review and conceptual analysis. *Horm Behav*. 2011; 59:708–16. <https://doi.org/10.1016/j.yhbeh.2011.03.004> PMID: 21397602
55. Chivers ML. A brief update on the specificity of sexual arousal. *Sex Relatsh Ther*. 2010; 25:407–414.
56. Velten J. *Sexual excitation and sexual inhibition in women: Impact on sexual risk behavior, sexual function, and sexual concordance* [doctoral thesis]. Germany: Ruhr University of Bochum; 2016.
57. Chivers ML, Seto MC, Lalumière ML, Laan E, Grimbos T. Agreement of self-reported and genital measures of sexual arousal in men and women: A meta-analysis. *Arch Sex Behav*. 2010; 39:5–56. <https://doi.org/10.1007/s10508-009-9556-9> PMID: 20049519
58. Becoña E. Los adolescentes y el consumo de drogas [Adolescents and drug use]. *Papeles del Psicólogo*. 2000; 77:25–32.
59. Santos-Iglesias P, Vallejo-Medina P, Sierra JC. Equivalence and standard scores of the Hurlbert Index of Sexual Assertiveness across Spanish men and women. *An Psicol*. 2014; 30:232–37. <https://doi.org/10.6018/analesps.30.1.143321>
60. Janssen E, Vorst H, Finn P, Bancroft J. The Sexual Inhibition (SIS) and Sexual Excitation (SES) scales: II. Predicting psychophysiological response patterns. *J Sex Res*. 2002; 39:127–32. <https://doi.org/10.1080/00224490209552131> PMID: 12476244
61. Kinsey AC, Pomeroy WR, Martin CE. Sexual behavior in the human male. 1948. *Am J Public Health*. 2003; 93:894–8. <https://doi.org/10.2105/ajph.93.6.894> PMID: 12773346
62. Granados MR, Salinas JM, Sierra JC. Psychometric properties of the Spanish version of the Sexual Inhibition/Sexual Excitation Scales for men. *Arch Sex Behav*. 2018; 47:783–96. <https://doi.org/10.1007/s10508-017-0992-7> PMID: 28466229
63. Sierra JC, Vallejo-Medina P, Santos-Iglesias P. Psychometric properties of the Spanish version of the Sexual Assertiveness Scale (SAS). *An de Psicol*. 2011; 27:17–26.
64. Sierra JC, Arcos-Romero AI, Granados MR, Sánchez-Fuentes MM, Calvillo C, Moyano N. Ratings of Sexual Arousal and Ratings of Genital Sensations: Psychometric properties in Spanish sample. *Rev Int Androl*. 2017; 15:99–107. <https://doi.org/10.1016/j.androl.2016.10.008>
65. Janssen E, Vissenberg M, Visser S, Everaerd W. An in vivo comparison of two circumferential penile strain gauges: Introducing a new calibration method. *Psychophysiology*. 1997; 34:717–20. <https://doi.org/10.1111/j.1469-8986.1997.tb02147.x> PMID: 9401426
66. Richards JC, Bridger BA, Wood MM, Kalucy RS, Marshall VR. A controlled investigation into the measurement properties of two circumferential penile strain gauges. *Psychophysiology*. 1985; 22:568–71. <https://doi.org/10.1111/j.1469-8986.1985.tb01653.x> PMID: 4048357
67. Sintchak G, Geer JH. A vaginal plethysmograph system. *Psychophysiology*. 1975; 12:113–5. <https://doi.org/10.1111/j.1469-8986.1975.tb03074.x> PMID: 1114202
68. Laan E, Everaerd W, Evers A. Assessment of female sexual arousal: Response specificity and construct validity. *Psychophysiology*. 1995; 32:476–85. <https://doi.org/10.1111/j.1469-8986.1995.tb02099.x> PMID: 7568642

69. Sierra JC, Granados R, Sánchez-Fuentes MM, Moyano N, López C. Sexual activation to visual sexual stimuli: Comparison between men and women. Poster presented at: XXXV Inter-American Congress of Psychology; 2015. Lima, Peru.
70. Vilarinho S, Laja P, Carvalho J, Quinta-Gomes AL, Oliveira C, Janssen E, et al. Affective and cognitive determinants of women's sexual response to erotica. *J Sex Med.* 2014; 11:2671–8. <https://doi.org/10.1111/jsm.12667> PMID: 25124118
71. Chivers ML, Bailey JM. A sex difference in features that elicit genital response. *Biol Psychol.* 2005; 70:115–120. <https://doi.org/10.1016/j.biopsycho.2004.12.002> PMID: 16168255
72. Brotto LA, Chivers ML, Millman RD, Albert A. Mindfulness-based sex therapy improves genital-subjective arousal concordance in women with sexual desire/arousal difficulties. *Arch Sex Behav.* 2016; 45:1907–1921. <https://doi.org/10.1007/s10508-015-0689-8> PMID: 26919839
73. Craig AM, Peterson, Janssen E, Goodrich D, Heiman JR. Affect and sexual responsivity in men with and without a history of sexual aggression. *J Sex Res.* 2017; 54:984–993. <https://doi.org/10.1080/00224499.2017.1301357> PMID: 28388245
74. George WH, Davis KC, Norris J, Heiman JR, Stoner SA, Schacht RL, et al. Indirect effects of acute alcohol intoxication on sexual risk taking: The roles of subjective and physiological sexual arousal. *Arch Sex Behav.* 2009; 38:498–513. <https://doi.org/10.1007/s10508-008-9346-9> PMID: 18431618
75. Schmidt G, Sigusch V, Schäfer S. Responses to reading erotic stories: Male-female differences. *Arch Sex Behav.* 1973; 2:181–99. <https://doi.org/10.1007/BF01541755> PMID: 4805816
76. Bradford A, Meston CM. The impact of anxiety on sexual arousal in women. *Behav Res Ther.* 2006; 44:1067–77. <https://doi.org/10.1016/j.brat.2005.08.006> PMID: 16199003
77. Pedhazur EJ. *Multiple regression in behavioral research*; 1997. Orlando: Harcourt Brace.
78. Clifton S, Nardone A, Field N, Mercer CH, Tanton C, Macdowall W, et al. HIV testing, risk perception, and behaviour in the British population. *AIDS.* 2016; 30:943–52. <https://doi.org/10.1097/QAD.0000000000001006> PMID: 26963528
79. Gravningen K, Braaten T, Schirmer H. Self-perceived risk and prevalent chlamydia infection among adolescents in Norway: A population-based cross-sectional study. *Sex Transm Infect.* 2016; 92:91–6. <https://doi.org/10.1136/sextrans-2014-051927> PMID: 26275416
80. Ruiz-Olivares R, Lucena V, Pino MJ, Herruzo J. Análisis del consumo de drogas legales como el alcohol, el tabaco y los psicofármacos, y la percepción del riesgo en jóvenes universitarios [Analysis of legal drugs consumption like alcohol, tobacco and psycho-drugs, and risk perception in University young people]. *Psychol Soc Educ.* 2010; 2:28–37.
81. Bayés R. *Psicología oncológica [Oncology psychology]*, 2nd ed; 1990. Barcelona: Martínez-Roca.
82. Becoña E, Vázquez FL. Promoción de estilos de vida saludables: ¿realidad o utopía? [The promotion of healthy lifestyles: Reality, challenge or utopia?]. In: Oblitas JL, Becoña E, (editors). *Psicología de la Salud [Health Psychology]*. Mexico: Plaza & Valdés;1999. pp. 67–110.
83. Lewis MA, Neighbors C, Malheim JE. Indulgence or restraint? Gender differences in the relationship between controlled orientation and the erotophilia-risky sex link. *Pers Individ Differ.* 2005; 40:985–95. <https://doi.org/10.1016/j.paid.2005.09.015>
84. Teva I, Bermúdez MP, Buela-Casal G. Búsqueda de sensaciones sexuales, estilos de afrontamiento, estrés social y su relación con la conducta sexual adolescente [Sexual sensation seeking, coping styles, social stress and its relationship with adolescent sexual behavior]. *An Psicol.* 2011; 27:35–46.
85. Noar SM, Morokoff PJ, Redding CA. Sexual assertiveness in heterosexually active men: A test of three samples. *Aids Educ Prev.* 2002; 14:330–42. <https://doi.org/10.1521/aeap.14.5.330.23872> PMID: 12212719
86. Greene K, Faulkner SL. Gender, belief in the sexual double standard, and sexual talk in heterosexual dating relationships. *Sex Roles.* 2005; 53:239–51. <https://doi.org/10.1007/s11199-005-5682-6>