

Influence of Sexual Sensation Seeking, Sexual Compulsivity and Sexual Pleasure in Condom Use among Spanish youth: Implications for HIV Interventions

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Abstract

Spain is one of the countries with the highest incidence of HIV within the European Union. Multiple and complex factors influence HIV infection in young people. This study aims to determine the influence of sexual sensation seeking, sexual compulsivity and perceived sexual pleasure variables in condom use. A total of 424 heterosexual youth were evaluated (M age = 20.62; SD = 2.62) distributed into a risk group (60.7%) and a no-risk group (39.3%). Sexual Sensation Seeking Scale, AIDS Prevention Questionnaire, Sexual Compulsivity Scale, and Sexual Pleasure Perceived Scale were administered. Results indicate statistically significant differences in sexual sensation seeking ($p=.001$), failure to control sexual impulses ($p=.030$), perceived sexual pleasure with a condom ($p=.027$) and without a condom ($p=.001$). The regression analysis revealed that three factors explained about 14% of the variance in condom use: sexual sensation seeking and sexual pleasure perceived without a condom (risk factors), and sexual pleasure perceived with a condom (protective factor). It is necessary to incorporate these variables into HIV prevention programs to reduce the number of infections in young people.

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Introduction

HIV infection is a major public health concern in European Union countries. In Spain, 10 percent of new HIV infections occurred in young adults under 30 years old and 30.5 percent happen with late diagnosis. Considering the window period, this implies framing the moment of infection during adolescence¹. Consistent condom use and other safe sexual behavior such as male circumcision, abstinence or mutual monogamy with an HIV-negative partner are the way to prevent sexual transmission of HIV and other sexually transmitted infections (STIs)²⁻⁴. Despite HIV preventive actions aimed at this group over the years, a significant percentage of Spanish youth from different regions continue to engage in sexual risk behaviors⁵⁻⁹.

The health behavior change models for HIV prevention have emphasized the influence of social, contextual and interpersonal determinants as the knowledge about HIV, cues to action, attitudes towards condoms, beliefs related to vulnerability to AIDS or motivation towards safe sexual behavior. But also, individual characteristics of people, considered as active agents, are relevant in understanding the processes involved in the primary and secondary HIV prevention¹⁰⁻¹².

Derived from the sensation seeking concept, Kalichman et al. established the construct of sexual sensation seeking to assess this predisposition in the area of sexuality⁹. In young people from different countries, it has been linked with increased frequency of sexual partners, non-use of condoms, low perceived risk, alcohol use before having sex and a weak intention to ensure safe sexual behavior¹³⁻¹⁶.

Kalichman and Cain described sexual compulsivity as "*a propensity to experience sexual disinhibition and under-controlled sexual impulses and behaviors as self-identified by individuals*"¹⁷. Therefore, it is considered to be a psychological construct that includes sexual preoccupation and increased intensity and

frequency of sexual behaviors, emotions and cognitions¹⁸. Various symptoms of sexual compulsivity have been associated with risky sexual behavior¹⁹⁻²².

Finally, pleasure has a main role in human sexual motivation. Latex condoms represent a mechanical barrier in sexual intercourse. The reduction in pleasure when using condoms is one of the main reasons that people express justifying the non-use of the same^{23;24}. On the other hand, it has demonstrated efficacy in those intervention programs that have included the pleasure as a component of work, in terms of increased condom use²⁵⁻²⁸.

Understanding the barriers or facilitators related to HIV infection may provide useful information for improving preventive interventions among young people. Moreover, we hypothesize that sexual risk behavior is related to higher sexual sensation seeking, greater self-report to sexual compulsivity and more sexual pleasure without a condom.

Methods

Study Sample

The sample was collected through information tables at the World AIDS Day in 2014. They were composed of 424 young heterosexuals from the Valencian Community (Spain).

Materials

Sexual Sensation Seeking Scale (SSSS) by Kalichman and Rompa²⁹. An instrument with 11-items which define personality disposition sensation seeking and which gather the answers in a 4 category Likert-scale (1. *Not at all like me*, 2. *Slightly like me*, 3. *Mainly like me*, 4. *Very much like me*). The total score is calculated by adding up all the scores of the items of the scale. The minimum and maximum score is 11 and 44 points, so the higher the score, the greater the sexual sensation. It was adapted and validated in Spain and gave an internal consistency of .70 (Cronbach's alpha, .77 in this study)³⁰.

Sexual Compulsivity Scale (SCS) by Kalichman and Rompa ²⁹. An instrument with 10-items which measure sexually compulsive behavior, sexual preoccupations, and sexually intrusive thoughts. It gathers the answers in a 4 category Likert-scale (*1. Not at all like me, 2. Slightly like me, 3. Mainly like me, 4. Very much like me*). The total score is calculated by adding up the scores for all the items of the scale. The minimum and maximum score is 10 and 40 points, so the higher scores correspond to greater sexual compulsivity. It was adapted and validated in Spain and got an internal consistency of .84 (Cronbach's alpha, .80 in this study) ³¹.

Sexual pleasure/affinity by Kalichman and Rompa ²⁹. An instrument with 11-item grouped into two areas: risk sexual practices and safe sexual practices. It assesses the perceived sexual pleasure in a 5 category Likert-scale (*1. Not at all pleasurable, 2. A bit pleasurable, 3. Moderately pleasurable, 4. Very pleasurable, 5. Extremely pleasurable*). The minimum and maximum scores are between 0 and 55 points, respectively, meaning that the higher the score, the more pleasure perceived in the risk practices (Cronbach's alpha, .66 in this study).

AIDS Prevention Questionnaire by Ballester, Gil and Giménez ³². An instrument with 65-items that measure the main components of health behavior models frequently used in HIV field. Reliability estimated was 0.70. One item concerned with use of condom behavior (How often have you used a condom in vaginal penetration?) was used for the purposes of this study. The response, always based on a Likert-type scale could be: Never, sometimes, quite often or always.

Procedure

This study belongs to a line of research in the field of the efficacy of the HIV preventive interventions among youth. The inclusion criteria for selecting study population were: adolescents and youth between 18 and 26 years, previous history of vaginal intercourse, heterosexual as a sexual orientation and native speakers

of Spanish. Those interested in participating in the research, provided their personal data. The first contact was made by email or by phone. After giving them information about the procedure and the implications of the study, they signed informed consent and completed the assessment battery. They used about 90 minutes to fill them and were supervised by a professional of the research unit.

Analysis

The biological hazard criteria of infection and frequency of sexual practices evaluated were the factors taken into account to select the criterion variable. Thus, anal penetration was excluded in spite of being the highest-risk factor, as it gave a low frequency (26.5%). Similarly, the practice of oral sex was excluded; although it is the lowest-risk practice of the three on which questions were asked, only 3.8% of young people engaging in it systematically used a condom. Given its high frequency and risk, we decided that condom use in vaginal penetration was the best criterion in calculating the risk profile in young people. Hence, we limited the differential analyses to this sexual practice as the criterion variable.

The item that evaluated self-reported behavior concerning condom use in sexual relations was subsequently re-codified as a dichotomous variable to define the dependent variable of the study. We established hence a given participant belonging to or not belonging to the HIV infection risk group. We consider as risk group inclusion criteria, not using a condom systematically in sexual relations (never, sometimes, quite, often). On the other hand, the non-risk group included persons that systematically used a condom (always). It used t-test and Cohen's d-test on quantitative variables in the comparison between independent samples (risk vs. no-risk). Furthermore, a multivariate analysis was carried out using a multiple logistic regression analysis to predict or estimate the situation of interest (risk group) ³³.

Results

Sociodemographic Characteristics and Sexual Experience

Among 424 participants, 60.4% were women and 39.6% were men. The average age of them was 20 years old ($SD = 2.62$). They had had a mean of 4 sexual partners ($SD = 4.92$) in their lives and a 64.1% of the sample were having sexual relations with a steady partner at the moment of evaluation. Participants were divided into two groups depending on condom use in vaginal intercourse because it was the most prevalent sexual behavior. Therefore, it was named "no-risk group" (NRG) to those who 'always' used a condom (39.3%) and "risk group" (RG) (60.7%) to those who 'never, sometimes or often' used a condom (see Table 1).

Table 1: Distribution of participants according to the group.

	Sex			Age		
	Men (%)	n	Women (%)	n	M	SD
NRG	39.2	65	60.8	102	20.09	1.69
RG	40.7	105	59.3	152	20.19	1.43

Factors Associated with Condom Use

The risk group were more sensation seekers, sexual compulsive and felt more sexual pleasure without a condom than the no-risk group. Both groups obtained similar scores in failure to control sexual impulses; however the risk group reported greater interference of sexual behaviour. The no-risk group, meanwhile, felt more sexual pleasure with a condom. There were statistically significant differences in the sexual sensation seeking, interference and perceived sexual pleasure between groups. The differences that reached a medium size were the sexual sensation seeking and sexual pleasure without a condom ³⁴. The magnitude differences was small in the sexual pleasure with a condom and the failure to control sexual impulses (see Table 2).

Predictors of Condom Use

Following on from this, a multiple regression logistic analysis was performed with the enter method. The value of R square Naglekerke indicates that the proposed model accounts for 14.1% of the variance of the dependent variable. This equation generated three explanatory variables which were the sexual sensation seeking, perceived sexual pleasure without a condom as risk factors, and perceived sexual pleasure with a condom which appears as a protective factor. Hosmer-Lemeshow test did not obtain statistical significance ($Ch^2 = 9.996$; $p = .265$), indicating a goodness of fit of the model. In general, a good classification result is obtained with an average of 66.6% of classifications being correct. The results are better with regard to sensibility, given that in the RG 84.7% of subjects are correctly classified; the results are considerably worse in relation to specificity, as here there is a correct classification of 38.6% of the participants that belonged to the NRG. The variable perceived sexual pleasure without a condom multiplies 1.19 (almost 20%) the risk of not using a condom during sex (see Table 3).

Discussion

In our study, sexual compulsivity has not appeared as an explanatory variable in the condom use behavior, perhaps because young people who take risks in their relationships have low sexual compulsivity ¹⁸.

Moreover, following the definition of Kalichman et al. these young people who do not use condoms during sex, tended to engage in novel sexual situations ²⁵. There are various models that attempt to explain why people with high scores on this trait tend to engage in risky sexual behaviors. Some research focused on the biological considering that these people need more stimulating experiences to maintain their optimal level of arousal ³⁵. From a psychological perspective, Chico notes that the sensation seekers underestimated or accept the risk as the price for the reward of experiencing sensations or experiences ³⁶. Maybe this trait predisposes performing risky sexual behavior because people with

Table 2: Groups differences in the items of the SSSS, SCS and Sexual Pleasrure (t-tests and Cohen's d).

Dimensions	Risk G		Non-risk G		t	p	d	IC	
	M	SD	M	SD				lower	higher
SSS	27.2	5.16	24.7	5.52	4.513	0.001	0.48	0.27	0.68
SC	14.2	3.93	13.7	4.48	1.163	0.25	0.12	-0.08	0.33
SC-F1	1.2	0.35	1.2	0.43	0.041	0.97	0	-0.2	0.2
SC-F2	1.6	0.59	1.4	0.53	2.181	0.03	0.23	0.02	0.43
PSP-NC	3.3	0.55	3	0.76	4.161	0.001	0.45	0.25	0.66
PSP-C	2.4	0.62	2.6	0.65	2.222	0.027	-0.25	-0.46	-0.05

Table 3: Multiple regression logistic analysis.

	β	S.E.	Wald	df	Sig	OR	95% CI	
							Lower	Higher
SSS	0.07	0.02	7.68	1	0.006	1.07	1.02	1.12
PSP-NC	0.17	0.04	15.95	1	0.001	1.19	1.09	1.29
PSP-C	-0.11	0.04	9.16	1	0.002	0.89	0.82	0.96

high scores tend to reduce their concern about a possible HIV infection and have different risk assessment. These people are more susceptible to short-term benefits and the effect of reinforcing stimuli considered pleasant³⁷. This trait provides a motivational explanation to sexual risk behavior for HIV infection. Expectations, values and meanings are important in negotiating the risks in sexual intercourse³⁸.

The dynamics of sex has changed in recent decades. The HIV prevention interventions and programs to reduce sexual risk have promoted the use of condoms as a method for safe sex. Today the experience of young people regarding the disease is quite different to that at the beginning of the AIDS epidemic. Young people see themselves less vulnerable to HIV infection and consider the use of condoms as an obligation that interferes with pleasure. The few programs promoting sexual pleasure as a motivating factor have demonstrated increased use and greater acceptance^{26;28}. Sexual pleasure is increased when a more positive perception of the specific physiological aspects of the relationship and of condoms is promoted²⁷.

Schemas about sexual pleasure configure high-risk behaviors during sexual encounters. Young people in this study, who take risks in their sexual relationships, give greater value to short-term pleasure than to any possible negative future effects of their behavior. By contrast, young people who use condoms consistently perceive pleasure when using a condom. Perhaps they perceive that sex without condoms may be pleasurable but they nonetheless give greater value to the avoidance of a possible HIV infection and therefore give priority to a preventive or safe behavior.

The findings of this study have certain limitations that future research should overcome. First, it would be important to know if the results are replicated with other sexual practices or risk situations. Secondly, it would be interesting to analyse the sexual risk behavior as a progressive continuum.

Conclusion

The results of the study can approach the understanding of sexual behavior among young people and in particular to understanding the behavior of using condoms in the primary prevention of HIV infection. Knowing the interpersonal, contextual and social determinants of sexual intercourse improve the impact of HIV prevention interventions. Furthermore, a deep understanding of the dispositional variables that interact with such factors can greatly increase the risk-taking behavior of a particular individual. Psychological interventions should be addressed to enhance a more positive view of the sensory and sensual aspects of condoms, to prepare for the risk assessment and awareness of problems, to encourage responsibility for young people's own health and to manage their emotions in a healthier manner.

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References

1. Plan Nacional sobre el Sida. Epidemiological surveillance of AIDS in Spain. Madrid: Área de Vigilancia de VIH y Conductas de Riesgo; 2016.
2. Lopez LM, Otterness C, Chen M, Steiner M, Gallo MF. Behavioral interventions for improving condom use for dual protection. *Cochrane Database Syst Rev.* 2013; (10): CD010662.
3. Weller S, Davis K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database Syst Rev.* 2002; (1): CD003255.
4. Lei JH, Liu LR, Wei Q, Yan SB, Yang L, Song TR et al. Circumcision Status and Risk of HIV Acquisition

- during Heterosexual Intercourse for Both Males and Females: A Meta-Analysis. *PLoS One*. 2015; 10(5): e0125436.
5. Ballester R, Gil-Llario MD, Ruiz-Palomino E, Giménez-García C. Self-efficacy in AIDS sexual prevention: influence of gender. *Annals of Psychology*. 2013; 29(1): 76-82.
 6. Espada JP, Escribano S, Orgilés M, Morales A, Guillén-Riquelme A. Sexual risk behaviors increasing among adolescents over time: comparison of two cohorts in Spain. *AIDS Care*. 2015; 27(6): 783-8.
 7. Muñoz-Silva A, Sánchez-García M, Martins A, Nunes C. Gender differences in HIV-related sexual behavior among college students from Spain and Portugal. *Span J Psychol*. 2009; 12(2): 485-95.
 8. Prat J, Planes M, Gras ME, Sullman MJ. Stages of change and decisional balance for condom use with a romantic partner. *J Health Psychol*. 2012; 17(8), 1193-202.
 9. Teva I, Bermúdez MP, Buela-Casal G. Characteristics of Sexual Behavior in Spanish Adolescents. *Span J Psychol*. 2009; 12(2): 471-84.
 10. Ballester-Arnal R, Ruiz-Palomino E, Gil-Llario MD. HIV testing among Spanish youth: analysis of the mediating role of the Big Five personality and other psychological factors. *AIDS Behav*. 2015; 19(11): 2001-11.
 11. Ruiz-Palomino E, Ballester-Arnal R, Gil-Llario MD. Personality as a mediating variable in condom use among Spanish youth. *J Health Psychol*. 2015. Epub ahead of print.
 12. Ballester-Arnal R, Ruiz-Palomino E, Gil-Llario MD. Structural Equation Modeling Test of an Integrated Model of Spanish Youth's Condom Use. *AIDS Behav*. 2016. DOI: 10.1007/s10461-016-1430-x.
 13. Davis KC, Stappenbeck CA, Norris J, George WH, Jacques-Tiura AJ, Schraufnagel TJ et al. Young Men's Condom Use Resistance Tactics: A Latent Profile analysis. *J Sex Res*. 2014; 51(4): 454-65.
 14. Donohew L, Zimmerman RS, Cupp PS, Novak S, Colon S, Abell R. Sensation seeking, impulsive decision making and risky sex: implications for risk-taking and design of interventions. *Journal of Personality and Individual Differences*. 2000; 28(6): 1079-91.
 15. Liao W, Lau JTF, Tsui HY, Gu J, Wang Z. Relationship Between Sexual Compulsivity and Sexual Risk Behaviors Among Chinese Sexually Active Males. *Arch Sex Behav*. 2015; 44: 791-8.
 16. Rosenbloom T. Risk evaluation and risky behavior or high and low sensation seekers. *Social Behavior & Personality: An International Journal*. 2003; 31(4): 375-86.
 17. Kalichman SC, Cain D. The relationship between indicators of sexual compulsivity and high risk sexual practices among men and women receiving services from a sexually transmitted infection clinic. *J Sex Res*. 2004; 41(3): 235-41.
 18. Carnes PJ. Cybersex, courtship, and escalating arousal: Factors in addictive sexual desire. *Sexual Addiction & Compulsivity*. 2001; 8(1): 45-78.
 19. Derefinko KJ, Peters JR, Eisenlohr-Moul TA, Walsh EC, Adams ZW, Lynam DR. Relations Between Trait Impulsivity, Behavioral Impulsivity, Physiological Arousal, and Risky Sexual Behavior Among Young Men. *Arch Sex Behav*. 2014; 43: 1149-58.
 20. Dodge B, Reece M, Cole SL, Sandfort TGM. Sexual compulsivity among heterosexual college students. *J Sex Res*. 2004; 41(4): 343-350.
 21. McBride KR, Reece M, Sanders SA. Using the sexual compulsivity scale to predict outcomes of sexual behavior in Young adults. *Journal of Sexual Addiction & Compulsivity*. 2008; 15(2): 97-115.
 22. Reece M, Plate PL, Daughtry M. HIV Prevention and Sexual compulsivity: The Need for an Integrated Strategy of Public Health and Mental Health. *Sexual Addiction and Compulsivity*. 2001; 8(2): 157-67.
 23. Calabrese SK, Reisen CA, Zea MC, Poppen PJ, Bianchi FT. The pleasure principle: the effect of perceived pleasure loss associated with condoms on unprotec-

- ted anal intercourse among immigrant Latino men who have sex with men. *AIDS Patient Care STDS*. 2012; 26(7): 430-5.
24. Shahnazi A, Forouzan AS, Nedjat S, Asgari S, Majdzadeh R. Barrier and facilitators of HIV related risky sexual behaviour. *Iranian Journal of Public Health*. 2013; 42(8): 842-53.
25. Kalichman SC, Johnson J, Adair V, Rompa D, Multhauf K, Kelly JA. Sexual Sensation-Seeking: Scale Development and Predicting AIDS-Risk Behavior Among Homosexually Active Men. *J Pers Assess*. 1994; 62: 385-97.
26. DeFur K. Don't Forget the Good Stuff! Incorporating positive messages of sexual pleasure into sexuality education. *American Journal of Sexuality Education*. 2012; 7(2), 146-59.
27. Hensel DJ, Stupiansky NW, Herbenick D, Dodge B, Reece M. Sexual pleasure during condom-protected vaginal sex among heterosexual men. *J Sex Med*. 2012; 9(5): 1272-6.
28. Scott-Sheldon LAJ, Marsh KL, Johnson BT, Glasford DE. Condoms + pleasure = safer sex? A missing addend in the safer sex message. *AIDS Care*. 2006; 18(7): 750-4.
29. Kalichman SC, Rompa D. Sexual Sensation Seeking and Sexual Compulsivity: Reliability, validity and predicting HIV risk behavior. *J Pers Assess* 1995; 65 (3): 586-601.
30. Ballester R, Gil MD, Ruiz E, Giménez C, Gómez S. Sexual Sensation Seeking Scale: adaptation and validation in a Spanish sample. Poster session presented at the Sixth National Congress of the Spanish Association of Clinical Psychology and Psychopathology, Huelva, Spain; 2008.
31. Ballester-Arnal R, Gómez-Martínez S, Gil-Llario MD, Salmerón-Sánchez P. Sexual Compulsivity Scale (SCS): Adaptation and validation in Spanish population. *J Sex Marital Ther*. 2012; 39(6): 526-40.
32. Ballester R, Gil MD, Giménez C. AIDS Prevention Questionnaire: analysis of reability and validity. Poster session presented at the Tenth National Congress of the Spanish Interdisciplinary AIDS Society, San Sebastián, Spain; 2007.
33. Hair JF, Anderson RE, Tatham RL, Black WC. *Multivariate data analysis* (4th Ed.). Englewood Cliffs, N: Prentice Hall; 1995.
34. Cohen J. *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum; 1988.
35. Roberti JW. A review of behavioral and biological correlates of sensation seeking. *Journal of Research in Personality*. 2004; 38: 256–79.
36. Chico E. Búsqueda de sensaciones [Sensation Seeking]. *Psicothema*. 2000; 12(2): 229-35.
37. Cooper ML, Wood PK, Orcutt HK, Albino AW. Personality and predisposition to engage in risky or problem behaviors during adolescence. *J Pers Soc Psychol*. 2003; 84(2): 390-410.
38. Carrera P, Caballero A, Muñoz D, Oceja L. Anticipated Emotions and Personal Experience for Predicting Behavioral Intentions and Behavioral Expectations. *Span J Psychol*. 2011; 14(2): 535-47.