



International Journal of Clinical and Health Psychology

www.elsevier.es/ijchp



ORIGINAL ARTICLE

Relationships between personality traits and positive/negative sexual cognitions

Nieves Moyano, Juan Carlos Sierra*

Universidad de Granada, Spain

Received March 4, 2013; accepted June 19, 2013

KEYWORDS

Personality;
Sexual cognitions;
Socio-demographic
variables;
Ex post facto study

Abstract In this study we examined the relationship between gender, age, religion, neuroticism, extraversion, openness to experience, and obsessiveness on one side and the frequency and content of sexual cognitions experienced as being positive/pleasant or negative/unpleasant on the other. The sample was made up of 1,500 individuals (42.8% men and 57.2% women) aged between 18 and 72 years. Results indicated that all the socio-demographic variables as well as the traits neuroticism, openness to experience, and obsessiveness were important in the prediction of the overall frequency of positive sexual cognitions. Age and neuroticism, openness to experience, and obsessiveness were found to be significant in the prediction of the overall frequency of negative sexual cognitions. When considering the content of sexual cognitions (i.e., intimate, exploratory, sadomasochistic, and impersonal), all the socio-demographic variables and the trait openness to experience were found to be significantly related to all types of positive sexual cognitions. Neither socio-demographic variables nor personality traits were significantly associated with the content of negative sexual cognitions. Overall, this study highlights the weakness of the predictive value of personality traits on sexual cognitions, especially those experienced as being negative. We discuss the usefulness of classic personality traits in predicting sexual aspects.

© 2013 Asociación Española de Psicología Conductual. Published by Elsevier España, S.L. All rights reserved.

PALABRAS CLAVE

Personalidad;
Pensamientos
sexuales;
Variables
sociodemográficas;
Estudio ex post facto

Resumen Se examinó la relación del género, edad, religión, neuroticismo, extraversión, apertura y obsesividad con la frecuencia y contenido de los pensamientos sexuales experimentados de modo positivo/agradable o de modo negativo/desagradable. Se evaluó una muestra de 1.500 sujetos (42,8% hombres y 57,2% mujeres) con edades entre 18 y 72 años. Los resultados indican que las variables sociodemográficas y los rasgos neuroticismo, apertura y obsesividad son importantes en la predicción de la frecuencia global de pensamientos sexuales positivos. En la predicción de la frecuencia total de pensamientos sexuales negativos resultaron relevantes la edad y los rasgos de neuroticismo, apertura y obsesividad. Al considerar el contenido de los pensamien-

*Corresponding author at: Facultad de Psicología, Campus Universitario de Cartuja, s/n, 18011 Granada, Spain.
E-mail address: jcsierra@ugr.es (J.C. Sierra).

tos sexuales (íntimos, exploratorios, sadomasoquistas e impersonales), se encontró que todas las variables sociodemográficas y sólo el rasgo apertura se asociaron a una mayor frecuencia de los cuatro tipos de pensamientos sexuales positivos. Ninguna variable sociodemográfica ni de personalidad resultó estar significativamente relacionada con el contenido de los pensamientos sexuales negativos. En general, se destaca que el valor predictivo de los rasgos de personalidad sobre los pensamientos sexuales es débil, especialmente para aquellos que se experimentan de modo negativo. Se discute la utilidad de los rasgos de personalidad tradicionales en la predicción de dimensiones sexuales.

© 2013 Asociación Española de Psicología Conductual. Publicado por Elsevier España, S.L.
Todos los derechos reservados.

From an evolutionary standpoint, personality traits are considered to be strategies that evolved to solve a wide range of social problems (Buss, 2009), including reproductive success through sexual behavior. Indeed, several studies highlight the relevance of personality traits in predicting sexual behavior (Petty, Wegener, & Fabrigar, 1997). Extraversion has been associated with several aspects that increase the chances of short-term mating success (Schmitt & Shackelford, 2008), such as an active sexual life, a large number of sexual partners (Raynor & Levine, 2009), high sexual sensation seeking, sexual novelty (Aluja, García, & García, 2003), and high levels of sexual desire (Miri, AliBesharat, Asadi, & Shahyad, 2011). By contrast, neuroticism is often associated with sexual guilt (Heaven, Fitzpatrick, Craig, Kelly, & Sebar, 2000), sexual functioning difficulties (Quinta Gomes & Nobre, 2011), and sexual and marital dissatisfaction (Fisher & McNulty, 2008), although it has also been found to be related to permissive sexual attitudes (Lameiras & Rodríguez, 2003). Openness to experience has been shown to be a good predictor of attitudes toward sexuality and has been associated with more liberal attitudes (Meston, Trapnell, & Gorzalka, 1993), erotophilia (Smith, Nezlek, Webster, & Paddock, 2007), and high sexual sensation seeking (Aluja et al., 2003).

The relationship between personality and sexual behavior has been widely studied. Yet, there is little research on the relationship between personality traits and the cognitive aspects of sexuality (i.e., sexual fantasies and sexual thoughts) and particularly on the relationship between such traits and the frequency and content of sexual fantasies (Birnbaum, Mikulincer, & Gillath, 2011). The few studies that have been conducted suggest a link between personality and the content of sexual fantasies. Sierra, Alvarez-Castro, and Miró (1995) found that introverted individuals reported having more sexual fantasies about intimacy whereas individuals who showed higher levels of neuroticism reported more frequent sadomasochistic fantasies. In fact, neuroticism has often been associated with sexual fantasies that are considered deviant (Hawley & Hensley, 2009). The trait openness to experience has shown to be associated with a general tendency toward sexual daydreaming (Pérez-González, Moyano, & Sierra, 2011).

The present study is based on the conceptualization of sexual fantasies developed by Renaud and Byers (1999). According to these authors, sexual fantasies are not always experienced as positive, pleasant and voluntary thoughts.

Renaud and Byers (1999) coined the term 'sexual cognition' to distinguish between positive sexual cognitions (PSC) and negative sexual cognitions (NSC). PSC are defined as "thoughts that are acceptable, pleasant and egosyntonic" and NSC are defined as "thoughts that are unacceptable, unpleasant and egodystonic" (p. 20). The authors developed the Sexual Cognitions Checklist (SCC; Renaud & Byers, 1999, 2011) to assess the frequency of PSC and NSC. This instrument has been validated in the Spanish population by Moyano and Sierra (2012). Besides assessing the frequency of PSC and NSC, the Spanish version of the measure makes it possible to explore the content of sexual cognitions, as the items are clustered according to the classification of sexual fantasies made by Wilson (1988): intimate, exploratory, sadomasochistic, and impersonal.

The nature of PSC and NSC is different. While PSC are usually deliberate, NSC are often reported as being intrusive (Renaud & Byers, 1999). Thus, each of these types of cognitions may be associated with different psychological processes (Bartels & Gannon, 2011). Exploring which personality traits are associated with each type of sexual cognition is of interest, because a) some personality traits are found to trigger and/or maintain certain sexual dysfunctions (Aslan & Fynes, 2008; Quinta Gomes & Nobre, 2011), and b) such knowledge may facilitate and guide the therapeutic process (Hartmann, Philippsohn, Heiser, & Rüffer-Hesse, 2004).

No previous studies have explored the relationship between personality and PSC and NSC. However, it has often been shown that some personality traits predispose individuals to experience either more positive or negative affect, which characterizes each type of sexual cognition. Extraversion and openness to experience have been found to be related to positive affect (Evans & Rothbart, 2007; Kardum & Hudek-Knezevic, 2012), while neuroticism has shown to be strongly associated with negative affect (Kardum & Hudek-Knezevic, 2012; Romero, Gómez-Fraguela, & Villar, 2012). Another personality trait that requires consideration is obsessiveness, as both obsessive thoughts and NSC are intrusive and therefore share a similar nature. Freeston, Krebs, Heyman, and Salkovskis (2009) evidenced that individuals with an obsessive disorder usually report intrusive sexual thoughts, which suggests that the content of intrusive and obsessive thoughts might overlap (see Canals Sans, Hernández-Martínez, Cosi Muñoz, Lázaro García, & Toro Trallero, 2012; Clark & Rhyno, 2005; Sánchez-Meca et al., 2011).

When exploring the relationship between personality traits and the frequency and content of sexual cognitions, it would be important to consider the influence of other aspects such as gender, age, and religion. It has consistently been shown that men report a higher frequency of all types of sexual thoughts than women (Carpenter, Janssen, Graham, Vorst, & Wicherts, 2008; Fischtein, Herold, & Desmarais, 2007; Moyano & Sierra, 2013; Renaud & Byers, 1999). Age has been found to be negatively related to the frequency of both positive and negative sexual cognitions (Moyano & Sierra, 2013). Finally, Christian individuals usually report a lower frequency of sexual fantasies and sexual cognitions experienced as pleasant (Ahrold, Farmer, Trapnell, & Meston, 2011; Carvalheira, Brotto, & Leal, 2010). However, the influence of religion on the frequency of negative sexual cognitions still remains unclear, as Moyano and Sierra (2013) recently found no relationship between both variables.

The aim of the present study, drafted according to the guidelines developed by Hartley (2012), was to analyze the relationship between gender, age, religion, and personality traits on one side and the overall frequency of positive and negative sexual cognitions and their specific content (i.e., intimate, exploratory, sadomasochistic, and impersonal) on the other. To do so, based on previous research, we aimed to test the following hypotheses:

Hypothesis 1. Men, individuals who are younger, and those who do not profess any religion, will report a higher overall frequency of PSC. Moreover, extraversion and openness to experience will be positively related to the overall frequency of PSC, while neuroticism and obsessiveness will be negatively related to it.

Hypothesis 2. Men and younger individuals will report a higher overall frequency of NSC. Previous studies suggest that the frequency of PSC and NSC is positively associated, thus individuals with a higher frequency of PSC, also report a higher frequency of NSC (Moyano & Sierra, 2013; Renaud & Byers, 1999). However, we will find no or little relationship between religion and overall frequency of NSC (Moyano & Sierra, 2013; Pérez-González et al., 2011; Renaud & Byers, 1999). Extraversion and openness to experience will be negatively associated with the overall frequency of NSC, while neuroticism and obsessiveness will be positively associated with it.

Considering the absence of previous research that may guide further hypotheses, no specific predictions were outlined regarding the relationship between socio-demographic variables, personality traits and the content of positive and negative sexual cognitions (i.e., intimate, exploratory, sadomasochistic, and impersonal). Instead, the following research question was put forward: Will gender, age, religion, and personality traits be associated with intimate, exploratory, sadomasochistic, and impersonal positive and negative sexual cognitions?

Method

Participants

The sample was composed of 1,500 Spanish participants (42.80% men and 57.20% women) aged between 18 and 72

years. Mean age was 28.51 ($SD = 9.86$) in men and 28.56 ($SD = 10.16$) in women. Regarding religion, 62.30% of men and 65.90% of women reported being Christian. The remaining participants reported not belonging to any religion. A majority of participants had a university degree or secondary school education (49.70% and 40.20%, respectively, in men, and 45.50% and 45.80%, respectively, in women). All participants were in a heterosexual relationship with sexual activity for at least 6 months.

Instruments

- Socio-demographic questionnaire inquiring about gender, age, education, and religious affiliation.
- Spanish version of the Sexual Cognitions Checklist (SCC; Renaud & Byers, 1999, 2011) developed by Moyano and Sierra (2012). The SCC assesses the frequency, content, and valence of sexual cognitions. It is composed of 28 sexual cognitions that are answered on a 7-point Likert scale ranging from 0 (*I've never had this thought*) to 6 (*I've had -have- this thought frequently during the day*). It groups sexual cognitions into four dimensions: *Intimate* (e.g., Having intercourse with a loved partner), *Exploratory* (e.g., Participating in an orgy), *Sadomasochistic* (e.g., Whipping or spanking someone), and *Impersonal* (e.g., Watching others have sex). The authors of both the original and the Spanish validation provided evidence of the internal consistency and validity of the scale. In this study, Cronbach's alpha reliability of each dimension for PSC and NSC was, respectively: *Intimate* (.89, .81), *Exploratory* (.82, .82), *Sadomasochistic* (.75, .89), and *Impersonal* (.63, .68).
- Short version of the Revised NEO Personality Inventory, NEO PI-R: NEO-Five Factor Inventory, NEO-FFI (Costa & McCrae, 2001). This instrument assesses the Big Five personality factors. Only three traits were examined in the present study: *Neuroticism*, *Extraversion*, and *Openness to experience*. Each dimension is assessed through 12 items, which are answered on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). The original version reached high reliability values, ranging from .88 to .92. In this study, Cronbach's alpha values were .77 for *Neuroticism*, .80 for *Extraversion*, and .73 for *Openness to experience*.
- *Obsessive* subscale of the Minnesota Multiphasic Personality Inventory, MMPI-2 (Hathaway & McKinley, 1999). It is composed of 16 items with dichotomous answers (*True/False*). In this study, Cronbach's alpha was .75.

Procedure

Participants were incidentally recruited in several Spanish provinces from university schools, lifelong learning centers for adults, and courses for jobseekers. A single examiner administered the measures individually or in groups not exceeding 50 individuals. All participants were given a consent form and an explanation of the main objective of the study: exploring the sexual thoughts of the Spanish population. Anonymity and confidentiality were guaranteed. No participants received any compensation in exchange for their cooperation.

Table 1 Hierarchical regression analysis in the prediction of the overall frequency of positive sexual cognitions.

Step	Variables	β	<i>sr</i>	ΔR^2	R^2
1	NSC	.28	.28***	.08***	.08
2	Gender	-.22	-.22***	.13***	.21
	Age	-.16	-.16***		
	Religion	-.20	-.20***		
3	Neuroticism	.05	.05*	.05***	.27
	Extraversion	.05	.04		
	Openness to experience	.21	.20***		
	Obsessiveness	-.06	-.06**		

NSC, negative sexual cognitions.

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

Table 2 Hierarchical regression analysis in the prediction of the overall frequency of negative sexual cognitions.

Step	Variables	β	<i>sr</i>	ΔR^2	R^2
1	PSC	.28	.28***	.07***	.07
2	Gender	.00	.00	.01***	.08
	Age	-.10	-.10***		
	Religion	.03	.03		
3	Neuroticism	.06	.06*	.02***	.10
	Extraversion	-.03	-.03		
	Openness to experience	-.05	-.05*		
	Obsessiveness	.07	.07**		

PSC, positive sexual cognitions.

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

Results

In order to jointly examine participants' socio-demographic variables, gender, age, and religion and the personality traits neuroticism, extraversion, openness to experience and obsessiveness and assess their relationship with the overall frequency of PSC and NSC, several hierarchical multiple regression analyses were conducted. As recommended by Renaud and Byers (1999, 2001), the effect of the overall frequency of NSC was controlled when analyzing PSC and vice versa. This variable was entered in Block 1. Socio-demographic variables were entered in Block 2, and personality traits were entered in Block 3. The interactions between gender and each personality trait that were found to be significant were entered in Block 4. The variables were centered for this purpose (Aiken & West, 1991). The overall frequency of NSC, which was controlled in the prediction of the overall frequency of PSC (see Table 1), explained 8% of the variance of the model. Gender, age, and religion significantly contributed to the model, adding 13% of the variance. These variables were negatively associated with the overall frequency of PSC, that is, men and non-religious individuals reported a higher frequency of PSC. Moreover, younger age was associated with a higher frequency of PSC. Finally, openness to experience, neuroticism, and obsessiveness significantly added variance to the model, which finally accounted for

27% of the variance. This result indicates that respondents who were more prone to openness to experience and to a lesser extent neuroticism reported a higher frequency of PSC. However, respondents with higher levels of obsessiveness reported a lower frequency of PSC. None of the interactions between gender and personality variables were significant, which indicates that the relationship between personality and frequency of PSC was equivalent between men and women.

Table 2 shows the hierarchical regression analysis of the overall frequency of NSC. The overall frequency of PSC, which was controlled, significantly contributed to the model, explaining 7% of the variance. Age was the only socio-demographic variable that contributed to the model, and added 1% to the variance. Thus, younger respondents reported a higher frequency of NSC. By contrast, obsessiveness, neuroticism, and openness to experience were significant, although their Beta values were small. A greater tendency toward neuroticism and obsessiveness predicted a higher frequency of NSC. Yet, openness to experience was negatively related to frequency of NSC. In other words, a higher tendency toward this trait was associated with a lower frequency of NSC. All the variables together explained 10% of the variance.

In order to jointly explore socio-demographic variables and personality traits and assess their relationship with the frequency of sexual cognitions according to their content,

Table 3 Results of the canonical correlation analysis between socio-demographic variables, personality traits, and the four dimensions of positive sexual cognitions.

	Function 1	
	r^a	Standardized discriminant function coefficient
<i>Predictors</i>		
Gender	.58	.72
Age	.33	.29
Religion	.47	.35
<i>Criterion variables</i>		
Neuroticism	.10	-.08
Extraversion	-.17	-.09
Openness to experience	-.50	-.50
Obsessiveness	-.15	.10
<i>Criterion variables</i>		
Intimate	-.81	-.33
Exploratory	-.87	-.75
Sadomasochistic	-.63	-.01
Impersonal	-.72	-.06

Note. Structure coefficients (correlations) greater than .30 were included in the interpretation of each canonical variate (shown in bold).

canonical correlations were conducted separately for PSC and NSC. Gender, age, religion, neuroticism, extraversion, openness to experience and obsessiveness were entered as predictors and intimate, exploratory, sadomasochistic, and impersonal sexual cognitions were the criterion variables. Because of the relationships previously found in the analysis and following the recommendations of Renaud and Byers (1999), we controlled the overall frequency of NSC when analyzing PSC and vice versa. A correlation of .30 as a cutoff was required for interpretation (Tabachnick & Fidell, 2012). In the analysis of the four dimensions of PSC, a function was found to be significant ($F_{32, 5485.38} = 17.47$; $p = .000$) and predicted 23% of the variance. As shown in Table 3, gender, age, religion, and openness to experience loaded in the set of predictor variables and all four types of PSC loaded in the set of criterion variables. This pair of canonical variates indicated that being male, being younger, not belonging to any religion, and a higher tendency toward openness to experience were associated with a higher frequency of all types of sexual cognitions (i.e., intimate, exploratory, sadomasochistic, and impersonal).

Regarding NSC, although two functions were found to be significant ($F_{32, 5485.38} = 3.39$, $p = .000$ and $F_{(21, 4273.28)} = 2.74$, $p = .000$), altogether they did not explain more than 5% of the variance, so they were not further considered for interpretation (Tabachnick & Fidell, 2012). Contrary to our predictions, this result indicated that none of the socio-demographic variables or the personality traits was relevant for understanding why certain types of sexual cognitions are experienced as negative.

Discussion

The aim of this study was to examine the relationship between gender, age, religion, and personality traits such as

neuroticism, extraversion, openness to experience, and obsessiveness on one side and the overall frequency and content of positive and negative sexual cognitions on the other. Results show that, in predicting the overall frequency of PSC, gender, age, and religion explained a considerable amount of the variance; in other words, being male, young and not belonging to any religion predicted a higher frequency of PSC, which is consistent with previous studies (Ahrold et al., 2011; Moyano & Sierra, 2013; Renaud & Byers, 1999). Openness to experience was the personality trait that was shown to be most relevant for PSC. This trait is characterized, among other aspects, by an active imagination or fantasy. In fact, previous research has shown that openness to experience is associated with higher sexual daydreaming (Pérez-González et al., 2011). Additionally, the association between openness to experience and positive affect was confirmed (Clark & Watson, 2008; Kardum & Hudeck-Knzevic, 2012). Interestingly and contrary to our predictions, the trait neuroticism, which is often associated with negative affect, was found to be a predictor of the overall frequency of PSC. This highlights that the relationship between neuroticism and positive affect is not completely clear. Along these lines, previous research indicates that neuroticism is associated with both positive and negative affect (David, Green, Martin, & Suls, 1997) and that it is related to both positive and negative sexual fantasies (Egan & Campbell, 2009). Obsessiveness was negatively related to the overall frequency of PSC. Therefore, this trait does not describe the nature of these types of thoughts. In contradiction with the initial hypothesis, extraversion was not found to predict PSC. We expected to find a relationship between PSC and extraversion, as this trait has been found to facilitate reproductive success through its relationship with several sexual aspects (e.g., having a higher frequency of sexual contacts, number of sexual partners) (Buss, 2003). The reason why no association was found may be that

extraversion increases the likelihood of sexual success but bears little relation to sexual cognitions, which are cognitive elements that are part of the imagination and have nothing to do with the easiness in social interactions that characterizes extraverted individuals.

Regarding NSC, the overall frequency of PSC, which was partialled out, predicted a considerable amount of variance. Yet, both socio-demographic and personality variables scarcely contributed to the model. This result highlights that the frequency of sexual cognitions that are experienced as negative highly depends of the frequency of sexual cognitions that are experienced as positive and pleasant. This evidences that both types of sexual cognitions are part of the same construct and depend on individuals' tendency toward sexual daydreaming (Pérez-González et al., 2011). Among the socio-demographic variables, only age was relevant, showing a negative association with the frequency of NSC. Gender was not significant in the prediction of the frequency of NSC. A possible explanation may be that differences between men and women in the frequency of NSC are often small, as shown by previous studies (Renaud & Byers, 1999; Moyano & Sierra, 2013). Moreover, the lack of relationship between being a Christian and experiencing sexual cognitions as negative seems to support previous suggestions by Wetterneck, Smith, Burgess, and Hart (2011). These authors pointed out that the distress triggered by intrusive sexual thoughts is not associated with religiosity. We also observed that neurotic and obsessive tendencies predicted a higher frequency of NSC whereas openness to experience was negatively associated with NSC. Results are consistent with previous studies that have shown a relationship between neuroticism and negative affect (Clark & Watson, 2008) and between neuroticism and negative aspects of sexuality such as a higher tendency to feel displeasure and sexual disgust (Olatunji, Haidt, McKay, & David, 2008). The relationship between NSC and obsessiveness evidences, as suggested by Byers, Purdon, and Clark. (1998), that NSC are characterized by being intrusive and that this type of sexual cognition is similar in form and content to obsession, although intrusive thoughts are usually more brief, less intense, trigger less distress, and are more easily controllable (Salkovskis & Harrison, 1984).

When examining the relationship between socio-demographic variables and the specific content of sexual cognitions, we found that gender, age, and religion were relevant in the prediction of all types of PSC. Therefore, being male, younger and non-religious was associated with having a higher frequency of intimate, exploratory, sadomasochistic, and impersonal sexual cognitions. The only trait that predicted the frequency of all types of PSC was openness to experience. The full model explained 23% of the variance. As shown by previous research, openness to experience was the most important factor for the prediction of sexual aspects (Meston et al., 1993). Interestingly, sexual cognitions with sadomasochistic content, which have often been considered to be deviant and pathological, were far from being associated with neurotic tendencies and were instead predicted by openness to experience, as previously shown by Bivona, Critelli, and Clark (2012). No socio-demographic or personality factors were found to be significant in the prediction of any type

of NSC.. This result suggests that there may be other factors related to the psychosexual history of individuals that may lead them to experience certain contents of sexual cognitions as negative.

Considering the weak relationship found between personality and positive and negative sexual cognitions and especially with the latter, it is necessary to ponder whether classic personality traits are a relevant factor in the study of human sexuality, as it has generally been assumed (Michalski & Shackelford, 2010). The study conducted by Schmitt (2004) in 10 different regions across the world revealed very weak relationships between 1) personality traits such as extraversion, neuroticism, and openness to experience and 2) risk sexual behaviors, promiscuity, and infidelity, reporting correlations that were significant but ranged between .03 and .13. Hoyle, Fejfar, and Miller (2000) did not find a relationship between risk sexual behavior and extraversion and openness to experience, and found a very weak relationship between risk sexual behavior and neuroticism. Recent studies have reported a weak relationship between extraversion and sexual orientation (Zheng, Lippa, & Zheng, 2011), and even between extraversion and the sexual activities that men and women usually prefer (Peterson, 2011). Sexual behavior, such as reaching an orgasm during intercourse, has shown significant correlations with extraversion and neuroticism, although with values that are never higher than .08 (Zietsch, Miller, Bailey, & Martin, 2011).

Classical personality traits do not seem to have a solid relationship with either sexual response or sexual fantasies. In particular, it has been shown that neuroticism is associated with sexual dysfunction but it does not explain more than 7% of the variance (Quinta Gomes & Nobre, 2011). Other authors as Janssen, Vorst, Finn, and Bancroft (2002) failed to find evidence of a relationship between extraversion and individuals' propensity for sexual excitation. In a meta-analysis, Malouff, Thorsteinsson, Schutte, Bhullar, and Rooke (2010) evidenced the weak influence of personality on sexual satisfaction. Moreover, extraversion, neuroticism and openness to experience have not been associated with sexual problems in women (Burri, Spector, & Rahman, 2013). Regarding sexual fantasies, Hariton and Singer (1974) found a relationship between personality traits (i.e., aggressiveness, exhibition, impulsivity, autonomy, and dominance) in women that fantasize about coital activities, although these relationships were weak. The most recent studies have particularly focused on examining personality and sexual fantasies in sexual offenders. Therefore, it is not possible to make comparisons with the sample used in this study. However, results in this area of research also seem to yield weak and marginal relationships (Williams, Cooper, Howell, Yuille, & Paulhus, 2009).

The weakness of the relationship between personality and sexuality leads us to make the following suggestions: a) several authors have pointed out that certain sexual behaviors may not be stable through time (Okami, 2002); thus, personality traits may be more adequate to assess more lasting behavioral patterns rather than specific behavioral events (Hoyle et al., 2000); and b) although the Big Five factors provide a popular heuristic of the central aspects of personality traits, it would be necessary to

conceptualize personality in sexual terms. This would facilitate better predictions through traits that are more relevant to predict certain aspects related to sexuality, such as erotophilia (Fisher & Fisher, 2000), sexual sensation seeking, and impulsivity (Bancroft et al., 2003), or sexual inhibition (Bancroft & Vukadinovic, 2004).

In summary, this study provides evidence of the relationships between personality traits and the frequency and content of positive and negative sexual cognitions in a non-clinical sample. This issue has not been explored before and could be useful for the training of individuals regarding their sexual fantasies in a therapeutic setting, as such fantasies are widely used in the treatment of several sexual dysfunctions. However, a few limitations should be noted. Personality traits were assessed through self-report measures so it could be useful to apply other measures to confirm the presence of such traits. Future studies should further explore which factors may lead individuals to experience sexual cognitions as negative.

Funding

This study was funded by a predoctoral scholarship from the Spanish Ministry of Education for the training of university teachers (Reference: AP2008-02503).

References

- Ahrold, T., Farmer, M., Trapnell, P., & Meston, C. (2011). The relationship among sexual attitudes, sexual fantasy, and religiosity. *Archives of Sexual Behavior, 40*, 619-630.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Aluja, A., García, O., & García, L. F. (2003). Relationships among extraversion, openness to experience, and sensation seeking. *Personality and Individual Differences, 35*, 671-680.
- Aslan, E., & Fynes, M. (2008). Female sexual dysfunction. *International Urogynecology Journal, 19*, 293-305.
- Bancroft, J., Janssen, E., Strong, D. M. A., Carnes, L., Vukadinovic, Z., & Long, J. S. (2003). Sexual risk-taking in gay men: The relevance of sexual arousability, mood, and sensation seeking. *Archives of Sexual Behavior, 32*, 555-572.
- Bancroft, J., & Vukadinovic, Z. (2004). Sexual addiction, sexual compulsivity, sexual impulsivity, or what? Toward a theoretical model. *Journal of Sex Research, 41*, 225-234.
- Bartels, R., & Gannon, T. (2011). Understanding the sexual fantasies of sex offenders and their correlates. *Aggression and Violent Behavior, 16*, 551-561.
- Birnbaum, G. E., Mikulincer, M., & Gillath, O. (2011). In and out of a daydream: Attachment orientations, daily relationship quality, and sexual fantasies. *Personality and Social Psychology Bulletin, 33*, 1398-1410.
- Bivona, J., Critelli, J., & Clark, M. (2012). Women's rape fantasies: An empirical evaluation of the major explanations. *Archives of Sexual Behavior, 41*, 1107-1119.
- Burri, A., Spector, T., & Rahman, Q. (2013). A discordant monozygotic twin approach to testing environmental influences on sexual dysfunction in women. *Archives of Sexual Behavior*.
- Buss, D. M. (2003). *The evolution of desire: Strategies of human mating*. New York: Basic Books.
- Buss, D. M. (2009). How can evolutionary psychology successfully explain personality and individual differences. *Perspectives on Psychological Science, 4*, 359-366.
- Byers, E. S., Purdon, C., & Clark, D. A. (1998). Sexual intrusive thoughts of college students. *The Journal of Sex Research, 35*, 359-369.
- Canals Sans, J., Hernández-Martínez, C., Cosi Muñoz, S., Lázaro García, L., & Toro Trallero, J. (2012). The Leyton Obsessional Inventory-Child Version: Validity and reliability in Spanish non-clinical population. *International Journal of Clinical and Health Psychology, 12*, 81-96.
- Carpenter, D., Janssen, E., Graham, C., Vorst, H., & Wicherts, J. (2008). Women's scores on the Sexual Inhibition/Sexual Excitation Scales (SIS/SES): Gender similarities and differences. *Journal of Sex Research, 45*, 36-48.
- Carvalho, A., Brotto, L., & Leal, I. (2010). Women's motivations for sex: Exploring the diagnostic and statistical manual, text revision criteria for hypoactive sexual desire and female sexual arousal disorders. *Journal of Sexual Medicine, 7*, 1454-1463.
- Clark, D. A., & Rhyno, S. (2005). Unwanted intrusive thoughts in nonclinical individuals: Implications for clinical disorders. In D. A. Clark (Ed.), *Intrusive thoughts in clinical disorders* (pp. 1-29). New York, NY: Guilford Press.
- Clark, L. A., & Watson, D. (2008). Temperament: An organizing paradigm for trait psychology. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 265-286). New York, NY: Guilford Press.
- Costa, P. T., & McCrae, R. R. (2001). *Inventario de Personalidad NEO revisado (NEO PI-R) e Inventario NEO reducido de Cinco Factores (NEO FFI)*. Madrid: TEA.
- David, J. P., Green, P. J., Martin, R., & Suls, J. (1997). Differential roles of neuroticism, extraversion, and event desirability for mood in daily life: An integrative model of top-down and bottom-up influences. *Journal of Personality and Social Psychology, 73*, 149-159.
- Egan, V., & Campbell, V. (2009). Sensational interests, sustaining fantasies and personality predict physical aggression. *Personality and Individual Differences, 47*, 464-469.
- Evans, D. E., & Rothbart, M. K. (2007). Developing a model for adult temperament. *Journal of Research in Personality, 41*, 868-888.
- Fischtein, D. S., Herold, E. S., & Desmarais, S. (2007). How much does gender explain in sexual attitudes and behaviors? A survey of Canadian adults. *Archives of Sexual Behavior, 36*, 451-461.
- Fisher, J. D., & Fisher, W. A. (2000). Individual-level theories of HIV risk behavior change. In D. Peterson, & R. J. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 3-55). New York, NY: Plenum.
- Fisher, T., & McNulty, J. (2008). Neuroticism and marital satisfaction: The mediating role played by the sexual relationship. *Journal of Family Psychology, 22*, 112-122.
- Freeston, M., Krebs, G., Heyman, I., & Salkovskis, P. (2009). Risk assessment and management in obsessive-compulsive disorder. *Advances in Psychiatric Treatment, 15*, 332-343.
- Hariton, E. B., & Singer, J. L. (1974). Women's fantasies during sexual intercourse. *Journal of Consulting and Clinical Psychology, 42*, 313-322.
- Hartley, J. (2012). New ways of making academic articles easier to read. *International Journal of Clinical and Health Psychology, 12*, 143-160.
- Hartmann, U., Philippsohn, S., Heiser, K., & Ruffer-Hesse, C. (2004). Low sexual desire in midlife and older women: personality factors, psychosocial development, present sexuality. *The Journal of the North American Menopause Society, 11*, 726-740.
- Hathaway, S. R., & McKinley, J. C. (1999). *MMPI-2. Inventario Multifásico de Personalidad de Minnesota-2*. Madrid: TEA.
- Hawley, P., & Hensley IV, W. A. (2009). Social dominance and forceful submission fantasies: Feminine pathology or power? *Journal of Sex Research, 46*, 568-585.

- Heaven, P. C., Fitzpatrick, J., Craig, F. L., Kelly, P., & Sebar, G. (2000). Five personality factors and sex: Preliminary findings. *Personality and Individual Differences, 28*, 1133-1141.
- Hoyle, R., Fejfar, M., & Miller, J. (2000). Personality and sexual risk taking: A quantitative review. *Journal of Personality, 68*, 1203-1231.
- Janssen, E., Vorst, H., Finn, P., & Bancroft, J. (2002). The Sexual Inhibition (SIS) and Sexual Excitation (SES) Scales: I. Measuring sexual inhibition and excitation proneness in men. *Journal of Sex Research, 39*, 114-126.
- Kardum, I., & Hudek-Knezevic, J. (2012). Relationships between five-factor personality traits and specific health-related personality dimensions. *International Journal of Clinical and Health Psychology, 12*, 373-387.
- Lameiras, M., & Rodríguez, Y. (2003). The big five and sexual attitudes in Spanish students. *Social Behavior and Personality, 31*, 357-362.
- Malouff, J., Thorsteinsson, E. B., Schutte, N. S., Bhullar, N., & Rooke, S. (2010). The Five-Factor Model of personality and relationship satisfaction of intimate partners: A meta-analysis. *Journal of Research in Personality, 44*, 124-127.
- Meston, C. M., Trapnell, P. D., & Gorzalka, B. B. (1993, June). Sex and the five factor model of personality. Paper presented in The Annual meeting of the International Academy of Sex Research, Pacific Grove, CA.
- Michalski, R. L., & Shackelford, T. K. (2010). Evolutionary personality psychology: Reconciling human nature and individual differences. *Personality and Individual Differences, 48*, 509-516.
- Miri, M., AliBesharat, M., Asadi, M., & Shahyad, S. (2011). The relationship between dimensions of personality and sexual desire in females and males. *Procedia Social and Behavioral Sciences, 15*, 823-827.
- Moyano, N., & Sierra, J. C. (2012). Adaptación y validación de la versión española del Sexual Cognitions Checklist (SCC). *Anales de Psicología, 28*, 904-914.
- Moyano, N., & Sierra, J. C. (2013). *Positive and negative sexual cognitions: Similarities and differences between men and women*. Manuscript submitted for publication.
- Okami, P. (2002). Dear Diary: A useful but imperfect method. In M. W. Wiederman & B. E. Whitley, Jr. (Eds.), *Handbook for conducting research on human sexuality* (pp. 195-208). Mahwah, NJ: Erlbaum.
- Olatunji, B. O., Haidt, J., McKay, D., & David, B. (2008). Core, animal reminder, and contamination disgust: Three kinds of disgust with distinct personality, behavioral, physiological, and clinical correlates. *Journal of Research in Personality, 42*, 1243-1259.
- Pérez-González, S., Moyano, N., & Sierra, J. C. (2011). La capacidad de ensoñación sexual: su relación con la actitud hacia las fantasías sexuales y rasgos de personalidad. *Cuadernos de Medicina Psicosomática y Psiquiatría de Enlace, 99*, 9-20.
- Peterson, A. (2011). Predicting preferences for sex acts: Which traits matter most, and why? *Evolutionary Psychology, 9*, 371-389.
- Petty, R. E., Wegener, D. T., & Fabrigar, L. R. (1997). Attitudes and attitude change. *Annual Review of Psychology, 48*, 609-647.
- Quinta Gomes, A., & Nobre, P. (2011). Personality traits and psychopathology on male sexual dysfunction: An empirical study. *Journal of Sexual Medicine, 8*, 461-469.
- Raynor, D. A., & Levine, H. (2009). Associations between the five-factor model of personality and health behaviors among college students. *Journal of American College Health, 58*, 73-82.
- Renaud, C. A., & Byers, E. S. (1999). Exploring the frequency, diversity, and content of university students' positive and negative sexual cognitions. *Canadian Journal of Human Sexuality, 8*, 17-30.
- Renaud, C. A., & Byers, E. S. (2001). Positive and negative sexual cognitions: Subjective experience and relationships to sexual adjustment. *Journal of Sex Research, 38*, 252-262.
- Renaud, C. A., & Byers, E. S. (2011). Sexual Cognition Checklist. In T. D. Fisher, C. M. Davis, W. L. Yarber, & S. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed.) (pp. 110-112). New York, NY: Routledge.
- Romero, E., Gómez-Fraguela, J., & Villar, P. (2012). Life aspirations, personality traits and subjective well-being in a Spanish sample. *European Journal of Personality, 26*, 45-55.
- Salkovskis, P. M., & Harrison, J. (1984). Abnormal and normal obsessions: A replication. *Behavior Research and Therapy, 22*, 549-552.
- Sánchez-Meca, J., López-Pina, J. A., López-López, J. A., Marín-Martínez, F., Rosa-Alcázar, A. I., & Gómez-Conesa, A. (2011). The Maudsley Obsessive-Compulsive Inventory: A reliability generalization meta-analysis. *International Journal of Clinical and Health Psychology, 11*, 473-493.
- Schmitt, D. P. (2004). The Big Five related to risky sexual behaviour across 10 world regions: Differential personality associations of sexual promiscuity and relationship infidelity. *European Journal of Personality, 18*, 301-319.
- Schmitt, D. P., & Shackelford, T. K. (2008). Big Five traits related to short-term mating: From personality to promiscuity across 46 nations. *Evolutionary Psychology, 6*, 246-282.
- Sierra, J. C., Alvarez-Castro, S., & Miró, E. (1995). Relación entre rasgos de personalidad y fantasías sexuales. *Terapia Psicológica, 3*, 7-12.
- Smith, C., Nezelek, J., Webster, G., & Paddock, E. (2007). Relationships between daily sexual interactions and domain-specific and general models of personality traits. *Journal of Social and Personal Relationships, 24*, 497-515.
- Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). New Jersey: Pearson.
- Wetterneck, C., Smith, A., Burgess, A., & Hart, J. (2011). Distress from sexual thoughts: Do religiosity, emotions, and thought appraisal matter? *Journal of Cognitive Psychotherapy, 25*, 189-202.
- Williams, K. M., Cooper, B. S., Howell, T. M., Yuille, J. C., & Paulhus, D. (2009). Inferring sexually deviant behavior from corresponding fantasies: The role of personality and pornography consumption. *Criminal Justice and Behavior, 36*, 130-137.
- Wilson, G. D. (1988). Measurement of sex fantasy. *Sexual and Marital Therapy, 3*, 45-55.
- Zheng, L., Lippa, R. A., & Zheng, Y. (2011). Sex and sexual orientation differences in personality in China. *Archives of Sexual Behavior, 40*, 533-541.
- Zietsch, B. P., Miller, G., Bailey, M., & Martin, N. (2011). Female orgasm rates are largely independent of other traits: Implications for "female orgasmic disorder" and evolutionary theories of orgasm. *Journal of Sexual Medicine, 8*, 2305-2316.