



## ORIGINALES

### Sexology training and its influence on nurses' attitudes toward sexuality

Formación en sexología y su influencia en las actitudes de las enfermeras hacia la sexualidad

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#### ABSTRACT:

**Background:** Sexology training and a tolerant attitude towards sexuality are key for nurses to be able to approach the topic appropriately at work. Therefore, the main goal of this study is to determine whether sexology training as part of the nursing degree affects students' attitudes towards sexuality.

**Method:** A case-control study was performed on 127 students and postgraduates from Facultad de Enfermería de Gijón, dividing the sample in two groups according to their attendance to specific sexology training. The attitudes were assessed using a translated version of Trueblood Sexual Attitude Questionnaire, and data analysis was performed using SPSS software.

**Results:** There are statistically significant differences ( $p= 0.015$ ) between the mean total score from the group that had received the training ( $6.53 \pm 0.81$ ) and the mean total score from the group that hadn't ( $6.13 \pm 1.06$ ). Attitudes from members of both groups were more open towards other people's behaviour ( $7.53 \pm 0.76$  versus  $7.25 \pm 1.06$ ) than towards their own ( $5.54 \pm 1.03$  versus  $5.00 \pm 1.28$ ), respectively.

**Conclusions:** It is verified that receiving sexology training correlates with more liberal attitudes towards sexuality. Only 24.8% of nursing faculties in Spain offer specific sexology courses.

**Key words:** Attitudes, sexuality, nursing, sexology, education.

#### RESUMEN:

**Introducción:** Tener unas actitudes tolerantes hacia la sexualidad, junto con la formación en sexología son aspectos clave para favorecer el abordaje de la sexualidad en la práctica profesional de las enfermeras. Por ello, el objetivo principal de este estudio fue comprobar si recibir formación en

sexología durante los estudios de Grado en Enfermería influye sobre las actitudes hacia la sexualidad del alumnado.

**Método:** Se realizó un estudio caso-control en 127 estudiantes de la Facultad de Enfermería de Gijón, dividiendo a la muestra en función de si habían recibido o no formación específica en sexología. Para medir dichas actitudes se utilizó una versión adaptada al castellano del Trueblood Sexual Attitude Questionnaire (TSAQ), analizándose los datos mediante el programa SPSS.

**Resultados:** Existen diferencias estadísticamente significativas ( $p=0,015$ ) entre la puntuación media total obtenida en el TSAQ por los estudiantes que sí habían recibido formación en sexología ( $6,53 \pm 0,81$ ) comparada con los que no ( $6,13 \pm 1,06$ ). De igual modo, las actitudes de las personas integrantes de ambos grupos son más liberales para los comportamientos ajenos ( $7,53 \pm 0,76$  frente a  $7,25 \pm 1,06$ ) que para los propios ( $5,54 \pm 1,03$  frente a  $5,00 \pm 1,28$ ), respectivamente.

**Conclusiones:** Se verifica que recibir formación en sexología se relaciona con la tenencia de unas actitudes hacia la sexualidad más liberales. Sólo un 24,8% de las Facultades de Enfermería españolas ofertan asignaturas específicas en sexología.

**Palabras clave:** Actitudes, sexualidad, enfermería, sexología, educación.

## INTRODUCTION

Attitudes can be defined as a set of beliefs, feelings, and tendencies of conduct, which has a mental or cognitive (positive or negative prejudices), emotional or affective (acceptance or rejection reaction) and behavioural (inclination to behave in one way or another) component<sup>(1,2)</sup>.

This analysis of attitudes towards sexuality has been focused along two main lines, that of conservatism-liberalism and erotophobia-erotophilia. The first is the one most frequently used in research on attitudes towards sexuality and focuses on the mental component of attitudes<sup>(3)</sup>.

Less tolerant attitudes, which tend to limit and restrict the expression of sexuality, while accepting and reaffirming traditions, social norms, and socially mainstream views on sexuality, are considered more conservative or traditional. However, more liberal, or progressive attitudes are more tolerant, favouring a free, unrestricted expression of sexuality, as well as individuals' sexual autonomy and freedom<sup>(1,3,4)</sup>.

There are multiple factors that influence the determination or definition of attitudes towards sexuality, among which society or social morality figures as one of the most influential. In addition, gender and sex, family background, sex education or sexology training, religious beliefs, sexual experience, and pornography consumption are also important.

Regarding the research on attitudes towards sexuality, and specifically among university students, it is important to point out that research has been conducted with quite different goals, using a wide variety of measurement instruments<sup>(3)</sup>.

Research on attitudes towards sexuality among nursing students has been almost non-existent until recent years, despite the close relationship between the caregiving role performed in this professional field throughout the life cycle of individuals and the unavoidable presence of sexuality in each of the stages of life<sup>(9,10)</sup>.

In general, research from different countries shows that nursing students tend to have generally liberal or erotophilic attitudes towards sexuality, which tend to become more so as sex education or sexology training is reinforced, and this, as well, supports the approach to sexuality in nurses' professional practice<sup>(4,7,11,12)</sup>.

Nevertheless, the persistence of a certain degree of homophobia or lgtbiphobia among nursing students is reflected, which is related to the association between caregiving and the Christian religion, as well as to the nursing student profile, which traditionally is that of a Caucasian, heterosexual, Christian woman from an upper-middle class social background<sup>(11,13-15)</sup>.

It is worth mentioning the research conducted by Rodríguez, Camacho, and Ríos on nursing students at a Colombian university, in which the Trueblood Sexual Attitude Questionnaire was used to measure their attitudes towards sexuality, as a counterpart to this one. Their results, consistent with the above, revealed that students had more liberal attitudes towards behaviours related to heterosexuality, commercial sex and pornography and autoeroticism; and more conservative or erotophobic attitudes towards behaviours related to sexual variations and diversity and homosexuality<sup>(4,15)</sup>.

Regarding sexology training during nursing studies and despite the fact that it is assumed necessary for nursing professionals to integrate human sexuality in their training in order to be able to provide quality care to their patients, who should be understood in a holistic manner, this is very often absent or, on the vast majority of occasions, disguised in order to deal only with genital anatomy, reproduction, pregnancy and childbirth, as well as being approached from a neutral, prohibitive and asexualised perspective<sup>(4,16-18)</sup>.

In fact, in a study conducted in 1994, both students and teaching staff at a university nursing school in Alicante considered sexology to be an incredibly important subject in their studies<sup>(19)</sup>. However, the Nursing degree syllabus in most Spanish universities tends to deal with sexology in a transversal manner in several courses and, if it appears as a complete and independent subject, it is usually among the courses known as "electives".

Specifically, in the 2017/2018 academic year, when this research was carried out, out of the 113 Nursing degrees offered in Spain, only 24.8% (28) of them offered an explicit or independent subject on sexology, of which 75% (21) were public institutions and the remaining 25% (7) were private; furthermore, their teaching guides varied considerably.

## **OBJECTIVES**

### **Main objective**

The general objective of this research was to determine whether receiving sexology training during nursing studies has an influence on attitudes towards sexuality among students at the Facultad de Enfermería de Gijón.

### **Specific objectives**

As specific objectives, the following were set out:

- To identify the socio-demographic differences between students who received sexology training and those who did not.
- To learn about the attitudes towards sexuality of the students who participated in the sample.

- To find out whether other variables such as gender, age, relationship status, political ideology, or religious beliefs influence students' attitudes towards sexuality.

## MATERIAL AND METHOD

### Design, research population and characteristics

A case-control study was conducted at the Facultad de Enfermería de Gijón (Oviedo University, Spain) from September 2017 to June 2018.

The research population comprised 310 individuals. Inclusion criteria included having completed their studies during the 2013/2014 academic year and later or being in their 4th year of the Nursing degree at the time of the research (2017/2018 academic year). University studies prior to the implementation of the Bologna Process (Diploma in Nursing) and having received significant sexology training outside of undergraduate studies were considered as exclusion criteria to avoid possible disaggregation factors when dividing the sample.

### Research variables

The variable "attitudes towards sexuality" was considered as a dependent variable in the research.

The variable "sexology training", determined by whether the optional subject "Human Sexuality", offered in the 4th year of the Nursing degree at the Facultad de Enfermería de Gijón, was used as a criterion for the distribution of the sample. Thus, the sample was classified into "case" groups (individuals who had taken the subject Human Sexuality) and "control" groups (individuals who had not taken the subject Human Sexuality).

Other socio-demographic variables analysed were "age", "gender", "sexual orientation", "political ideology", "religious beliefs", "relationship status" and "academic status".

### Measuring instruments

An *ad-hoc* questionnaire was used to measure the independent variables and the *Trueblood Sexual Attitude Questionnaire* or TSAQ was used for the dependent variable, which was considered the most appropriate given the goal of the research and the research population<sup>(3)</sup>.

The TSAQ was originally drafted in English and designed by Trueblood, Hannon and Hall<sup>(20)</sup> and later reviewed by Hannon, Hall, Gonzalez, and Cacciapaglia<sup>(21)</sup>. Its purpose is to measure the change in attitude of people who receive sexology or human sexuality training on issues related to sexual behaviour that are commonly covered in such training.

It includes 80 items divided into two scales "attitudes towards own sexual behaviour" (40 items) and "attitudes towards other people's sexual behaviour" (40 items). Each

set's items are further subdivided into five secondary scales: "autoeroticism", "heterosexuality", "homosexuality", "sexual variations and diversities" and "commercial sex and pornography".

Each item is scored on a 9-point Likert-type scale, with 1 being "I completely disagree" and 9 being "I completely agree". The scores are evaluated from a conservative-liberal perspective, whereby higher scores in total or in each of the secondary scales indicate a more liberal or tolerant attitude and lower scores indicate a more conservative or intolerant attitude.

The TSAQ questionnaire was translated into Latin American Spanish and validated in Colombia by Rodríguez et al.<sup>(15)</sup> but it is not adapted to Spanish from Spain. It was therefore decided to carry out a linguistic and cultural adaptation using the Delphi consensus method<sup>(22)</sup> contacting a group of 13 experts in different fields (sexology, Hispanic philology, nursing, and psychology) related to the questionnaire's topic, producing a questionnaire adapted to Spanish from Spain (Appendix 1), which was used in this research and subjected to the relevant psychometric tests (Table 1).

**Table 1. Reliability of the TSAQ's different versions**

Version	Scale*	Cronbach's alpha
English (original)	A	0.93
	B	0.96
	A+B	<b>0.97</b>
Latin American Spanish	A	0.94
	B	0.95
	A+B	<b>0.96</b>
Spanish from Spain	A	0.91
	B	0.92
	A+B	<b>0.94</b>

\*A = "Attitudes towards own sexual behaviour" scale; B = "Attitudes towards other people's sexual behaviour" scale.

### Ethical considerations

To contact the students and graduates, a letter was sent to the Dean of the Faculty, requesting access to the information necessary for the research on the fourth-year degree students from the academic year 2013/2014 to 2017/2018. Information (name, surname, and e-mail address) was requested from students enrolled in each complete academic year, and specifically in Human Sexuality during the specified years.

Once the information had been obtained and processed, the questionnaire was sent twice by email to the 310 individuals who made up the research population over a period of one month. The email provided information about the research and the

questionnaire to be completed. It was specified that participation was voluntary, that completion of the questionnaire implied consent to participate in the research and that the data obtained was confidential and anonymised. Duplication of results was avoided by a warning in the second send-out so that anyone who had already completed the questionnaire would not do so again. However, a duplicity analysis was performed on the final database and no cases were detected.

The TSAQ questionnaire was generated on the Google Forms platform and a link to access the questionnaire was sent to all members of the research population.

The responses were received anonymously, so it was not necessary to take the precautions required by the Organic Law on the Protection of Personal Data (1999) regarding the storage and processing of personal data, nor the modifications established by the European Data Protection Regulation, in force since 25 May 2018, when compiling the database.

### **Statistical processing of data**

Data analysis and the questionnaire psychometric analysis was conducted using SPSS (Statistical Package for the Social Sciences), version 23.0. A descriptive and inferential (bivariate and multivariate) analysis of the data was performed. Data are expressed as average  $\pm$  standard deviation (SD). Statistical significance was determined for any p-value  $< 0.05$  and different contrast statistics were used, depending on the characteristics of the data to be analysed.

## **RESULTS**

### **Sample**

Of the total of 310 individuals who comprised the target population, 127 (40.97%) completed the questionnaire and, therefore, made up the study sample.

The sample was analysed according to the variable "sexology training", obtaining a total of 70 individuals who had taken the optional subject "Human Sexuality" (members of the "case" group) and 57 who had not taken it (members of the "control" group). The remaining characteristics of the sample (total and distributed by groups) are shown in Table 2.

**Table 2. Sample's socio-demographic characteristics**

Socio-demographic variables		Sample		
		Total (127 individuals)	Individuals with sexology training (70 individuals)	Individuals with no sexology training (57 individuals)
Age(years)		25.8 ± 6.12	24.37 ± 5.62	27.54 ± 6.3
Sex	Male	16 (12.60%)	10 (14.29%)	6 (10.53%)
	Female	111 (87.40%)	60 (85.71%)	51 (89.47%)
Academic status	Student	28 (22.05%)	16 (22.86%)	12 (21.05%)
	Graduate	99 (77.95%)	54 (77.14%)	45 (78.95%)
Sexual orientation	Heterosexual	119 (93.70%)	63 (90%)	56 (98.25%)
	Homosexual	4 (3.15%)	3 (4.29%)	1 (1.75%)
	Bisexual	4 (3.15%)	4 (5.71%)	-
Relationship status (couple)	No	38 (29.92%)	20 (28.58%)	18 (31.58%)
	Yes, living together	25 (19.69%)	11 (15.71%)	14 (24.56%)
	Yes, not living together	64 (59.39%)	39 (55.71%)	25 (43.86%)
Political ideology	None	38 (29.92%)	18 (25.71%)	20 (35.09%)
	Left	59 (46.45%)	39 (55.72%)	20 (35.09%)
	Centre	21 (16.54%)	8 (11.43%)	13 (22.81%)
	Right	9 (7.09%)	5 (7.14%)	4 (7.01%)
Religious beliefs	No	80 (62.99%)	47 (67.15%)	33 (57.90%)
	Yes, non-practising	40 (31.50%)	19 (27.14%)	21 (36.84%)
	Yes, practising	7 (5.51%)	4 (5.71%)	3 (5.26%)

### Average total scores

The average scores obtained on the TSAQ showed a statistically significant difference ( $p=0.015$ ) among the students, where those who received training in sexology obtained higher values (Table 3) and therefore had more liberal or tolerant attitudes towards sexuality.

**Table 3. Average total TSAQ scores**

Sample	Total score (average $\pm$ SD)
Total	6.35 $\pm$ 0.95
Individuals with sexology training	6.53 $\pm$ 0.81*
Individuals with no sexology training	6.13 $\pm$ 1.06

\*p<0.05

### Group homogeneity analysis

Age was the only socio-demographic variable statistically significant ( $p=0.003$ ) in the homogeneity analysis, being higher among students who did not take the subject "Human Sexuality" ( $27.54 \pm 6.3$  years, compared to  $27.54 \pm 6.3$  years among students who did take the subject).

### Relationship with socio-demographic variables

The relationship of the average score obtained in the questionnaire (divided according to scales, secondary scales, and total score) with the different socio-demographic variables of the total sample was analysed, with religious beliefs and political ideology being the only variables in which statistically significant differences were found.

Regarding religious beliefs (Table 4), people who said they had no religious beliefs had significantly more liberal attitudes towards sexuality compared to those who defined themselves as believers and non-religious ( $p=0.034$ ). Specifically in areas related to homosexuality ( $p=0.015$ ), sexual diversity ( $p=0.01$ ) and own sexual behaviour ( $p=0.005$ ).

In addition, they also had significantly more liberal attitudes than those who defined themselves as believers and practitioners of a religion, although only about sexual diversity ( $p=0.01$ ) and one's own sexual behaviour ( $p=0.034$ ).

**Table 4. Average scores for the variable "religious beliefs" in the total sample**

TSAQ items (secondary scale, scale or total)	Religious beliefs		
	Non-believers	Non-practising believers	Believers and practitioners
Autoeroticism	7.29 $\pm$ 0.98	6.69 $\pm$ 1.43	6.16 $\pm$ 1.43
Heterosexuality	6.28 $\pm$ 0.66	6.04 $\pm$ 0.75	5.74 $\pm$ 0.93
Homosexuality	7.05 $\pm$ 1.15	6.23 $\pm$ 1.39 <sup>(a)</sup>	5.24 $\pm$ 2.36
Sexual variation and diversities	6.77 $\pm$ 1.15	6.01 $\pm$ 1.23 <sup>(b)</sup>	4.80 $\pm$ 1.15 <sup>(b)</sup>
Commercial sex and pornography	5.51 $\pm$ 1.14	5.40 $\pm$ 1.13	4.83 $\pm$ 1.90
Attitudes towards own sexual behaviour	5.58 $\pm$ 1.08	4.89 $\pm$ 1.09 <sup>(c)</sup>	4.46 $\pm$ 1.71 <sup>(c)</sup>
Attitudes towards other	7.58 $\pm$ 0.58	7.26 $\pm$ 1.00	6.25 $\pm$ 2.09



people's sexual behaviour			
Total	6.58 ± 0.73	6.07 ± 0.97 <sup>(d)</sup>	5.36 ± 1.85

(a)  $p=0.005$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Non-believers" and "Non-practising believers" ( $p=0.015$ ).

(b)  $p=0.001$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences when comparing the "Non-believers" group with the other groups ( $p=0.01$  in both cases).

(c)  $p=0.001$  was obtained using ANOVA. Tukey's test showed differences between "Non-believers" and "Non-practising believers" ( $p=0.005$ ) and "Non-believers" and "Believers and practitioners" ( $p=0.034$ ).

(d)  $p=0.015$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Non-believers" and "Non-practising believers" ( $p=0.034$ ).

Regarding political ideology (Table 5), people who identified as left-wing were found to have significantly more liberal attitudes towards sexuality than those who identified as right-wing ( $p=0.021$ ). Specifically in areas related to homosexuality ( $p=0.009$ ), sexual diversity ( $p=0.017$ ) and own sexual behaviour ( $p=0.032$ ).

In addition, they also held significantly more liberal attitudes than those who identified as centrist in their political ideology ( $p=0.021$ ), specifically about homosexuality ( $p=0.011$ ) and own sexual behaviour ( $p=0.040$ ).

**Table 5.** Average scores for the variable "political ideology" in the total sample

TSAQ items (secondary scale, scale or total)	Political ideology			
	None	Left	Centre	Right
Autoeroticism	6.80 ± 1.43	7.33 ± 0.92	7.01 ± 1.09	6.17 ± 2.63
Heterosexuality	5.99 ± 0.71	6.32 ± 0.65	6.18 ± 0.70	5.94 ± 1.05
Homosexuality	6.81 ± 1.21	7.09 ± 1.20 <sup>(a)</sup>	6.07 ± 1.16	5.01 ± 2.14
Sexual variation and diversities	6.29 ± 1.27	6.87 ± 1.13 <sup>(b)</sup>	6.03 ± 1.21	5.03 ± 1.96
Commercial sex and pornography	5.60 ± 1.12	5.47 ± 1.20	5.39 ± 0.82	4.67 ± 1.85
Attitudes towards own sexual behaviour	5.18 ± 1.19	5.66 ± 1.06 <sup>(c)</sup>	4.93 ± 0.96	4.29 ± 1.48
Attitudes towards other people's sexual behaviour	7.41 ± 0.78	7.57 ± 0.64	7.34 ± 0.80	6.44 ± 2.11
Total	6.30 ± 0.90	6.62 ± 0.73 <sup>(d)</sup>	6.13 ± 0.80	5.37 ± 1.76

(a)  $p=0.001$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Left" and "Centre" ( $p=0.011$ ) and "Left" and "Right" ( $p=0.009$ ).

(b)  $p=0.002$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Left" and "Right" ( $p=0.017$ ).

(c)  $p=0.005$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Left" and "Centre" ( $p=0.040$ ) and "Left" and "Right" ( $p=0.032$ ).

(d)  $p=0.021$  was obtained using the Kruskal-Wallis's test. Dunn's post hoc test showed differences between "Left" and "Centre" ( $p=0.034$ ) and "Left" and "Right" ( $p=0.027$ ).

### Relationship with TSAQ scales

The relationship between the questionnaire average scores items assessing attitudes towards own sexual behaviour (scale and secondary scales) and attitudes towards other people's sexual behaviour (scale and secondary scales) obtained by the total number of participants was analysed.

Overall, participants showed significantly more liberal attitudes regarding other people's sexual behaviour than their own ( $p<0.001$ ). Specifically, autoeroticism ( $p<0.001$ ), homosexuality ( $p<0.001$ ), sexual diversity ( $p<0.001$ ) and commercial sex and pornography ( $p<0.001$ ). Table 6 shows the average scores obtained.

**Table 6.** Average scores for own (A) and other people's (B) sexual behaviour in the total sample

Secondary scale	Score (average $\pm$ SD)	
	A	B
Autoeroticism*	6.31 $\pm$ 1.53*	7.76 $\pm$ 1.24
Heterosexuality	6.19 $\pm$ 1.16	6.15 $\pm$ 0.60
Homosexuality*	4.81 $\pm$ 2.14*	8.57 $\pm$ 1.11
Sexual variation and diversities*	5.00 $\pm$ 1.73*	7.85 $\pm$ 1.31
Commercial sex and pornography*	4.20 $\pm$ 1.21*	6.68 $\pm$ 1.50
Total*	5.30 $\pm$ 1.17*	7.40 $\pm$ 0.91

\*Student T,  $p<0.05$ .

### Relationship with sexology training

The relationship between the questionnaire scores on the different scales and secondary scales obtained by students who had taken the subject "Human Sexuality" and those who had not was analysed.

Regarding the questionnaire scales, students who received sexology training showed significantly more liberal attitudes towards their own sexual behaviour ( $p=0.009$ ) than those who did not (Table 7).

**Table 7.** Average scores according to scales of the TSAQ in relation to sexology training

Scale	Score (average $\pm$ SD)	
	Individuals with sexology training	Individuals with no sexology training
Attitudes towards own sexual behaviour	5.54 $\pm$ 1.03*	5.00 $\pm$ 1.28
Attitudes towards other people's sexual behaviour	7.53 $\pm$ 0.76	7.25 $\pm$ 1.06

\*Student T,  $p<0.05$ .

Regarding the questionnaire secondary scales, students who received sexology training scored significantly higher (Table 8) on aspects related to heterosexuality ( $p=0.033$ ) and sexual diversity ( $p=0.004$ ) than those who did not.

**Table 8.** Average scores according to TSAQ secondary scales in relation to sexology training

Secondary scale	Score (average $\pm$ SD)	
	Individuals with sexology training	Individuals with no sexology training
Autoeroticism	7.21 $\pm$ 1.12	6.82 $\pm$ 1.45
Heterosexuality	6.29 $\pm$ 0.69*	6.02 $\pm$ 0.73
Homosexuality	6.84 $\pm$ 1.27	6.51 $\pm$ 1.53
Sexual variation and diversities	6.73 $\pm$ 1.20*	6.05 $\pm$ 1.43
Commercial sex and pornography	5.60 $\pm$ 1.09	5.24 $\pm$ 1.27

\*Student T,  $p<0.05$ .

Regarding the analysis of the average scores on the secondary scales within each scale, it appeared that the students who had taken the subject "Human Sexuality" obtained significantly higher scores for autoeroticism ( $p=0.038$ ), heterosexuality ( $p=0.019$ ) and sexual diversity ( $p=0.002$ ) in their own sexual behaviours (Table 9).

**Table 9.** Average scores on the different secondary scales that make up the scale "Attitudes towards own sexual behaviour" in relation to sexology training

Secondary scale	Score (average $\pm$ SD)	
	Individuals with sexology training	Individuals with no sexology training
Autoeroticism	6.56 $\pm$ 1.29*	6.00 $\pm$ 1.74
Heterosexuality	6.41 $\pm$ 1.13*	5.92 $\pm$ 1.16
Homosexuality	5.01 $\pm$ 2.13	4.55 $\pm$ 2.14
Sexual variation and diversities	5.42 $\pm$ 1.62*	4.48 $\pm$ 1.74
Commercial sex and pornography	4.32 $\pm$ 1.21	4.05 $\pm$ 1.21

\*Student T,  $p<0.05$ .

No statistically significant differences were found in students' perceptions of the same valued aspects of other people's sexual behaviour.

### Profile of the student taking the subject "Human Sexuality"

A multivariate analysis (ANOVA) was conducted to identify the profile of students who chose to take the optional subject "Human Sexuality", showing that both age ( $p=0.003$ ) and sexual orientation ( $p=0.028$ ) significantly conditioned this choice.

It was revealed (binary logistic model, Wald test) that younger age and having a sexual orientation other than heterosexuality (homosexuality, bisexuality) increased the probability of choosing this subject.

### **Factors influencing the total score obtained**

The factors that had the greatest influence on the total score obtained in the TSAQ questionnaire were analysed (multivariate model, step-by-step selection method with  $p < 0.001$  and adjusted  $R^2$  of 25.27%), obtaining that the fact of receiving training in sexology ( $p = 0.009$ ), being a man ( $p = 0.049$ ), being in a relationship and living together ( $p < 0.001$ ) and having a centrist political ideology ( $p = 0.003$ , left ( $p < 0.001$ ) or not having a specific political ideology ( $p = 0.003$ , left ( $p < 0.001$ )), being in a relationship and living together ( $p < 0.001$ ) and having a centrist political ideology ( $p = 0.003$ ), left ( $p < 0.001$ ) or no specific political ideology ( $p < 0.001$ ) were related to obtaining higher scores on the questionnaire, namely, having more liberal or tolerant attitudes towards sexuality.

## **DISCUSSION**

This research shows that the nursing students in the sample were generally liberal, erotophilic or tolerant in their attitudes towards sexuality.

When analysing and comparing the results obtained in this research with others, it should be noted that there are many factors that can influence them (time or year of completion, culture or country, disparity in the measuring instruments used, differences in sexology training received, etc.). Despite this and pointing to the research carried out by Rodríguez et al.<sup>(15)</sup>, considered as a reference for this one, the results of both studies show that nursing students who receive sexology training have more liberal attitudes towards sexuality than those who do not, being more tolerant towards other people's behaviour than their own.

Regarding other studied variables, it is important to mention the influence of religious beliefs on attitudes towards sexuality. This study found that people are more liberal, erotophilic or tolerant when they do not have religious beliefs, which is consistent with what has been found in other studies<sup>(7,11)</sup>.

However, it should be noted that other research has found that men have more erotophilic attitudes towards sexuality than women<sup>(6,8)</sup>, whereas in this study, although men obtained higher average scores than women ( $6.61 \pm 1.22$  vs.  $6.30 \pm 0.90$ ), the differences were not statistically significant. This can be explained by the unequal distribution of men and women in the sample, as nursing students are mainly female.

Regarding the evaluation instrument of attitudes towards sexuality used in this study, the TSAQ, it is important to highlight that the scores on reliability or internal consistency (Cronbach's Alpha coefficient) of the adaptation carried out on it show, in general, little variability with respect to those obtained in the validation of the original questionnaire<sup>(21)</sup> and its validated translation into Latin American Spanish<sup>(15)</sup>.

The limitations of the study include the lack of research in the field and in populations with similar characteristics. With regard to the characteristics of the research, it is

possible that the fact of choosing to take the optional subject "Human Sexuality" could be a bias if it is assumed that these people have more tolerant or liberal attitudes towards sexuality; also knowing that the training received is specific to the Facultad de Enfermería de Gijón, as the Nursing degree syllabus is not regulated at a national level. Moreover, selecting a large target population in which the vast majority (77.95%) had already completed their undergraduate studies made it impossible to conduct previous and follow-up tests. One possible threat to the external validity of the study is that participants took part intentionally rather than by randomisation.

As future lines of research, we propose to study the relationship between attitudes towards sexuality, sexology training received during Nursing degree studies and its application in daily professional practice when dealing with patients and their sexuality. Also, considering the limitations of this study, to conduct a prospective study with the possibility of conducting a previous test and follow-up test and comparing students from the different faculties where specific sexology training is offered. Furthermore, we consider enriching opening this line of research to the training of other health professionals.

## CONCLUSIONS

It is concluded that receiving sexology training is related to having more liberal, erotophilic and tolerant attitudes towards sexuality than not receiving it.

In addition to training, such attitudes may be influenced by religious beliefs (being more liberal, erotophilic or tolerant when not trained) and by political ideology (being more liberal, erotophilic or tolerant when left-wing, as opposed to no political ideology, centre or right-wing).

Sexology training offered during Nursing degree studies in the numerous universities in Spain is scarce, optional, and not very consensual.

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## APPENDIX

The version of the **Trueblood Sexual Attitude Questionnaire (TSAQ)** adapted to Spanish from Spain, used as an instrument to conduct this study, is attached.

### ACTITUDES O CONDUCTAS SEXUALES ACEPTABLES EN UNO/A MISMO/A

*A continuación, deberás responder a los siguientes ítems sobre actitudes o conductas sexuales que consideres más o menos aceptables en ti mismo/a, significando el 1 “completamente en desacuerdo o completamente inaceptable” y el 9 “completamente de acuerdo o completamente aceptable” en la escala Likert que aparece a continuación:*

1	2	3	4	5	6	7	8	9	
Completamente en desacuerdo									Completamente de acuerdo

1. Encuentro que la masturbación es una práctica sexual aceptable si en ese momento no tengo pareja
2. Tendría relaciones sexuales con mi pareja antes del matrimonio
3. Tendría sexo oral con una persona de mi mismo sexo
4. Vería pornografía con mi pareja para aprender nuevas técnicas sexuales
5. Podría estar involucrado en más de una relación sexual al mismo tiempo
6. Vería aceptable vestir ropa del otro sexo, si me resultara sexualmente excitante
7. Es aceptable para mí ser bisexual
8. Grabarme en video junto a mi pareja durante la actividad sexual es aceptable si esto me excita
9. No debería existir censura a los materiales con contenido sexual porque quiero tener libertad para disfrutarlos
10. Considero aceptable resultarle atractivo a miembros del mismo sexo, así como a miembros del sexo opuesto
11. Encontraría aceptable infringir dolor a otra persona con su consentimiento, si fuera sexualmente excitante
12. Encuentro aceptable observar a otras personas durante su actividad sexual
13. Personalmente creo que es aceptable pensar o fantasear con la actividad sexual
14. Creo que practicaría sexo más frecuentemente si viera pornografía
15. Tendría relaciones sexuales solamente con fines reproductivos, no por placer
16. Me parece aceptable fantasear con otra persona cuando tengo relaciones sexuales con mi pareja
17. Vendería mis servicios sexuales por dinero
18. Disfrutaría siendo dominado en una relación sexual
19. Usaría la actividad sexual para mi propio placer
20. Disfrutaría teniendo el rol dominante en una relación sexual
21. Si conviviese con mi pareja, me masturbaría como una forma aceptable de escape sexual
22. Consideraría aceptable que un miembro de mi mismo sexo se me insinuara
23. Vería pornografía para mejorar mis relaciones sexuales
24. Participaría en un espectáculo de carácter sexual por dinero
25. Tendría relaciones sexuales con una persona de mi mismo sexo
26. Usaría la pornografía (revistas, vídeos, libros) para excitarme sexualmente
27. Sólo tendría relaciones sexuales con mi pareja
28. Encontraría aceptable recibir una llamada de contenido erótico si me resultase excitante
29. Mantendría toqueteos mutuos con una persona de mi mismo sexo
30. Tendría relaciones homosexuales
31. Participaría en sexo grupal (3 o más personas con consentimiento)
32. Tendría relaciones sexuales con una persona del sexo opuesto el mismo día que nos conociéramos
33. Si no tuviera pareja, me masturbaría como un medio para liberar la energía sexual
34. Tendría relaciones sexuales solamente si quiero a mi pareja
35. Aceptaría ejercer la prostitución
36. Considero aceptable que me atraigan personas de mi mismo sexo
37. Practicaría sexo oral con alguien del sexo opuesto
38. No vería pornografía porque es dañino
39. Tendría sexo anal con una persona del sexo opuesto
40. Aunque esté manteniendo una relación sexual, creo que es aceptable fantasear con otra persona

## ACTITUDES O CONDUCTAS SEXUALES ACEPTABLES EN OTRAS PERSONAS

A continuación, deberás responder a los siguientes ítems sobre actitudes o conductas sexuales que consideres más o menos aceptables en otras personas, significando el 1 “completamente en desacuerdo o completamente inaceptable” y el 9 “completamente de acuerdo o completamente aceptable” en la escala Likert que aparece a continuación:

1	2	3	4	5	6	7	8	9	
Completamente en desacuerdo									Completamente de acuerdo

41. Es aceptable que otras personas tengan relaciones sexuales con más de una pareja
42. Es aceptable que mientras otras personas tienen relaciones sexuales con su pareja, fantaseen con alguien más
43. Es aceptable que otras personas usen la pornografía (revistas, vídeos, libros) para excitarse sexualmente
44. Es aceptable que otras personas tengan sexo oral con alguien de su mismo sexo
45. Es aceptable que otras personas recibiesen una llamada de contenido erótico si les resultase excitante
46. Es aceptable que otras personas piensen o fantaseen con la actividad sexual
47. Es aceptable que otras personas ejerzan la prostitución
48. Es aceptable que otras personas participen en espectáculos sexuales por dinero
49. Es aceptable que otras personas se masturben como medio para liberar energía sexual cuando no tienen pareja
50. Es aceptable que otras personas vean pornografía para mejorar sus relaciones sexuales
51. Otras personas no deberían ver pornografía porque es dañino
52. Es aceptable que otras personas se graben en vídeo durante la relación sexual con su pareja, si esto los excita
53. Es aceptable que otras personas practiquen sexo en grupo (3 o más personas con consentimiento)
54. Es aceptable que a otras personas les atraigan personas del mismo sexo o del sexo opuesto
55. Es aceptable que otras personas se insinúen a personas de su mismo sexo
56. Es aceptable que otras personas disfruten siendo dominadas en una relación sexual
57. Es aceptable que otras personas practiquen sexo anal con personas del sexo opuesto
58. Es aceptable si otras personas ven pornografía con su pareja para aprender nuevas técnicas sexuales
59. Es aceptable que otras personas tengan relaciones sexuales con una persona del sexo opuesto que acaban de conocer
60. Creo que otras personas tendrían sexo más a menudo si vieran pornografía
61. Es aceptable que otras personas tengan sexo con alguien de su mismo sexo
62. Es aceptable que otras personas tengan relaciones homosexuales
63. Es aceptable que otras personas que conviven con su pareja se masturben como un medio de escape de la energía sexual
64. Es aceptable que otras personas se vistan con ropa del otro sexo, si les resultara sexualmente excitante
65. Es aceptable que otras personas se sientan atraídas por miembros de su mismo sexo
66. Es aceptable que otras personas utilicen la actividad sexual para su propio placer
67. Es aceptable que otras personas tengan relaciones sexuales con su pareja antes de casarse
68. Cuando otras personas estén manteniendo una relación sexual, creo que es aceptable que fantaseen con alguien más
69. Es aceptable que otras personas practiquen sexo oral con alguien del sexo opuesto
70. Es aceptable que otras personas sólo tengan relaciones sexuales con la pareja que quieren
71. Es aceptable que otra persona se masturbe como un escape de la energía sexual cuando no tiene pareja
72. Es aceptable que otras personas sólo tengan relaciones sexuales para reproducirse, no por placer
73. Es aceptable que otra persona infrinja dolor a otra con su consentimiento, si ambas lo encuentran sexualmente excitante
74. Es aceptable que otras personas participen en toqueteos mutuos con una persona de su mismo sexo
75. Es aceptable que otras personas sean bisexuales
76. Es aceptable que otras personas disfruten teniendo el rol dominante en una relación sexual
77. Es aceptable que otras personas sólo tengan relaciones sexuales con su pareja
78. Es aceptable que una persona observe a otras durante su actividad sexual
79. Es aceptable que otras personas piensen que no debería existir censura a los materiales con contenido sexual porque quieran tener libertad para disfrutarlos
80. Es aceptable que otras personas vendan sus servicios sexuales por dinero

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