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The Satisfaction of Higher Education Students with Sex Education Training: A Cross-Sectional Study

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Abstract: To maximize the potential of sex education, it is essential to optimize aspects related to the environment, the trainer-trainee interaction, and the quality of training. The objective of the present study was to identify and describe the satisfaction of higher education students with sex education training. An exploratory, descriptive, and cross-sectional study was carried out using the Student Satisfaction with Higher Education questionnaire, which was applied to a sample of 132 higher education students from several countries. In the statistical analysis using the *SPSS software version 28*, non-parametric tests were used, namely, the *Mann–Whitney* test and the *Kruskal–Wallis* test, in addition to *Spearman*'s correlation coefficient. Overall, the participants considered themselves very satisfied with the sex education training provided ($\chi = 4.77$). The largest contribution to the satisfaction of the higher education students with the sex education training was the “quality of the training organization (environment and content)” ($\chi = 4.79$). Educators and policymakers have the role of designing, implementing, and evaluating programs that satisfy college students and encourage them to strive for more sex education training aimed at promoting well-being, happiness, and sexual health.

Keywords: satisfaction; quality education; students; higher education; sex education

1. Introduction

Education has as its main purpose the acquisition of knowledge and the development of skills or abilities that may be applied later in the student's life or in their professional performance (Salmerón González, 2013). Sex education (SE) is one example of the complex interventions implemented in the field of sexual and reproductive health (SRH) (Ivanova et al., 2020), which promotes the sexual rights of all people, thus guaranteeing universal access to health and sexual and reproductive rights (Vilaça, 2017).

SE training in higher education aims to provide students with the knowledge and skills required for understanding sexual development, promoting healthy sexuality and intervening with students who may eventually have this human need unmet (Sung et al., 2016). Concern for sexual and reproductive health and rights is essential for sustainable health development due to its links to gender equality and well-being (Areskoug-Josefsson et al., 2019).

Studies have revealed that undergraduate nursing programs typically include the topic of sexuality in their curricula. However, this is often addressed superficially, integrated into the discussion of nursing theoretical models, and incorporated within activities of daily living or fundamental human needs. When explored in greater depth, the focus is predominantly bio-physiological, with the most common content areas including contraceptive methods, sexually transmitted infections, and body image/female genital mutilation (Gradellini et al., 2023). The approach to sexuality in higher education curricula requires a paradigm shift, from a bio-physiological model to a holistic model, where content related to gender identity, culture, beliefs, and values must be incorporated (Soto-Fernández et al., 2023; Santiago et al., 2024).

These studies highlight the importance of integrating content related to sexuality and sexual health education into nursing curricula, as students face difficulties in describing and distinguishing terms related to sexual orientation, gender diversity, and sex (Soto-Fernández et al., 2023; Santiago et al., 2024).

These students demonstrate a basic understanding of sexuality without the necessary depth for its application in nursing practice. Additionally, they struggle to take a stance on sensitive and intimate topics, which is fundamental for professional nursing practice, as it focuses on interpersonal relationships (Santiago et al., 2024).

Issues related to health education and sexual and reproductive rights in higher education have been a subject of concern. In mapping carried out in Switzerland, an urgent need was identified to increase the presence of education on sexual and reproductive health and rights in higher education in health, police, law, and social work courses in Sweden (Areskoug-Josefsson et al., 2019). It is essential to reflect on and revise nursing curricula by incorporating sexuality in a comprehensive, impartial, and inclusive manner. This ensures that future nurses provide holistic sexual and reproductive care, grounded in scientific evidence, and with a positive impact on sexual health promotion. Likewise, the faculty addressing these topics must have specific training and remain up to date on the latest developments (Gradellini et al., 2023; Santiago et al., 2024).

Within the scope of the Project "Educating for Sexuality: Advances in European Health" (Ed-SEX), no. 2021-1ES01-KA220-HED-000023306, which aims to introduce a holistic model of sexual education in higher education, several workshops were conducted, each lasting approximately 90 min (Workshop 1—Sexual Violence and Consent; Workshop 2—Sexual Diversity and Emotions; Workshop 3—Functional Diversity and Sexuality; and

Workshop 4—Sexuality and Transculturality—Migrant Cultures). These workshops integrated a more in-depth approach to sexuality, departing from the usual bio-physiological approach, which focuses on issues of reproduction/contraception and sexually transmitted infections, and instead took a comprehensive and transcultural approach, which included the themes of emotions, sexual violence, consent, issues of gender identity, sexual diversity, and the transculturality of sexuality. These workshops were delivered to higher education students from the nursing, education, and other health-related fields across five universities from different countries: Portugal, Spain, Italy, and the United States. The goal was to provide the students with in-depth knowledge of sexuality, complementing the existing curricula of their courses. The workshops followed an activity plan that included diverse teaching strategies, such as peer education, gamification, group dynamics, video viewing, reflective phrases, brainstorming, and role-playing, tailored to the topics addressed. The trainers conducting the workshops were faculty members from each participating institution, who also served as researchers in the EdSex project.

This project is significant as it aims to implement a cross-cultural and multidisciplinary approach by introducing a comprehensive sexual education model in higher education, moving away from a standardized and behaviorist model based on a biological view of sexuality. The project operates in various contexts, including educational institutions (targeting both faculty and students) and community settings (youth, women, and migrant associations). Among students, it aims to enhance knowledge, improve critical thinking, and develop competence in sexual education; for faculty, it seeks to increase skills and competencies in sexual education and apply innovative pedagogical methodologies; and within the community, it aims to promote intercultural awareness and respect regarding sexual issues.

The implementation of this sexual education training within higher education curricula seeks to improve knowledge in this field, promoting updated and contextually appropriate strategies and educational tools, with the goal of better preparing nurses and other healthcare and education professionals for their practice. This allows students to become agents of change to provide quality healthcare that is sensitive to sexual issues, fostering culturally competent behaviors regarding sexual diversity, and promoting sexual health through education (Heise et al., 2019; Michielsen & Ivanova, 2022). Thus, the EdSex Project provides a significant boost to sexual education in higher education. In addition to offering training, it also ensures that this training is accessible to the public and allows Higher Education Institutions worldwide to access this training so they can implement it with their students.

To maximize the value of SE among higher education students, it is important to learn how to optimize the delivery and reception of the training content in this area (Mueller et al., 2008). Evaluating an SE program even when focused on a single aspect of the educational system is a difficult task. However, the satisfaction of higher education students is an indicator of quality to be considered when it comes to sex education training (Santini et al., 2017). Student satisfaction can be defined as a short-term attitude resulting from an evaluation of the students' educational experience (Weerasinghe & Fernando, 2017). It is a multifaceted construct defined as the perception that a given service, product, or experience adequately met their expectations after consumption (training program) (Meaney et al., 2009; Santini et al., 2017).

Regarding sex education, the authors state that it can be framed as a product of which students are consumers. According to Nunes et al. (2021), teachers would likely be framed as "service providers". Their role would focus on designing, delivering, and adapting the educational content (the "product") to align with the needs, satisfaction, and expectations of the "consumers" (students). Thus, satisfaction evaluates the level of quality of the

product (sex education) in relation to the expectations and needs of its consumers (higher education students). Student expectations are complex constructs that have a significant impact on aspects such as knowledge acquisition, adaptability, the achievement of goals, and satisfaction (Clemes et al., 2008; Frias et al., 2020; Tomlinson et al., 2023).

Sex education in higher education should be regarded as an opportunity to promote well-being and reproductive health (Teixeira et al., 2024), and not a service to be consumed. It must transcend the mere transmission of information, evolving into a transformative process that fosters human flourishing. By adopting a pedagogy that encourages reflection and self-knowledge, while challenging the market-driven logic that reduces students to mere consumers, sex education can be made genuinely meaningful, inclusive, and effective. This approach ensures the formation of citizens who are more conscious, critical, and prepared to engage with society (Freire, 1998; Polizel et al., 2021).

Foucault (1976) highlighted that sexuality is regulated by social institutions, including education. In this context, universities play a crucial role not only in transmitting technical knowledge but also in shaping societal norms and values.

The student satisfaction with a certain pedagogical activity/training program refers to the acquisition of knowledge by the students and is related to several factors such as the environment where the pedagogical activity is carried out, the teacher's pedagogical approach, and the quality of training (Soto-Fernández et al., 2023). In the study by Endler et al. (2022), some interviewees considered that the topics taught were inadequate and poorly adapted to the national context. They also found that many interviewees cited the lack of qualified teachers to address sexual and reproductive health issues as a barrier, and that a lack of knowledge, stigma, and myths were also common among teachers.

Teachers must be competent, up to date, and innovative, demonstrating the ability to motivate students in their learning process. The quality of training refers to how the content is handled and applied to everyday life and professional life (Cano García, 2016; Vahos et al., 2019; Soto-Fernández et al., 2023).

Several authors highlight the need to assess the quality of the development, implementation, and effectiveness of sex education in different contexts (Ivanova et al., 2020). Laverty et al. state that learning about the different views of young people on the development, implementation, and evaluation of sexual health education provides us with a clear view of the themes to be addressed and the aspects in which training improvements are justified (Laverty et al., 2021).

Evaluating the quality of sex education programs at universities is essential to ensure that educational objectives are met and that students receive accurate and relevant information. In the areas of health and education, it becomes even more relevant, since in addition to the appropriation of this knowledge in personal experiences, it is important to transmit this knowledge in professional contexts (Le Monde, 2024; Pimentel et al., 2016; UNESCO, 2021). Measuring student satisfaction with sex education is crucial as it serves as a key indicator of the perceived quality and relevance of the training. High satisfaction levels are associated with increased engagement, better retention of information, and a higher likelihood of applying the knowledge in future professional practice (Meaney et al., 2009). Understanding student satisfaction can inform curriculum development and pedagogical approaches, ensuring that sex education programs remain responsive to students' needs and expectations in a rapidly evolving societal context (Ivanova et al., 2020).

Therefore, this study aims to identify and describe the satisfaction of higher education students with the sexual education training they received in the EdSex Project, incorporated into the undergraduate course classes they attended. Our specific objectives are as follows: (1) to identify the variables associated with the satisfaction of higher education students

with sex education training; (2) to identify the factors that most influence the satisfaction of higher education students with sex education training.

The research question that supports this study is as follows: What is the level of satisfaction of the higher education students with the sexual education training they received within the scope of the EdSex Project and what factors determine this satisfaction?

2. Materials and Methods

2.1. Design Type

This is an exploratory, descriptive, and cross-sectional study, which is part of a European project, Educating in Sexuality Advancing European Health (EdSeX), subsidized by the Ministry of Universities (SEPIE) and by the European Union under the code 2021-1ES01-KA220-HED-000023306.

2.2. Sample

The sampling technique used in this study was convenience sampling, made up of 132 higher education students from different countries (Portugal, Spain, Italy, and the United States of America), from the fields of nursing, education, and other health areas (occupational therapy and physiotherapy), who, after the sex education training was publicized (as a complementary component to their course curriculum) and promoted by teachers and researchers from the EdSex Project, signed up and participated in it.

In October 2022, the project was presented to students in the classroom. Afterward, the training courses were publicized using posters displayed in the places most frequented by students at the university, on Muppi, and the websites of each university. The students who chose to participate in the training were selected to attend all sessions and were required to register. They all lasted 90 min and took place from November 2022 to March 2023 on the themes of “Covert Sexual Violence: Behind Sexual Consent”, “Sexual Diversity: Validating Emotions from Sexuality”, “Functional Diversity Experienced from Sexuality” and “Migrant Cultures: Looking at Sexuality from a Transcultural Perspective”. The sessions took place on the same day at the same time at all the participating universities. Various teaching strategies were employed, including peer education, gamification, group dynamics, video viewing, reflective exercises, brainstorming, and role-playing. Students needed to evaluate the workshop at the beginning and the aspects to be considered in this evaluation when it was finished.

These were the inclusion criteria for participants: (1) being 18 years of age or older; (2) attending higher education and being in the 2nd, 3rd, or 4th years of study, because they had already dealt with issues of sexuality in the school curriculum at this point; (3) having participated in the sex education training provided by the EdSex Project; (4) having mastered their native language and the English language; (5) having accepted and signed the informed consent form.

2.3. Variables

Sociodemographic variables such as “gender”, “age”, “country of origin”, “training area”, and “educational institution” were included. Finally, the variable based on the Student Satisfaction with Higher Education questionnaire was included to measure their satisfaction with the quality of the training organization (environment and content) and the trainer-trainee interaction.

2.4. Instruments

The Student Satisfaction with Higher Education questionnaire ([Soto-Fernández et al., 2024](#)) was used. This questionnaire consists of 9 items and a *Likert* scale with five response

options as a measurement scale, ranging from completely dissatisfied (1 point) to completely satisfied (5 points). The dependent variable, “*Satisfaction of Higher Education Students*”, has a variation in the average score (\bar{x}) from a minimum value of 1 to a maximum value of 5. The factor analysis of the scale obtained a *Cronbach's alpha* of 0.827 in the studied sample, proving to be a valid and reliable scale. The scale was narrowed down to two factors: Factor 1, “*quality of the sex education training organization (environment and content)*” which is composed of 6 items (1. Was the place chosen for the training comfortable and adequate? 2. The professor introduced him/herself and explained the subject and objective of the meeting. 3. Do you consider that the language used was respectful and understandable? 4. In general, are you satisfied with the development of the training? 5. I consider that the topics covered have increased my knowledge in this area. 6. I believe that topics that can be applied daily in my future profession have been addressed) and Factor 2, “*trainer-trainee interaction during sex education training*”, which consists of 3 items (7. Do you think that the non-verbal language used by the professor was in line with the verbal language used by the professor? 8. During the training, did you feel listened to by the professor/expert? 9. Has the professor/expert allowed you to develop your points of view in reference to the questions asked?).

2.5. Data Collection

After receiving authorization from the respective educational institution and approval by the Ethics Committee to carry out the training in sex education, data collection was carried out with the consent of the students. The data collection instrument was applied using a link to access the online questionnaire, which was sent to students by email at the end of the training. All participants were duly informed about the objectives of the study and the possibility of participating voluntarily, anonymously, and confidentially. To take part in the study, the students themselves gave their consent in the questionnaire, and only after this permission was given could they access the questionnaire.

2.6. Data Analyses

Descriptive and inferential analyses of the results were carried out using the *SPSS Statistics* software, version 28. As a first approach, a descriptive analysis of the following independent variables was carried out: “age”, “gender”, “country of origin”, “training area”, and “educational institution”. Next, the dependent variable “satisfaction of higher education students” was characterized. To test the normality of the sample, the *Kolmogorov-Smirnov* test was used, a standard test used in situations where the sample has more than 50 subjects, which revealed an asymmetric distribution of the dependent variable under study. Confidence intervals were set at 95%. It was confirmed that the dependent variable “*satisfaction of higher education students*” did not have a normal distribution ($K-S = 0.266$; $p < 0.001$) (Table 1).

Table 1. Normality tests.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Gl	Sig.	Statistic	Gl	Sig.
Satisfaction of Higher Education Students	0.266	132	<0.001	0.714	132	<0.001

Note. ^a. Lilliefors significance correlation.

In the statistical analysis, non-parametric tests were used, namely, the *Mann-Whitney* test and the *Kruskal-Wallis* test. To predict the possible association between the independent

variables and the dependent variable “*satisfaction of higher education students*”, the *Spearman* correlation coefficient was used.

2.7. Ethical Considerations

The ethical principles set out in the Declaration of Helsinki (Barrios Osuna et al., 2016) were duly followed. Participants' authorization was obtained by free and informed consent, in which they expressed their willingness to participate voluntarily. Data were recorded anonymously and processed with confidentiality guaranteed. The study was approved by the Social Research Ethics Committee of the lead university (University of Castilla-La Mancha; CAU-661803-V4Z4) and of the different educational institutions where the research was carried out.

3. Results

3.1. Sociodemographic Data

The study sample consisted of 132 students, 59.8% of whom were aged between 21 and 23; most of them female (87.9%). The predominant country of origin was Spain, representing 52.3% of the sample, followed by Portugal, with 25.8%. The students in the sample belonged to different educational institutions: Universidad de Castilla-La Mancha (52%); Universidade de Évora (14.4%); Universidad Modena e Reggio Emilia (6.8%); Instituto Politécnico de Santarém (12.9%); and Seattle University (13.6%). The predominant training area was nursing (72%) (Table 2).

Table 2. Sociodemographic characteristics.

Variables		N	%
Age	21–23 years old	79	59.8%
	18–20 years old	21	15.9%
	24–26 years old	24	18.2%
	>27 years old	8	6.1%
Gender	Male	16	12.1%
	Female	116	87.9%
Country of Origin	Spain	69	52.3%
	USA	19	14.4%
	Italy	10	7.6%
	Portugal	34	25.8%
Training Area	Education	29	22.0%
	Nursing	95	72.0%
	Other	8	6.1%
Educational Institution	Castilla La Mancha University	69	52.3%
	University of Évora	19	14.4%
	University of Modena and Reggio Emilia	9	6.8%
	Polytechnic Institute of Santarém	17	12.9%
	Seattle University	18	13.6%
	Total	132	100.0%

3.2. Potential Variables Associated with the Satisfaction of Higher Education Students with Sex Education Training

Overall, regarding the variable “*satisfaction of higher education students with sex education training*”, on the scale, the participants considered themselves satisfied, with an average score of 4.77 points, ranging from 1 to 5. Younger students, aged between 18 and 22, reported greater satisfaction ($\chi = 4.79$). In relation to gender, women had a higher score regarding satisfaction with the sex education training ($\chi = 4.79$). The participants from the

American university present in the study (Seattle University), revealed a higher degree of satisfaction with the sex education training, with an average score of 4.91. Regarding the training area, the participants in the field of education expressed greater satisfaction ($\chi = 4.81$). The level of satisfaction of the students from the different educational institutions was in line with the level of satisfaction of the students from the respective countries of origin; the most satisfied with the workshops were those from Seattle University ($\chi = 4.91$) and the least satisfied are those who belonged to the Portuguese educational institution, that is, the Universidade de Évora, with an average score of 4.64, and to the Instituto Politécnico de Santarém, with an average score of 4.63 (Table 3). The average of the variable “satisfaction of higher education students” with the sex education training was not different, from a statistical point of view, for the independent variables “age”, “gender”, “training area”, and “educational institution” ($p > 0.05$). The variable “country of origin” was the only one that presented a statistically significant relationship with the variable “satisfaction of higher education students” ($p = 0.033$). In other words, the students’ country of origin seemed to influence the degree of satisfaction of the higher education students regarding the sex education training (Table 3).

Table 3. Bivariate descriptive analysis.

		Satisfaction of Higher Education Students			
		N	%	Mean	p Value
Age	18–20 years old	21	15.9%	4.79	0.765 *
	21–23 years old	79	59.8%	4.78	
	24–26 years old	24	18.2%	4.70	
	>27 years old	8	6.1%	4.74	
Gender	Male	16	12.2%	4.64	0.090 *
	Female	116	87.9%	4.79	
Country of Origin	Spain	69	52.3%	4.81	0.033 *
	USA	19	14.4%	4.91	
	Italy	10	7.6%	4.73	
	Portugal	34	25.8%	4.61	
Training Area	Education	29	22.0%	4.81	0.351 *
	Nursing	95	72.0%	4.77	
	Other	8	6.1%	4.61	
Educational Institution	Castilla La Mancha University	69	52.3%	4.81	0.543 *
	University of Évora	19	14.4%	4.64	
	University of Modena and Reggio Emilia	9	6.8%	4.70	
	Polytechnic Institute of Santarém	17	12.9%	4.63	
	Seattle University	18	13.6%	4.91	
	Total			4.77	

Note. * Spearman’s correlation coefficient.

3.3. Relationship Between the Different Countries of Origin of Higher Education Students and the Degree of Student Satisfaction

When we tried to establish if any country had more impact on the degree of satisfaction of the higher education students with the sex education training, we found that there were no statistically significant differences ($p = 0.093$). In other words, among the countries of origin of the higher education students, there was no specific one that impacted their degree of satisfaction (Table 4).

Table 4. Relationship between country of origin and satisfaction of higher education students with sexual health training.

Students' Country of Origin	N	Mean	p Value ^{a,b}
Satisfaction of Higher Education Students with Sexual Health workshop/training	Spain	69	0.093
	USA	19	
	Italy	10	
	Portugal	34	
	Total	132	

Note. ^a Kruskal–Wallis test; ^b variable “country of origin”.

3.4. Factor in the Scale That Most Influenced the Satisfaction of Higher Education Students with Sex Education Training

By analyzing the averages of the two factors that made up the “satisfaction of higher education students with sexual health workshop/training” scale, we can verify that the factor that contributed the most to the satisfaction of the higher education students with the sex education training was factor 1, “quality of the training organization (environment and content)”, with an overall average score of 4.79 ($\chi = 4.79$); in turn, factor 2, “trainer–trainee interaction”, had an overall average score of 4.72 ($\chi = 4.72$).

When analyzing the satisfaction of the higher education students with the sex education training, by decomposing the scale into its two factors, where factor 1 refers to “quality of the training organization (content and environment)” and factor 2 refers to “trainer–trainee interaction”, the average of factor 1, “quality of the training organization”, from a statistical point of view, was no different for the independent variables “age” ($p = 0.940$), “country of origin” ($p = 0.311$), and “educational institution” ($p = 0.252$). The variables “gender” and “training area” presented statistically significant differences in relation to “satisfaction with the quality of the training organization”, where $p = 0.035$ (respectively). In other words, the women were the ones who valued the “quality of the training organization” most, with an average = 4.82. Regarding the training area, the nursing students were the ones who gave the most importance to the “quality of the training organization” ($\chi = 4.81$). In relation to factor 2, “trainer–trainee interaction”, there were no statistically significant differences for the independent variables “age” ($p = 0.807$), “gender” ($p = 0.163$), “training area” ($p = 0.402$), and “educational institution” ($p = 0.069$). However, the average satisfaction with the “trainer–trainee interaction”, from a statistical point of view, was different for the variable “country of origin”, showing that the university students from Italy were more satisfied with the “trainer–trainee interaction” ($\chi = 4.83$) (Table 5).

Table 5. Satisfaction of higher education students with sex education, with each factor that made up the satisfaction scale.

	Factor 1—Quality of the Training Organization (Content and Environment)		Factor 2—Trainer–Trainee Interaction	
	Mean	Contrast Hypothesis	Mean	Contrast Hypothesis
Age	18–20 years old	4.83	4.71	
	21–23 years old	4.80	4.75	$p = 0.807 \ddagger$
	24–26 years old	4.73	4.65	
	>27 years old	4.77	4.67	
Gender	Male	4.57	4.60	$p = 0.163 \ddagger$
	Female	4.82	4.74	

Table 5. *Cont.*

	Factor 1—Quality of the Training Organization (Content and Environment)		Factor 2—Trainer–Trainee Interaction	
	Mean	Contrast Hypothesis	Mean	Contrast Hypothesis
Country of Origin	Spain	4.82	4.80	
	USA	5.00	4.74	
	Italy	4.68	4.83	<i>p</i> = 0.028 ‡
	Portugal	4.66	4.52	
Training Area	Education	4.80	4.84	
	Nursing	4.81	4.68	
	Other	4.56	4.71	<i>p</i> = 0.402 ‡
Educational Institution	Castilla La Mancha University	4.82	4.79	
	University of Évora	4.75	4.42	
	University of Modena and Reggio Emilia	4.65	4.81	<i>p</i> = 0.069 ‡
	Polytechnic Institute of Santarém	4.60	4.69	
	Seattle University	5.00	4.74	
Total		4.79	4.72	

Note. † Mann–Whitney U test. ‡ Kruskal–Wallis test.

4. Discussion

Overall, the students in the sample were very satisfied with their training in sex education. Scientific evidence reveals that sexual education programs in the context of higher education are predominantly centered on a bio-physiological perspective (Gómez & Torres, 2015), highlighting the need for a holistic approach to sexual education, integrating a transnational and multicultural perspective (Sehnem et al., 2013; Soto-Fernández et al., 2023). The sexual education training provided to this sample incorporates a holistic, transnational, and multicultural approach, enhancing and complementing the knowledge acquired about sexuality during their academic studies. This approach resulted in a high degree of satisfaction among the participants.

A study carried out by Meaney et al. (2009) corroborates these results, stating that, in recent years, the satisfaction with sex education training has generally been high. It can, therefore, be noted that satisfaction is an indicator that shows that sex education has achieved its objectives (Meaney et al., 2009). A survey carried out in England with 1000 young pre-university students regarding their satisfaction with sex education experiences and relationships revealed that 40% of the students rated the quality of sex education as “good” or “very good” (Sex Education Forum, 2023). In the opposite direction, a study revealed that students categorize sex education as unsatisfactory when it is too focused on birth control and sexually transmitted infections (STIs) as its main components (Rye et al., 2015). This information may justify the results of our study, as sex education training provided to higher education students has a multicentric view of sexuality, focusing not only on its biological aspects but also on cultural, social, and psychological matters.

In the training process of students in higher education, the teacher–student relationship and interpersonal interactions are important for student satisfaction with sex education training programs (Onsman, 2008). In our study, the data revealed that the factor that most

influenced the student satisfaction with the sex education training was the quality of the training organization (environment and content), thus being considered more relevant than the factor that focused on the trainer-trainee interaction. When it comes to promoting quality teaching, and how content is transmitted and assessed by students, there may be some space for reflection at the end of the sessions to identify strengths and weaknesses aimed at improving training. As a suggestion for improvements that can contribute to the presentation of content on sexuality, we highlight the training of the professionals who address these topics. It is important to highlight the importance of the trainer being able to overcome personal limitations. Barriers to discussing sexuality can be influenced by the culture in which health professionals are shaped and educated (Gerbild et al., 2021). Scott and his collaborators corroborated this idea, stating that educational institutions will seek high-quality, relevant, captivating resources and interventions based on scientific evidence (Meaney et al., 2009; Scott et al., 2020). Regarding the factor of the trainer-trainee interaction, in our study, although there was a lower average satisfaction rate, this was also an important aspect of student satisfaction. Other studies have also highlighted the satisfaction with the trainee-trainer interaction in sex education sessions, rating it as "Good"; in these cases, the teachers are considered knowledgeable and comfortable with sexual matters (Meaney et al., 2009).

Based on the finding that the university students in Italy were those who felt most satisfied with the "trainee-trainer interaction", it seems possible that these results were due to the strategies used by the trainers. The fact that the sample group of students from Italy was smaller may have allowed for greater proximity between the instructor and students, facilitating interaction between them. This smaller group size enabled the instructor to have more availability to support the student's learning process and provide feedback. A study reported that the satisfaction of higher education students can be defined as a short-term attitude resulting from an assessment of the trainer's experience and the environment created to contribute to the construction of knowledge and motivate the students to learn; the trainer may rely on a range of behaviors such as assigning academic tasks, being involved in the preparation and organization of classes, being enthusiastic, showing availability to support students, and providing quality and constant feedback, among other aspects that can favor interaction with the trainer (Weerasinghe & Fernando, 2017; Silva et al., 2017).

Teaching is the art of applying knowledge through appropriate methodologies and technologies, combined with effective behavior, to create a supportive and conducive learning environment for students. Considering its intercultural nature, this study was based on an approach that allowed for the stimulation of interaction, understanding, and respect between the different cultures and ethnicities of students from the countries involved in the study. The similarities between the students from different countries were explored and the importance of inclusion for improving sexual health conditions was emphasized, encouraging enthusiastic and continuous involvement from the participants. Enthusiastic teachers actively seek every opportunity to enhance their students' learning experiences (Punia & Bala, 2021).

Both the teacher's and students' enthusiasm significantly contribute to successful teaching and learning. Students can identify signs of enthusiasm through positive facial expressions, engaging body language, and dynamic interactions during lessons (Cui et al., 2022; Keller et al., 2014; Punia & Bala, 2023). Moreover, assessment instruments can be employed to measure this enthusiasm and evaluate its impact on the educational process (Punia & Bala, 2021).

Based on the data, those who most value factor 1, relating to the "quality of the training organization (environment and content)", are women and nursing students. Authors

such as Zhao et al. (2023) have reported that, in sex education training, the content is highly valued, particularly among students in the fields of medicine and nursing, which corroborates the results of our study. This study finds a positive correlation between medical and nursing students who intend to have a more diverse sex education that allows them to ensure that their patients receive more humanistic care regarding their sexual needs ($p < 0.01$). Nurses are well positioned to promote sexual health, but nursing students often lack the knowledge and confidence to provide advice on this topic, particularly to families (Zhao et al., 2023; Coleman et al., 2023). Still in relation to the quality of content organization, this aspect proves to be important. In a study on four universities in the United States, students discussed the sex education they received and made suggestions for improvement, including adding updated and realistic content and information (Astle et al., 2021). In a qualitative study, the participants (9 men and 15 women) noted the need for holistic sexual health programming and the desire to have an environment that normalizes conversations about sexuality and sexual health were highlighted (Hubach et al., 2019). Our results are consistent with those of other authors, who state that the effectiveness of pedagogical activity in enhancing student learning is intrinsically linked to several factors, such as the learning environment, the teacher's pedagogy, and the quality of the training organization. These are key criteria that contribute to student satisfaction (Gutiérrez & López, 2021). When sexuality-related topics are addressed holistically, as in the case of the EdSex Project training, which served as base for this study, the level of satisfaction with this aspect proves to be relevant. The limitations of the present study include the fact that we used a convenience sample of higher education students who participated in sex education training inherent to the activities of the EdSex Project. Furthermore, the number of participants made it impossible to access precise knowledge about the representativeness of the sample and prevented it from being generalized to other populations. While the sample size of 132 participants is relatively small for a quantitative study, it represents a diverse group of students from multiple countries and institutions. This diversity adds value to our findings by providing insights into cross-cultural perspectives on sex education. Furthermore, the high satisfaction levels observed across the different subgroups suggest a consistent positive reception of the training, despite the sample size limitations. Another limitation of this study is the gender imbalance in the sample, with most of the participants being women, which is justified by the greater frequency of women in the training areas where the workshops were taught (education and health). Future studies with larger, gender-balanced samples can build on these initial findings to further validate and generalize the results.

Therefore, it would be interesting to carry out a prospective study that may determine the long-term effects of the trainer's intervention, thus allowing us to understand its real impact and identify curricular gaps to be improved. Other areas of future intervention could focus on analyzing the satisfaction of higher education students with training in other fields such as biomedical sciences and other areas of health, in addition to including other levels of education, namely, pre-university education. We also suggest that future studies on the quality of training incorporate additional variables, such as the training of instructors, the methodologies employed, and the resources utilized.

5. Conclusions

The results of this study reveal the satisfaction of higher education students with sexual education initiatives that complemented the sexuality approach included in their course curricula, with a high level of satisfaction reported. The students' satisfaction with these sessions is associated with the quality of the training organization (environment and content) and the interaction with the instructor. Regarding the quality and organization of the content, these training sessions aimed to shift the paradigm of sexuality education

from a bio-physiological perspective (common in higher education curricula) to a holistic, multicultural, and transnational perspective (which is more comprehensive and integrates different dimensions of sexuality). All of the presented content was based on the most recent scientific evidence, demonstrating the update and relevance of the content in response to the rapid societal evolution. The choice of teaching methodology, with the instructor opting for engaging methods and the inclusion of digital resources such as gamification, contributed to the students' satisfaction. Regarding the environment and instructor interaction, a safe space was fostered where the students felt heard by the instructor, without any judgment or opinions expressed.

Public policies have changed because of the changes taking place in societies, gradually altering health policies as well. Sex education has become a resource for correcting customs and promoting sexual and reproductive health. Educators have also started to implement projects that encourage reflection and knowledge about sexual health. Thus, it is crucial to change the paradigm of sexual education in higher education, necessitating a reformation of study plans concerning the approach to sexuality, making them more comprehensive, aligned with societal evolution, and innovative with engaging teaching methodologies. Therefore, educators and policymakers play a fundamental role in developing, implementing, and evaluating programs that motivate university students and encourage them to pursue further education in sexual health. Studies in this context allow the review of parameters to be considered in the implementation of new policies in the field of sexual education, based on the reality experienced in the context of learning achieved in higher education.

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