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TITLE

Sexual Behavior and Risk Perception as Factors Associated With the Incidence of Sexually Transmitted Infections (STIs) in Young People Aged 18 to 25 Years

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SUMMARY

Title

Sexual Behavior and Risk Perception as Factors Associated With the Incidence of Sexually Transmitted Infections (STIs) in Young People Aged 18 to 25 Years

Background and Rationale

Sexually transmitted infections (STIs) continue to represent a major global public health problem, with an increasing incidence among adolescents and young people. In particular, Catalonia has experienced a sustained increase in cases of chlamydia, gonorrhea, and syphilis, especially among individuals under 25 years of age. This trend is related not only to a lack of information but also to low risk perception, a key factor that directly influences young people's sexual behaviors.

Various international and local studies have shown that many adolescents do not consider themselves vulnerable to STIs, which reduces condom use, particularly in casual relationships or with partners whom they trust. In Barcelona, a significant proportion of young people report risk sexual practices, such as not using condoms, having multiple sexual partners, or relying solely on emergency contraception. These behaviors are directly associated with inadequate risk perception.

Evidence indicates that risk perception is a better predictor of sexual behavior than theoretical knowledge about STIs. Therefore, it is crucial to have valid instruments that objectively assess how young people perceive their vulnerability to these infections.

This study is justified by the need to generate local evidence on the relationship between risk perception and sexual behaviors among young people aged 18 to 25 years in Barcelona. For this purpose, the Sexual Behavior Risk Perception Scale (Escala de Percepción del Riesgo para Conducta Sexual, EPRCS) will be used, together with an ad hoc questionnaire designed to include relevant variables such as susceptibility, trust in the partner, and perceived severity.

The results will make it possible to design more effective educational and preventive interventions focused not only on providing information but also on modifying young people's attitudes, beliefs, and perceptions. They will also contribute to the development of public policies, improve epidemiological surveillance, and strengthen self-care in sexual health.

In a context in which the World Health Organization (WHO) reports a concerning decline in condom use, this research is relevant from an academic, health, and social perspective, as it seeks to reduce the gap between knowledge and behavior and decrease the incidence of STIs among young people.

Hypothesis

Young people aged 18 to 25 years residing in Barcelona with low risk perception regarding unprotected sexual practices (experiences) present a higher frequency of sexual risk behaviors and, consequently, a higher reported incidence of STIs compared with those with moderate or high risk perception.

Objectives

To describe risk perception in relation to sexual behavior and its association with the incidence of sexually transmitted diseases (STDs) among young people aged 18 to 25 years residing in the city of Barcelona.

Study Design

Observational, cross-sectional study with a non-probability convenience sample.

Study Population

Young people aged 18 to 25 years recruited from four educational centers in Ciutat Vella and Sant Martí and from two primary healthcare centers within the corresponding catchment area.

Inclusion and Exclusion Criteria

Inclusion criteria:

- Aged between 18 and 25 years.
- Having had at least one sexual experience.
- Voluntary agreement to participate in the research.

Exclusion criteria:

There are no exclusion criteria for this study.

Variables

Primary dependent variable:
Risk perception measured using the scale developed by Robles et al., 2022.

Secondary dependent variable:
STI during the previous 12 months, self-reported by the participant through an interview. Incidence will be estimated.

Independent variables:
Sociodemographic and contextual variables.

Control variables:

- Previous use of contraceptive methods.
- Frequency of alcohol or drug use in sexual contexts.

Data Sources

Study instruments:

- Sexual Behavior Risk Perception Scale (EPRCS).
- Ad hoc questionnaire.

Sample Size

A sample of 77 participants was calculated to estimate, with a 95% confidence level and a precision of ±5 units, a population mean with a common standard deviation of 20 (Robles et al., 2022). A follow-up loss rate of 0.2 is anticipated.

Data Analysis

The mean risk perception will be estimated using the mean score obtained on the Robles et al., 2022 scale. The mean and its 95% confidence interval will be calculated using the Student's t distribution or an alternative method depending on the distribution of the variable.

Likewise, to calculate the incidence of STIs during the previous 12 months, the number of affirmative responses will be divided by the total number of participants interviewed who answered the question concerning STI infection during the previous months. A 95% confidence interval will be calculated for this percentage using the Clopper–Pearson method.

The primary and secondary dependent variables will be analyzed using descriptive statistics and bivariate analyses appropriate to the type of variable. For risk perception, measures of central tendency and correlations will be calculated, assessing differences between groups defined by categorical variables and whether correlations are statistically significant.

For the binary dependent variable, presence of an STI, analyses will also be performed according to the type of independent variables.

Finally, if a multivariable analysis is undertaken, multiple regression will be used for the dependent variable risk perception, and binary logistic regression will be used for the STI outcome.

Ethical Considerations

The study will be conducted in accordance with the ethical principles derived from the Declaration of Helsinki (75th General Assembly, Helsinki, Finland, October 2024). In addition, the study will be conducted in accordance with the protocol, Good Clinical Practice (GCP), in accordance with the guidelines of the International Council for Harmonisation (ICH), and applicable regulatory requirements at the study site.

A written informed consent form has been attached to this protocol and submitted to the CEIm, in compliance with GCP and applicable legal requirements, for review and approval before study initiation.

Stages and Timeline

See the Work Plan section of the protocol.

LIST OF ABBREVIATIONS

EPRCS — Sexual Behavior Risk Perception Scale
(*Escala de Percepción del Riesgo para Conducta Sexual*)

STI — Sexually Transmitted Infection

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1. BACKGROUND AND RATIONALE FOR THE STUDY

Sexually transmitted infections (STIs) continue to be one of the main global public health problems, particularly among adolescents and young people. The World Health Organization (WHO, 2024) warns that there has been an alarming decline in condom use among adolescents in recent years, increasing the risk of STIs and unintended pregnancies.

In Catalonia, sexually transmitted infections (STIs) constitute a growing public health problem, particularly among the young population. Recent data indicate that the prevalence of chlamydia among women aged 18 to 24 years reaches 4.5%, making it the most frequent STI in this group, although the actual rate is probably higher because of the high proportion of asymptomatic cases (Dexeus Mujer, 2022). Likewise, the Department of Health of the Government of Catalonia has reported a sustained increase in diagnoses of gonorrhea, syphilis, and chlamydia in its epidemiological records over the last decade, particularly among people under 25 years of age (Departament de Salut, 2021).

This phenomenon cannot be explained solely by a lack of information, but also by the way in which young people perceive their own vulnerability to these infections.

Risk perception has been identified as a determinant of preventive sexual behaviors. A study conducted in New Zealand among young people aged 16 to 18 years showed that fewer than 50% used condoms consistently and that only 23% considered themselves vulnerable to acquiring an STI. Among the main reasons for not using protection was confidence that they and their partners were free of infection (Milhausen et al., 2005).

In Thailand, studies involving young people aged 15 to 24 years demonstrated a similar pattern: even when some participants recognized the risk of transmission, condom use was inconsistent, particularly with casual partners (Liu et al., 2010).

In the European context, a study among Swedish young people aged 18 to 30 years concluded that risk perception influenced condom use, particularly among women, and that variables such as age at sexual initiation and educational level were also associated with the adoption of preventive measures (Ekstrand et al., 2011).

Similarly, research conducted in Laos found that adolescents with low risk perception were more likely to engage in sexual risk behaviors, significantly increasing their vulnerability to STIs and HIV (Sychareun et al., 2013).

In parallel, and along the same lines, several studies indicate that sexual risk behaviors remain common among young people in Catalonia. Research by Espada showed that approximately 30% of young people did not use a condom during their most recent sexual intercourse. Associated factors included not having used a condom during the first sexual intercourse, using applications

to meet partners, and, among women, recurrent use of emergency contraception (Espada et al., 2019).

Regarding risk perception, research conducted among young people in Spain indicates that although they recognize the usefulness of condoms in preventing STIs, practical decisions are influenced by trust in the partner, gender norms, and the normalization of risk behaviors (González et al., 2017). This phenomenon results in a dissociation between knowledge about STIs and actual behavior, whereby low perceived vulnerability is associated with lower levels of protection and, consequently, a greater probability of infection.

These findings demonstrate that knowledge about STIs does not always translate into a real perception of vulnerability and that underestimation of risk directly influences the practice of unprotected sexual behaviors.

Rationale

Sexually transmitted infections (STIs) continue to represent an important global and regional public health problem, with increasing incidence among young people. Various reports, including those issued by the World Health Organization (WHO, 2024) and the Catalan Department of Health (2021), indicate a sustained increase in STI cases and a concerning decline in condom use among adolescents and young adults.

This situation increases the vulnerability of this age group, particularly when combined with factors such as early sexual initiation, a high number of sexual partners, and low risk perception.

In the context of the city of Barcelona, young people aged 18 to 25 years constitute a priority group for preventive interventions, given that sexual risk behaviors, together with inadequate perception of STI-related risk, contribute to the spread of these infections.

Risk perception is a key element in the adoption of preventive behaviors: previous studies have shown that the lower the perceived risk, the greater the likelihood of maintaining unprotected sexual practices.

Analyzing the relationship between risk perception and the incidence of STIs among young people is essential to understanding the behavioral determinants that promote or limit the adoption of safer sexual practices. Available evidence demonstrates that when adolescents underestimate their susceptibility to acquiring an STI, they show less willingness to use protective methods consistently (Milhausen et al., 2005; Liu et al., 2010).

Several studies have demonstrated that risk perception regarding unprotected sexual practices is a key factor in the adoption of preventive behaviors among young people. Instruments such as the Sexual Behavior Risk Perception Scale (Robles et al., 2021), the STI/HIV Risk Perception Scale (Sánchez Medina, 2021), the Sexual Risk Survey (Turchik & Garske, 2009), and the Sexual Risk Behavior Scale for Adolescents (Miller et al., 1997) have been applied in international and Latin American settings, making it possible to objectively quantify how young people subjectively assess their risk of infection.

The Sexual Behavior Risk Perception Scale for Ecuadorian young people (EPRCS), designed and validated by Robles et al. (2022) in *Suma Psicológica*, is a 27-item instrument assessing perceptions of sexual risk and protection across four factors.

These factors are:

1. Perception of risk in sexual behaviors.
2. Perception regarding condom use.
3. Perception regarding knowledge of a partner's sexual history.
4. Perception regarding sources of sexual information.

The findings of these studies are consistent in showing that a low level of risk perception is associated with a higher frequency of unprotected sexual intercourse, multiple sexual partners, and lower use of preventive healthcare services, thereby increasing the likelihood of acquiring sexually transmitted infections (STIs).

Despite access to information and prevention campaigns, sexual risk behaviors persist, often motivated by a low perception of the actual danger associated with unprotected sexual intercourse.

Further research into how young people perceive the risk of acquiring STIs is essential, as multiple studies have demonstrated that subjective risk perception is a stronger predictor of sexual behavior than objective knowledge about STIs.

More instruments are needed to assess how adolescents perceive the risk associated with unprotected sexual practices, not only from a qualitative perspective but also through valid instruments that allow risk-perception categories to be established.

Having instruments that are validated and adapted to the local context makes it possible to identify the gap between knowledge, perception, and behavior and to design intervention strategies that are more effective and better adapted to the reality of this population.

Despite the relevance of this issue, there is limited local evidence exploring the relationship between risk perception, sexual behaviors, and reported STI incidence among young people in this age group.

In addition, validation of measurement instruments such as the Sexual Behavior Risk Perception Scale is essential to ensure data reliability and to design evidence-based prevention strategies.

The present study is justified by the need to provide greater knowledge regarding the situation in the context of Catalonia. The EPRCS will be used as a reliable scale containing a list of items and psychometric evidence that is feasible for the young Catalan population and that will provide initial reliable psychometric properties relevant to the subject under study.

An ad hoc questionnaire will also be used to include domains repeatedly identified in the literature, including susceptibility, severity, concern, trust in the partner, and perceived probabilities.

This will allow the design of preventive interventions that focus not only on providing information about STIs but also on modifying young people's perceptions, beliefs, and attitudes.

The research will contribute to the development of more effective sexual education programs capable of reducing the gap between knowing and doing and promoting a culture of self-care and responsible condom use.

Furthermore, in a context in which WHO (2024) reports a generalized decline in condom use among adolescents, there is an urgent need to develop evidence-based strategies that strengthen risk perception as a key element of prevention.

Thus, the study has not only academic relevance but also social and health implications, as it may contribute to reducing the incidence of STIs and their consequences for young people's health.

Therefore, this study seeks to generate knowledge about the psychosocial and behavioral factors that contribute to vulnerability to STIs, thereby guiding public health policies and educational programs aimed at improving risk perception and promoting safer sexual practices among young people.

The research will also contribute to strengthening epidemiological surveillance and to the development of measurement tools that are validated and culturally adapted to the local population.

2. HYPOTHESES

Main Hypothesis

Young people aged 18 to 25 years residing in Barcelona with low risk perception regarding unprotected sexual practices (experiences) have a higher frequency of sexual risk behaviors and, consequently, a higher reported incidence of STIs compared with those with moderate or high risk perception.

Secondary Hypotheses

1. There is an inverse correlation between the score obtained on the Sexual Behavior Risk Perception Scale and the sexual risk behavior index: the lower the risk perception, the greater the number of risk behaviors.

2. Participants reporting consistent condom use have a lower reported incidence of STIs than those reporting inconsistent or no condom use.

3. Sociodemographic characteristics (age, sex, educational level, and alcohol or drug use during sexual activity) act as potential confounding variables or effect modifiers in the relationship between risk perception and reported STI incidence.

3. OBJECTIVES

3.1. General Objective

To describe risk perception in relation to sexual behavior and its association with the incidence of sexually transmitted diseases (STDs) among young people aged 18 to 25 years residing in the city of Barcelona.

3.2. Specific Objectives

1. To identify the sociodemographic characteristics of young people aged 18 to 25 years participating in the study.
2. To describe the most frequent sexual behaviors in the study population.
3. To explore knowledge and beliefs regarding sexually transmitted diseases (STDs).

4. To analyze the relationship between risk perception and reported incidence of STDs in the study population.

4. METHODOLOGY

4.1. Study Design

This is an observational, cross-sectional study.

Setting:

The study will be conducted in two settings: five educational centers and two primary healthcare centers located in the Ciutat Vella and Sant Martí districts of Barcelona.

Study period:

The study period will extend from December 2025 to December 2026.

4.2. Study Population

The study population will comprise young people of both sexes, aged 18 to 25 years, residing in Barcelona and the Barcelona metropolitan area, particularly in the Ciutat Vella and Sant Martí districts. Participants will be recruited from educational centers in these areas or through the Tarda Jove program at the Drassanes and Ramon Turró primary healthcare centers, which belong to the same catchment area, regardless of their educational level or employment status.

In both settings, participants will be provided with a QR code, either in the classroom of the educational center or during a consultation at the primary healthcare center. By using their mobile phone or tablet, participants will be able to access and complete both the informed consent form and the study questionnaires online.

Study instruments:

Sexual Risk Perception Scale

The *Sexual Risk Perception Scale in Young Ecuadorians* (Escala de Percepción del Riesgo para Conducta Sexual; EPRCS), developed and validated by Robles et al. (2022) and published in *Suma Psicológica*, is a 27-item instrument assessing perceptions of risk and protection in relation to sexuality across four factors.

These factors are:

1. Perception of risk associated with sexual behaviors.
2. Perception regarding condom use.
3. Perception regarding knowledge of a partner's sexual history.
4. Perception regarding sources of sexual health information.

Ad hoc questionnaire

The purpose of adding an ad hoc questionnaire alongside the Sexual Risk Perception Scale is to complement the information obtained from the scale by collecting specific data on sexual

behaviors and factors influencing risk perception. This will allow a more comprehensive analysis of the relationship between risk perception and the sexual practices of young people.

4.3. Inclusion and Exclusion Criteria

Inclusion criteria:

- Aged between 18 and 25 years.
- Having had at least one sexual experience.
- Voluntarily agreeing to participate in the study.

Exclusion criteria:

There are no exclusion criteria for this study.

4.4. Study Variables

Primary dependent variable:

Risk perception measured using the scale developed by Robles et al. (2022).

Secondary dependent variable:

STI diagnosis during the previous 12 months, self-reported by the participant during the interview. Incidence will be estimated.

Independent variables:

Sociodemographic and contextual variables

- Age (years) – continuous quantitative variable.
- Sex (male, female, other) – nominal qualitative variable.
- Gender identity.
- Educational level (secondary education, university, etc.) – ordinal qualitative variable.
- Employment/economic status – nominal or ordinal qualitative variable.
- Peer influence/social environment – ordinal quantitative variable, measured using the ad hoc questionnaire.

Control variables

- Previous use of contraceptive methods.
- Frequency of alcohol or drug use in sexual contexts.

4.5. Sample Size

A sample of 77 participants was estimated to provide a 95% confidence level and a precision of ±5 units for estimating a population mean, assuming a common standard deviation of 20, based on Robles et al. (2022).

A loss-to-follow-up rate of 0.2 is estimated.

4.6. Data Analysis

Statistical Procedures

The average risk perception will be estimated using the mean score obtained from the Robles et al. (2022) scale. The mean and its 95% confidence interval will be calculated using the Student's *t*-distribution or an alternative method depending on the distribution of the variable.

For the estimation of the incidence of STIs during the previous 12 months, the number of affirmative responses will be divided by the total number of participants interviewed who answered the question concerning STI infection during the previous months. A 95% confidence interval will be calculated for this percentage using the Clopper–Pearson method.

The primary and secondary dependent variables will be analyzed using descriptive statistics and bivariate analyses appropriate to the type of variable.

For risk perception, measures of central tendency and correlations will be calculated, assessing differences between groups defined by categorical variables and determining whether correlations are statistically significant.

For the binary dependent variable, presence of an STI, analyses will also be performed according to the type of independent variable.

Finally, if a multivariable analysis is undertaken, multiple regression will be used for the dependent variable of risk perception, and binary logistic regression will be used for the STI outcome.

4.7. Limitations

1. Non-probability convenience sample

Participants are selected using convenience sampling, which may limit the representativeness of the sample and reduce the ability to generalize the results to the entire population of young people aged 18 to 25 years in Barcelona.

2. Self-report and recall bias

Data on sexual behaviors and risk perception are collected using self-administered questionnaires. This may introduce recall bias or social desirability bias, particularly regarding sensitive topics such as sexuality. The principle of anonymity will be reinforced to minimize this potential bias.

3. Cross-sectional design

Because this is a cross-sectional study, only associations between variables can be assessed; causal relationships between risk perception and sexual behaviors cannot be established.

4. Limited data-collection period

The data-collection period may not capture seasonal or contextual changes in sexual behaviors or risk perception.

5. PROTECTION OF STUDY PARTICIPANTS

The study will be conducted in accordance with the ethical principles derived from the Declaration of Helsinki (75th General Assembly, Helsinki, Finland, October 2024). The study will also be conducted in accordance with the protocol, Good Clinical Practice (GCP), in accordance

with the guidelines of the International Council for Harmonisation (ICH), and the applicable regulatory requirements at the study site.

5.1. Information Provided to Participants and Informed Consent

Participant recruitment will consist of providing a QR code and asking participants to complete two questionnaires online. In both settings, participants will access the questionnaires using their mobile phone or tablet, either in the classroom of the educational center or during a consultation at the primary healthcare center. The informed consent process and the questionnaires will both be completed online.

A model informed consent form has been appended to this protocol and submitted to the CEIm. Participants will provide informed consent online, in accordance with Good Clinical Practice and applicable legal requirements, for review and approval before the study begins.

Before participants are included in the study, the participant information sheet will be reviewed with the prospective participant. If the individual agrees to participate, they will provide informed consent electronically.

The study addresses the increase in sexually transmitted infections among young people and aims to understand young people's perceptions of this issue, thereby supporting the design of preventive interventions that also seek to modify perceptions, beliefs, and attitudes among young people. The generation of this evidence is considered to be in the public interest and cannot reasonably be obtained through less burdensome means.

No additional procedures or interventions will be performed as part of this study. Clinical care will not be altered, and therapeutic decisions will not be affected. The analysis will be conducted exclusively on data collected in the educational and healthcare settings.

The risk to participants is limited to privacy-related risks, which will be mitigated through privacy safeguards and data-protection measures.

5.2. Data Confidentiality

The study will be conducted in strict compliance with Regulation (EU) 2016/679 of the European Parliament and of the Council concerning the protection of natural persons with regard to the processing of personal data and the free movement of such data (General Data Protection Regulation, GDPR), as well as Organic Law 3/2018 of 5 December on the Protection of Personal Data and the Guarantee of Digital Rights.

Research participant data will be collected prospectively using electronic questionnaires specifically designed for this purpose and a data collection and storage platform operated by the research group with which the investigator collaborates, GHenderS Research Group at Blanquerna University.

The data collection and storage platform is the "GHenderS database" (https://dataghenders.eu/), which is hosted on a secure server within the European Union and enables data collection and processing in accordance with Regulation (EU) 2016/679 of 27 April 2016.

The web server provider for this platform is SW Hosting, which holds ISO 27001 security certification.

The data controller is also a collaborator of the project and of the GHenderS research group, Faculty of Health Sciences, Blanquerna University. Ramon Escuriet Peiró is identified as the Data Protection Officer (DPO).

The contact details for the DPO are:

Data Protection Officer: Ramon Escuriet Peiró
E-mail: joseramonep@blanquerna.url.edu

The data-protection policies and legal information are available through SW Hosting at the following addresses:

- https://www.swhosting.com/es/legal/info
- https://www.swhosting.com/es/legal/rgpd

Throughout the study, information will be handled under strict confidentiality criteria. Participation will be associated only with a numerical code, thereby avoiding the disclosure of information that could directly identify an individual participant.

Access to identifying information will be restricted to the Principal Investigator, project collaborators, competent health authorities, and the Research Ethics Committee, exclusively where necessary for verification of procedures, data review, or supervision of compliance with Good Clinical Practice requirements.

Participants' identities may only be disclosed under exceptional circumstances where disclosure is legally required.

The processing, transfer, and communication of personal data will always comply with applicable legislation and will follow strict confidentiality and security requirements.

The database will remain active throughout the study and will be retained for five years following study completion. Data may be communicated to third parties exclusively in coded form, ensuring both anonymity and the impossibility of tracing the information back to individual participants.

6. WORK PLAN

Dates	No.	Tasks / Procedures	Main Milestones	Estimated Duration	Responsible Personnel	Required Resources
01/11/2025 – 15/11/2025	1	Initial planning (organization, timeline)	Approved work plan	2 weeks	PI, Project Coordinator	Meeting room, computer, calendar, Drive/Teams
16/11/2025 – 25/11/2025	2	Review and adaptation of instruments (risk scale and questionnaire)	Instruments ready for piloting	10 days	PI, Psychologist, Sexual Health Expert	Previous versions, Word/Docs, scientific literature

20/11/2025 – 30/11/2025	3	Database design (anonymization and coding)	Validated database	11 days	Data Manager, IT Manager	SPSS/Excel/REDCap, GDPR, secure server
12/02/2026	4	Start of data collection (a)	Official start of fieldwork	1 day (milestone)	Field Coordinator, Survey Administrators	Consent forms, tablets/PCs, forms, transportation
01/12/2025	5	Data collection (in-person and online) CEIM approval february 2026	Progress monitoring and quality control	4 months	Field Coordinator, Survey Administrators, Data Manager	Incentives, interview space, internet access, supervision
15/01/2027	6	Fieldwork status report (c)	First report submitted	1 week	PI, Project Coordinator	Report template, preliminary data, meetings
20/03/2027	7	Dissemination of results	Presentation of results at national and international scientific conferences	2 months	PI	—

Summary of the key milestones of the work plan

- **Start of data collection (a):** 12/02/2025
- **End of data collection (b):** 31/12/2026
- **Fieldwork status report (c):** 15/01/2027
- **Interim results report (d):** 10/02/2027
- **Final results report (e):** 30/02/2027

The work-plan dates and milestones are reproduced as stated in the protocol V3.

7. DISSEMINATION AND COMMUNICATION OF STUDY RESULTS

The study results will be disseminated through publication in indexed scientific journals and institutional or international repositories, such as ClinicalTrials.gov, ensuring access by the scientific community. Results will also be presented at national and international scientific conferences.

Participants will also be informed about the general study results through summary reports or educational presentations, while always respecting data confidentiality and anonymity.

Overall, the expected results will make it possible to identify higher-risk profiles and to understand the interactions between subjective perception, actual behavior, and STI incidence. These findings will provide a basis for designing and implementing more effective preventive interventions that not only provide information, but also modify perceptions, beliefs, and attitudes towards responsible sexuality.

Finally, the results are expected to contribute to optimizing sexual health education and public health policies and programs in Catalonia, in alignment with the objectives of the *Action Plan against HIV and Other STIs 2021–2030* of the Catalan Public Health Agency (ASPCAT). The aim is to facilitate the implementation of measures to reduce the incidence of HIV infection and other STIs, facilitate early access to treatment, and improve the quality of life of infected individuals, while also reducing the stigma associated with these infections through community action aimed at social inclusion (ASPCAT, 2025).

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ANNEXES

Participant Information and Voluntary Consent

You are being invited to participate in a study approved by the Research Ethics Committee (CEIm – Hospital del Mar).

The objective of this research is to understand how young people aged 18 to 25 perceive the risk associated with sexual behaviors and how this influences the occurrence of sexually transmitted infections (STIs).

Your participation consists of completing a questionnaire about sexual knowledge, beliefs, and practices.

Participation is voluntary: you may decide not to participate or withdraw at any time, without any negative consequences.

The information collected will be anonymous and confidential and will be used exclusively for research purposes.

If you have any questions, you may contact the research team before continuing. By starting the questionnaire, you indicate that you voluntarily agree to participate in the study.

Sexual Risk Perception Scale in Young People

Robles et al. (2022)

For each statement below, indicate the degree to which you consider the behavior to represent a sexual risk to your health (e.g., transmission of infections, unplanned pregnancies, etc.) or to be health-protective.

Use the following scale:

1 = Not at all agree
2 = Somewhat agree
3 = Moderately agree
4 = Strongly agree
5 = Completely agree

Factor 1. Perception of Risk Associated With Sexual Behaviors

Indicate the degree to which you consider the following sexual behaviors to pose a risk to your health:

1. Having sexual relations solely for pleasure with someone you barely know is a risky behavior: 1 2 3 4 5

2. Having your first sexual intercourse while intoxicated is a risky behavior: 1 2 3 4 5

3. Having sexual relations with people who are paid for sexual services is a risky behavior: 1 2 3 4 5

4. Having sexual relations with the most popular person or group leader is a risky behavior: 1 2 3 4 5

5. Having sexual relations with a person you have just met is a risky behavior: 1 2 3 4 5

6. Having sexual relations with people with an age difference of more than ten years is a risky behavior: 1 2 3 4 5

7. Not using a condom during sexual relations with people you know is a risky behavior: 1 2 3 4 5

8. Having sexual relations due to peer pressure (friends) is a risky behavior: 1 2 3 4 5

9. Having sexual relations while consuming alcohol is a risky behavior: 1 2 3 4 5

10. Having sexual relations with several partners does not constitute sexual risk: 1 2 3 4 5

11. Combining alcohol consumption and sexual relations increases the level of arousal and, therefore, constitutes a risk factor: 1 2 3 4 5

Factor 2. Perception Regarding Condom Use

Indicate the degree to which you consider the following behaviors related to condom use to provide protection for your health:

12. Using a condom during all sexual relations is a protective behavior: 1 2 3 4 5

13. Correct condom use protects more than 90% against contracting an STI: 1 2 3 4 5

14. Using a condom when sexual activity is combined with alcohol consumption is a protective behavior: 1 2 3 4 5

15. The woman is solely responsible for requesting condom use during sexual intercourse: 1 2 3 4 5

16. The man is solely responsible for requesting condom use during sexual intercourse: 1 2 3 4 5

17. Correct condom use protects less than 90% against contracting an STI: 1 2 3 4 5

18. Correct and consistent condom use during sexual intercourse will prevent an unplanned pregnancy: 1 2 3 4 5

19. Condom use during sexual intercourse should be a decision made by the couple: 1 2 3 4 5

Factor 3. Knowledge of the Partner's Sexual History

Indicate the degree to which you consider the following behaviors related to communication with your partner regarding previous sexual habits to provide protection for your health:

20. Talking with your partner about whether they have ever had group sex is a protective factor: 1 2 3 4 5

21. Asking your partner whether they have ever had sexually transmitted infections is a protective factor: 1 2 3 4 5

22. Asking your partner whether they have used condoms during all their sexual relations is a protective factor: 1 2 3 4 5

23. Asking your partner whether they have had sexual contact with people of the same sex is a protective factor: 1 2 3 4 5

Factor 4. Sources of Information About Sexuality

Indicate the degree to which you consider the following behaviors related to seeking information about sexuality to pose a risk to your health:

24. Talking only with parents (father/mother) about sexuality-related topics puts my health at risk: 1 2 3 4 5

25. Talking only with teachers about sexuality-related topics puts my health at risk: 1 2 3 4 5

26. Talking only with friends about sexuality-related topics puts my health at risk: 1 2 3 4 5

27. Using the Internet as the only source of information about sexuality-related topics puts my health at risk: 1 2 3 4 5

Ad Hoc Questionnaire

Introduction and Consent

Block A — Screening

1. Age: numerical response; only 18–25 accepted.

2. Do you currently live in the city of Barcelona?
Yes / No — If "No": end the survey.

Block B — Sociodemographic Data

3. Sex assigned at birth:
Male / Female / Other / Prefer not to say.

4. Gender identity:
Man / Woman / Non-binary / Other — specify / Prefer not to say.

5. Sexual orientation:
Heterosexual / Bisexual / Homosexual / Pansexual / Other / Prefer not to say.

6. Educational level:
Secondary education / University or vocational training in progress / University degree or completed vocational training / Other.

7. Employment status:
Student / Employed / Looking for work / Other.

8. Do you live with your parents/guardians?
Yes / No.

9. Country of birth (optional): _____

10. Are you a user of sexual health services in Barcelona?
Yes / No / I don't know.

Block C — Sexual History, Condom Use, and STIs

11. Have you had vaginal and/or anal penetrative sexual intercourse during the past 12 months?
Yes / No.

— If “No”: skip to Block E (Knowledge and Information).

12. During the past 12 months, have you been diagnosed with any sexually transmitted infection (STI)?

— Yes → indicate which one(s) (select all that apply):

- Chlamydia
- Gonorrhea
- HPV (human papillomavirus)
- Genital herpes
- Syphilis
- HIV
- Other (specify): _____

— No

— Prefer not to answer

13. Number of sexual partners with whom you had penetrative intercourse during the past 12 months:
0 / 1 / 2–3 / 4–6 / 7 or more.

14. In general, how often do you use condoms during penetrative intercourse?
Always / Almost always / Sometimes / Rarely / Never.

15. Do you use condoms equally with regular and non-regular partners?

— Yes, equally
— No — more with non-regular partners
— No — more with regular partners
— I never use condoms.

16. With what type of partners do you usually not use condoms? (Select all that apply)

- Regular partner/trusted relationship
- Casual partner/I know the person only a little
- Partner with whom other contraceptive methods are used
- When I am under the effects of alcohol or drugs
- When my partner rejects condom use
- I never stop using condoms
- Other: _____

Block D — Reasons for Not Using Condoms

17. If you have ever not used a condom despite having information about STIs, what were the reasons? (Select all that apply)

- Less pleasure / reduced sensitivity
- I trust my partner / I believe they do not have an STI
- My partner did not want to use one / pressured me
- I use another contraceptive method
- I forgot to have one / it was spontaneous
- I do not know how to put one on / embarrassment about using it
- Embarrassment about buying condoms
- Cost / difficult access
- Latex allergy / bad experience
- Alcohol or drug use
- It seemed unnecessary (e.g., oral sex)
- Uncomfortable / it breaks frequently
- I was not properly informed about correct use
- Other: _____

Likert Scale

1 = Strongly disagree – 5 = Strongly agree

18. "Although I know about STIs, I consider the probability of becoming infected to be low."

19. "I trust that I can tell whether my partner has an STI by their appearance/attitude."

20. "If my partner gets angry when I ask to use a condom, I prefer not to insist."

21. "I feel uncomfortable buying or asking for condoms."

22. "Condoms greatly reduce sexual pleasure."

23. "If we use another contraceptive method, I do not need to use a condom."

24. "Access to condoms in Barcelona is easy (free or inexpensive)."

25. "I know how to put on a condom correctly."

26. "I can negotiate condom use with my partner without any problem."

27. "Alcohol or drugs make us not use condoms."

Block E — Violence, Coercion, and Pressure in Sexual Relationships

During the past 12 months

(Visible only if the participant answered "Yes" to Question 11 regarding sexual intercourse.)

28. During the past 12 months, have you ever felt pressured or forced by a partner to have sexual relations when you did not want to?

— Yes / No / Prefer not to answer.

29. During the past 12 months, has any partner pressured you NOT to use a condom (threats, emotional blackmail, coercion…)?

— Never / Once / Several times / Prefer not to answer.

30. During the past 12 months, have you experienced any of the following from a partner or person with whom you had or attempted to have sexual relations? (Select all that apply)

- Verbal pressure not to use a condom
- Emotional blackmail ("if you love me, don't ask for it…")
- Physical coercion to have sex
- Sexual assault (sexual intercourse without consent)
- Physical violence in a sexual context
- None of the above
- Prefer not to answer

31. If you answered affirmatively to any of the above: Did you seek help or talk to someone about what happened?

- Yes, professional help (healthcare/police/NGO)
- Yes, I talked to friends/family
- No, I did not seek help
- Prefer not to answer

32. If you were diagnosed with an STI during the past 12 months, do you consider that the situation involving pressure or coercion may have been related to that diagnosis?

— Yes / No / Not applicable / Prefer not to answer.

Block F — Knowledge and Information About STIs

33. Have you received formal information about STIs at school/university or at healthcare centers?

Yes / No / Partially.

34. Main sources of information about STIs:

- School / secondary school / university
- Healthcare professionals / specialized centers
- Social media / Internet
- Friends / partner
- Family
- Public campaigns (leaflets, posters)

- Other: _____

35. Brief knowledge test (True–T / False–F / Don't know):

a) “Condoms prevent all STIs.”

b) “Correct condom use significantly reduces the risk of STIs.”

c) “If neither member has had other partners, there is no risk of STIs.”

Block G — Hypothetical Situations

Behavioral intention

1 = Very unlikely – 5 = Very likely

37. You are on a new date, you have been drinking alcohol, and sexual intercourse arises. How likely are you to use a condom?

38. You are with your regular partner of 6 months. How likely are you to use a condom?

39. Your partner proposes not using a condom and says that they trust you. How likely are you to insist on using one?

Block H — Self-Efficacy and Communication

Likert scale 1–5

45. “I feel confident asking a new partner to use a condom.”

46. “I know how to respond if my partner does not want to use a condom.”

Block I — Open-Ended Questions

47. Is there anything else that you think explains why young people like you do not use condoms, despite knowing about STIs?
(Open-ended response)

48. Do you have any suggestions on how to increase condom use among young people in Barcelona?
(Open-ended response, optional)

Closing and Support Resources

Thank you for participating.

If you need help or information, the following services are confidential and free of charge in Barcelona:

- **Emergency services:** 112
- **Sexual and gender-based violence support (24 hours):** 900 900 120 (Catalonia)
- **Tarda Jove ASSIR Barcelona (sexual and reproductive health):** request an appointment through your CAP or by calling 061
- **Centre Jove d’Atenció a les Sexualitats (CJAS):** 93 431 46 48 / WhatsApp 681 241 933