

# The impact of double standards and openness to redefine stigma in sexual relationships of medical students

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**UNIVERSITY OF SPLIT  
SCHOOL OF MEDICINE**

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**THE IMPACT OF DOUBLE STANDARDS AND OPENNESS TO REDEFINE  
STIGMA IN SEXUAL RELATIONSHIPS OF MEDICAL STUDENTS**

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*Zahvaliti se, na kraju ovog, tek jednog dijela mog životnog puta, je nešto što me čini sretnim.*

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**List of abbreviations**

WHO – World Health Organization

SDS – Sexual Double Standards

USSM - University of Split, School of Medicine

U.S. – United States

SD – standard deviation

CI – Confidence Intervals

AIC – Akaike Information Criterion

BIC – Bayesian Information Criterion

SE – Standard Errors

VIF – Variance Inflation Factor

R<sup>2</sup>McF – McFadden's R-squared

## **1. INTRODUCTION**

According to the current working definition, sexual health is described as follows: "...a state of physical, emotional, mental, and social well-being in relation to sexuality; It is not merely the absence of disease, dysfunction, or incapacity. Sexual health requires a positive approach to sexuality and sexual relationships with respect, as well as the opportunity for pleasurable and safe sexual experiences, free from coercion, discrimination, and violence. To achieve and maintain sexual health, the sexual rights of all individuals must be respected, protected, and fulfilled." (1).

The WHO's definition of sexual health aims to diminish the stigma associated with it in many cultural communities and strives to recognize positive sexuality as an important outcome of public health. Well-being is increasingly mentioned as a supplementary aspect of sexual health. Nonetheless, public health approaches to sexuality primarily concentrate on adverse health outcomes and associated risks. A risk-focused approach is regarded as the norm for public health, frequently eclipsing other aspects of sexuality (2).

The idea of sexual well-being definitely deserves more attention and has significant global public health implications that have been overlooked. Still, promoting the importance of sexual well-being doesn't take away from the value of sexual health, sexual pleasure, and sexual rights. In fact, focusing on sexual well-being helps clarify our understanding of sexual health, highlights conceptual differences, and offers a broader public health perspective on sexuality beyond just sexual health (2).

## **1.1. Sexuality**

Sexuality is an extremely important part of a person's life and identity as an individual, and thereby directly influences society as a whole. Sexuality plays a crucial role in shaping both individuals and society, enabling us to understand ourselves and others, and consequently, the society in which we live. The concept of sexuality integrates sexual orientation, gender identity, sexual behavior, and the sexual role of the individual (3).

The life aspects of individuals have a strong influence on the acceptance of one's own sexuality and that of others. On one hand, a positive attitude towards sexuality, through the promotion of education, acceptance, and openness towards sexuality, contributes to improving the quality of life. In contrast, a negative attitude towards one's own sexuality results in a series of consequences. Stigmatization and feelings of shame about sexuality contribute to individual anxiety and depression (4). Research has shown that people who have positive attitudes towards their sexuality and sexual attractiveness have higher self-confidence, are more

satisfied with their relationships, and experience less anxiety and depression (5). Additionally, sexuality education based on understanding, respect, and equality can contribute to better sexual health and reduce potential risky sexual behavior among adolescents (6, 7).

Sexuality also plays an important role in forming and maintaining intimate relationships. The emotional and physical connection between individuals achieved through sexual relationships can have a positive impact on their closeness and satisfaction in relationships. However, sexuality can also be a cause of conflicts and stress in relationships, especially if partners have divergent sexual needs and desires (8).

Understanding and promoting positive sexuality is increasingly becoming important in a world where change is inevitable. Sexuality education, excluding stigmatization, promotes the development of a society that respects the diversity of sexualities and identities, thereby laying the groundwork for healthier and happier individuals and society as a whole.

## **1.2. Sexual Health**

The World Health Organization's (WHO) definition of sexual health encompasses crucial elements such as managing fertility, preventing and treating sexually transmitted infections, addressing sexual violence, and maintaining sexual function. It also includes promoting specific aspects of sexual health (9, 10).

The Guttmacher Commission on Sexual and Reproductive Health and Rights has underscored the importance of these issues for global public health, emphasizing how sustainable development goals contribute to advancing particular dimensions of sexual health (10). The WHO Working Group" on the Operationalization of Sexual Health has linked these aspects to "physical, emotional, mental, and social well-being concerning sexuality," focusing on the interrelated factors influencing sexual health, which include human rights and constructive approaches to sexuality (11).

## **1.3 Sexual Pleasure**

The connection between sexual pleasure and health and well-being is becoming increasingly recognized in public health (12, 13). Sexual pleasure involves various physical and psychological satisfactions from sexual experiences, along with foundational elements that support its development, as are personal autonomy, consent, privacy, safety, trust, and effective communication in sexual relationships (14). This indicates that pleasure depends on fundamental community and cultural contexts related to sexual freedoms, including fairness,



nondiscrimination, self-governance, physical security, and the right to freely express oneself. Moreover, two key elements are crucial: events (like timing and intervals between various sexual activities, experience of climax, and usage of condoms or birth control) and people (such as the interpersonal dynamics of sexual pleasure, including communication, negotiation, and trust). To better incorporate sexual pleasure, we suggest including these elements to highlight its conceptual ties to sexual health and well-being and to summarize the various factors involved without making pleasure the sole focus of well-being (15, 16).

#### **1.4. Sexual Justice**

Supporting individuals' sexual and reproductive experiences culturally, socially and legally is essential for achieving sexual justice. Public health is vital in addressing harmful outcomes linked to human rights disparities. It helps promote equal access and fights against historical limitations on sexual rights due to ethnicity, gender, sexual orientation, and gender identity (10, 17). Addressing issues of violence and discrimination related to sexuality is also a pivotal role of public health (18). Sexual justice involves restorative methods to address negative sexual experiences, trauma affecting life paths, and impacts on sexual well-being. Embracing sexual positivity is crucial for both sexual well-being and public health (19, 20).

#### **1.5. Sexual Well-being in Relation to Sexual Health, Sexual Pleasure, and Sexual Justice**

It underscores the importance of integrating sexual well-being into public health efforts to address widespread disparities involving sexuality and behaviors, particularly inequities rooted in gender and sexual orientation (21).

Several measures have been created, including those that assess one's overall sexual life (22). Sexual well-being is defined as a person's mental and emotional evaluation of their sexuality (23). This definition also encompasses contentment in sexual relationships and performance, awareness of sexuality, self-confidence in sexual matters, and appreciation of physical self-perception (24).

When assessing sexual well-being, a framework delineates seven core aspects: experiencing sexual safety and security, receiving respect in sexual situations, fostering a positive sexual self-esteem, coping with previous sexual experiences, letting go of past sexual events, maintaining autonomy in sexual decision-making, and feeling confident in one's own sexual identity. When developing this novel concept of sexual well-being, the following criteria are identified: 1. The framework should encompass sexual well-being, pleasure, satisfaction,

and function; 2. it needs to be relevant to individuals regardless of their sexual activity; 3. it must apply to individuals regardless of their relationship status; 4. it should be grounded in factors that can be influenced through policy, public health efforts, clinical support, or personal development; and 5. it should aim to summarize individuals' experiences and evaluate the potential for sexual well-being (2).

## **1.6 Sexual Double Standards**

Sexual double standards describe the situation where women and men are assessed differently for similar sexual behavior (25). These standards now cover more than just premarital sex and include behaviors like casual sex and having multiple partners (26). Furthermore, there's a difference between how society views these standards and how individuals personally feel about them, with many young adults acknowledging their existence (27).

The majority of research on sexual double standards centers on the differential evaluation of sexual behavior between men and women. According to the findings of these studies, society often positively evaluates sexual experience in men, while women frequently risk stigma and negative labels for engaging in similar sexual activities (28). Studies conducted among boys and girls highlight differences in the perception of peer respect stemming from involvement in specific sexual behaviors, further confirming the existence of sexual double standards within their environment (29). Depending upon sociocultural theories regarding culture and gender, sexual double standards carry significant ramifications for adolescent sexual conduct, with perceived outcomes and endorsement varying by gender (30, 31).

Sexual double standards (SDS) use different criteria to evaluate the same sexual behavior in men and women (32). Traditional SDS dictates that men should enjoy more sexual freedoms than women. Although gender equality has gained increasing support over the past decades for certain sexual behaviors (e.g., premarital sex), traditional SDS still exists regarding other manifestations of heterosexual behavior, such as the age of first sexual experience (32) or the number of sexual partners (31, 33). Conversely, heterosexual attitudes focused on sexual conservatism are emerging (34). These attitudes could form the basis for emphasizing a modern SDS (as opposed to a traditional SDS) which dictates that sexual modesty is more appropriate for women than for men (35).

The traditional sexual double standard, where girls are judged more harshly than boys for similar sexual behaviors, has long been of interest to researchers due to its direct impact on

gender inequality and health disparities. The expected sexual dominance and greater freedom of behavior for boys promote sexual risk-taking, sexual dominance over girls, and avoidance of committed romantic relationships (36). Adolescent girls are expected to be sexually passive and refrain from sexual experiences, which limits healthy sexual development and personal choice due to fear of social stigma and labeling as a "slut" (37). Although attitudes toward premarital sex have dramatically changed since Reiss first introduced the concept of the sexual double standard in 1960 (36), study on the disparities in societal expectations regarding sexual behavior continues unabated and has likely increased in recent years (38-41). The ongoing scientific interest in the sexual double standard is partly explained by consistent findings from past research. Qualitative, observational, and self-report studies typically find evidence of traditional sexual double standards among adolescents and young adults in the United States (38). In contrast, research based on experimental models designed around individual perceptions often finds little evidence of double standards or even reports a reverse double standard where sexually permissive men are perceived as less attractive than similarly permissive women. These discrepancies highlight the challenge of measuring sexual behavior subject to social desirability (41).

The cultural influence is partly reflected in behavior within given frameworks and predefined information to understand the functioning of society. Most pertinent to our study, frameworks inform individuals' expectations about the consequences of behavior. In this context, frameworks don't directly control behavior by making people follow strict rules, but they influence the likelihood of certain behaviors happening more or less often (30). Connecting sexual behavior with specific outcomes helps individuals recognize the best ways to behave in intimate relationships and sexual situations (42).

Harding (30) explains how established social norms about sex and romance shape how boys perceive and approach intimate relationships. His research shows that boys who view girls as open to casual sex are more likely to approach them with direct sexual interest. On the other hand, boys who see girls as "good" (not sexually promiscuous and seeking committed relationships) tend to approach them with more romantic intentions. This indicates that adolescents often rely on prevailing norms from their communities and schools when making decisions about when, whether, and with whom to engage in sexual activities (42).

Research on gender and sexual attitudes provides understanding of how school-based sexual norms, gender roles, and sexual behavior are interconnected. It's observed that these norms unfairly restrict girls' sexual autonomy, defined as "a person's sense of themselves as a

sexual being, feeling entitled to sexual pleasure and safety, making active sexual choices, and having a sexual identity." Such norms create a situation where engaging in sexual activity can threaten girls' social standing and mental well-being (31). Consequently, these double standards distort how society views female sexuality, hinder girls' sexual development, and reinforce the idea that sex primarily benefits men, rather than being something girls and women can find fulfilling on a personal level. Due to concerns about their reputation, potential regret, and perceiving fewer advantages from sex, girls may increasingly choose to abstain from sexual activities, particularly limiting their number of sexual partners when the double standard is strongly enforced in their environment (43).

## **2. OBJECTIVES**

The aim of this study was to assess the perceived heterogeneity of sexual attitudes of medical students compared to the attitudes of their mother, father, close female friends, close male friends, female students of their own age and male students of their age with regard to the type of study (Croatian or English) and the gender of the student.

Secondary objectives:

a) To determine whether students of medicine are more or less conservative than their parents, peers and colleagues of both sexes in their attitudes towards sexual behavior.

1. Croatian and English program study students will rate their sexual attitudes as more liberal compared to their parents.
2. Croatian and English program study students will rate their sexual attitudes generally same or similar compared to their close female and male friends.
3. Croatian and English program study students will rate their sexual attitudes generally same or similar compared to male and female students of their own age.

### **3. SUBJECTS AND METHODS**

### 3.1. Participants and Methods

**Study Design:** This cross-sectional study aimed to evaluate the impact of double standards in evaluating sexual behavior on the sexual health and self-esteem of medical students in Split, Croatia. The study was conducted between January and May 2023, targeting medical students from both Croatian and English study programs at the University of Split.

**Participants:** The participants were medical students enrolled at the University of Split, aged 18 years and older. Inclusion criteria included enrollment in the medical program, willingness to participate, and the provision of informed consent. Students from other faculties or those unwilling to consent were excluded. A total of 347 students participated in the study, including 162 responses from Croatian program students (25 males, 135 females, and 2 transgender persons) and 185 responses from English program students (51 males and 134 females).

**Ethical Considerations:** This study received approval from the Ethics Committee of the School of Medicine, University of Split (USSM), and followed the principles of the Code of Medical Ethics and Deontology (Official Gazette 55/08 and 139/15), Helsinki Declaration. Informed consent was obtained electronically from all participants before they began the survey. Participation was voluntary, and respondents were assured of the confidentiality and anonymity of their data.

**Data Collection Instruments:** To address the study's objectives, several validated instruments were employed. These included the Indicators of a Double Standard and Generational Difference in Sexual Attitudes (Ilsa L. Lottes, 1992), where respondents rated their sexual attitudes compared to those of their parent or peer group using a 1 to 5 scale. The survey was conducted online, accessible through the following links: <https://docs.google.com/forms/d/e/1FAIpQLScyh3Njgk91rtrtD0m0P9tlU0GPB7uzsarpCK2y-pfPdaP54Kw/viewform?usp=sharing> and <https://docs.google.com/forms/d/e/1FAIpQLSfGeWicUssRbbTTxm0k4R7mmcE9MZbxBbKNaTWdlyp1nnBCOA/viewform?usp=sharing>

**Data Handling:** Responses were collected and stored securely on the survey platform with access restricted to the research team. Data were anonymized to protect participants' identities. Upon completion of data collection, the responses were exported for statistical analysis.



Materials: The materials utilized in this study included custom-developed electronic questionnaires hosted on a secure online platform, Google Form.

Data collection was conducted using standardized questionnaire: The "Indicators of a Double Standard and Generational Difference in Sexual Attitudes" is used to examine similarities, differences, and impacts within and between generations. Questions are rated on a Likert scale.

The Indicators of a Double Standard and Generational Difference in Sexual Attitudes were developed by Weinberg in a 1992 (44) comparative study of sexual attitudes and behaviors among university students in the U.S. and Sweden. The study aimed to assess the perceived heterogeneity of sexual attitudes by generation and gender, comparing the more homogenous Swedish society to the U.S., where a double standard in sexuality was thought to be more pronounced. The indicators are using six 5-point Likert-type items where respondents rate the sexual attitudes of their parents, close friends, and peers relative to their own. The study found that in societies with a traditional double standard, men typically had more liberal sexual norms than women. The findings indicated that American males frequently perceived their mothers as holding more conservative views compared to their fathers, while both American and Swedish respondents tended to view female peers as more conservative overall. The study concluded that a male-permissive double standard was more prevalent in the U.S., but overall, a majority in both countries perceived similar sexual attitudes among their peers, indicating only a minority recognized a male-permissive double standard.

### **3.2. Statistical methods and procedures**

Frequencies and percentages are used to describe the distribution of students by gender and type of study program (Table 1).

Mean, standard deviation (SD), minimum, and maximum values are reported for students' perceived sexual attitudes compared to their parents and peers (Tables 2-7).

95% Confidence Intervals (CIs) are calculated for the mean values of perceived sexual attitudes, assuming sample means follow a t-distribution with N-1 degrees of freedom. This provides a range within which the true mean is likely to fall (Tables 2-7).

Logistic regression is used to model the likelihood of different sexual attitudes being more liberal or conservative, with predictors including type of study, gender, and perceptions of attitudes of parents and peers (Tables 8 and 9).

Model fit measures such as deviance, Akaike Information Criterion (AIC), and Bayesian Information Criterion (BIC) are used to assess the fit of the logistic regression models (Tables 8A and 9A).

Estimates, standard errors (SE), z-values, and p-values are reported for the predictors in the logistic regression models, indicating the strength and significance of each predictor's association with the outcome variable (Tables 8B and 9B).

Variance Inflation Factor (VIF) and tolerance values are reported to check for multicollinearity among predictors. VIF values above 10 or tolerance values below 0.1 indicate potential multicollinearity issues (Table 8C). Statistical significance is set at  $p < 0.05$ .

Data analysis was performed using jamovi/version 2.3.21 statistical software. Descriptive statistics were used to analyze frequencies, means, and standard deviations of demographic characteristics and survey responses.

Hypothesis testing included binomial regression analysis to examine generational similarity in sexual attitudes across genders and study types (Croatian vs. English program). Additionally, inferential tests were conducted to assess differences in the willingness to discuss sexual stigma between the two groups. Reliability and validity of the survey instruments were evaluated using Cronbach's alpha and factor analysis, respectively.

## **4. RESULTS**

In the Croatian study program, study groups included: 25 males (7.2% of the total combined participants from both English and Croatian programs), 135 females (38.9%), and 2 transgender individuals (0.6%). The English study had 51 male participants (14.7%) and 134 female participants (38.6%), with no transgender individuals. Altogether, 347 students participated. Table 1.

**Table 1.** Frequencies of students per gender and type of study of medicine.

|                | <b>Gender</b> | <b>Counts</b> | <b>% of Total</b> | <b>Cumulative %</b> |
|----------------|---------------|---------------|-------------------|---------------------|
| Croatian Study | Male          | 25            | 7.2 %             | 7.2 %               |
|                | Female        | 135           | 38.9 %            | 46.1 %              |
|                | transexual    | 2             | 0.6 %             | 46.7 %              |
| English Study  | Male          | 51            | 14.7 %            | 61.4 %              |
|                | Female        | 134           | 38.6 %            | 100.0 %             |
|                | transexual    | 0             | 0.0 %             | 100.0 %             |

Table 2 compares medical students' perceptions of their sexual attitudes relative to their mothers across Croatian and English studies. In the Croatian study, male, female, and transgender students rate their sexual attitudes as slightly more conservative than their mothers, with mean scores ranging from 3.64 to 4.50. The confidence intervals (CI) indicate a high level of certainty in these estimates, except for the third category where the upper limit suggests some variability or a small sample size issue. Conversely, in the English study, students perceive their attitudes as generally similar to those of their mothers, with mean values ranging from 2.98 to 3.54.

**Table 2.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your own mother?

|               | Type study    | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|---------------|---------------|--------|------|-------------------------|-------|-------|---------|---------|
|               |               |        |      | Lower                   | Upper |       |         |         |
| <b>Mother</b> | Croatia Study | 1      | 3.64 | 3.33                    | 3.95  | 0.757 | 2       | 5       |
|               |               | 2      | 3.70 | 3.54                    | 3.86  | 0.933 | 1       | 5       |
|               |               | 3      | 4.50 | -1.85                   | 4.85  | 0.707 | 4       | 5       |
|               | English Study | 1      | 2.98 | 2.82                    | 3.14  | 0.583 | 2       | 5       |
|               |               | 2      | 3.54 | 3.44                    | 3.65  | 0.608 | 2       | 5       |
|               |               | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom. Gender 1(male), 2 (female), 3(transsexual)

Table 3 presents the perceived generational differences in sexual attitudes among medical students in relation to their fathers across Croatian and English studies. In the Croatian study, male, female, and transgender students perceive their sexual attitudes as slightly more conservative than their fathers, with mean scores ranging from 3.52 to 4.50. The confidence intervals (CI) indicate a high degree of certainty in these estimates, except for the third category where the upper limit is unusually high due to the small sample size or variability. In contrast, in the English study, students rate their attitudes as generally similar to their fathers, with mean values ranging from 3.14 to 3.87. Overall, these findings suggest cultural differences may influence how medical students perceive their sexual attitudes compared to those of their fathers, with implications for understanding generational shifts in societal norms.

**Table 3.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your own father?

|               | Type study     | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|---------------|----------------|--------|------|-------------------------|-------|-------|---------|---------|
|               |                |        |      | Lower                   | Upper |       |         |         |
| <b>Father</b> | Croatian Study | 1      | 3.52 | 3.14                    | 3.90  | 0.918 | 2       | 5       |
|               |                | 2      | 3.95 | 3.80                    | 4.10  | 0.884 | 1       | 5       |
|               |                | 3      | 4.50 | -1.85                   | 10.85 | 0.707 | 4       | 5       |
|               | English Study  | 1      | 3.14 | 2.92                    | 3.36  | 0.775 | 1       | 5       |
|               |                | 2      | 3.87 | 3.76                    | 3.98  | 0.642 | 1       | 5       |
|               |                | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom

Table 4 compares the perceived generational differences in sexual attitudes among medical students concerning their close female friends across Croatian and English studies. In the Croatian study, male, female, and transgender medical students rate their sexual attitudes as slightly more liberal compared to their female friends, with means ranging from 2.64 to 3.00. Meanwhile, in the English study, male students perceive their attitudes as less liberal than their female counterparts, with mean values ranging from 2.16 to 2.73. The confidence intervals (CI) suggest a reasonable level of certainty in these estimates. Overall, these findings highlight how cultural backgrounds may influence perceptions of sexual attitudes among medical students in relation to their close female friends.

**Table 4.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your own close female friends?

|                      | Type study     | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|----------------------|----------------|--------|------|-------------------------|-------|-------|---------|---------|
|                      |                |        |      | Lower                   | Upper |       |         |         |
| Close female friends | Croatian Study | 1      | 2.64 | 2.35                    | 2.93  | 0.700 | 1       | 4       |
|                      |                | 2      | 2.84 | 2.70                    | 2.99  | 0.854 | 1       | 5       |
|                      |                | 3      | 3.00 | 3.00                    | 3.00  | 0.000 | 3       | 3       |
|                      | English Study  | 1      | 2.16 | 1.98                    | 2.33  | 0.612 | 1       | 5       |
|                      |                | 2      | 2.73 | 2.62                    | 2.84  | 0.639 | 1       | 4       |
|                      |                | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom

In the Croatian study, male, female, and transgender medical students tend to perceive their sexual attitudes as slightly more liberal than those of their close male friends, with mean scores ranging from 2.96 to 3.00. This suggests a consistent perception across different groups within the study. In the English study, female medical students perceive their sexual attitudes as similar to those of their close male friends, with mean scores ranging from approximately 2.90 to 3.43. Refer to Table 5.

**Table 5.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your own close male friends?

|                           | Type study     | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|---------------------------|----------------|--------|------|-------------------------|-------|-------|---------|---------|
|                           |                |        |      | Lower                   | Upper |       |         |         |
| <b>Close male friends</b> | Croatian Study | 1      | 2.96 | 2.56                    | 3.36  | 0.978 | 1       | 4       |
|                           |                | 2      | 2.96 | 2.79                    | 3.13  | 1.003 | 1       | 5       |
|                           |                | 3      | 3.00 | 3.00                    | 3.00  | 0.000 | 3       | 3       |
|                           | English Study  | 1      | 2.90 | 2.72                    | 3.08  | 0.640 | 1       | 4       |
|                           |                | 2      | 3.43 | 3.30                    | 3.56  | 0.750 | 1       | 5       |
|                           |                | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom



Table 6 examines the perception of female medical students regarding generational differences in sexual attitudes compared to their peers. In the Croatian study, female students perceive themselves as slightly more liberal than their peers, with mean scores ranging from 2.68 to 2.92 on a scale of 1 to 5, although there are overlapping confidence intervals (CI). Interestingly, one subgroup shows a wider CI (2.50, -16.56 to 21.56), indicating considerable variability or a small sample size. Conversely, in the English study, female students generally perceive themselves as similar to their peers in sexual attitudes, except for a subgroup with a mean of 3.18, suggesting they perceive themselves as somewhat more liberal. However, the confidence intervals are narrow (1.84 to 3.35), indicating greater certainty in these estimates. Overall, the table suggests that while perceptions of sexual attitudes among female medical students vary, there is a consistent trend towards self-perceived liberalism in the Croatian cohort and mixed perceptions in the English cohort, warranting further investigation into the cultural and contextual factors influencing these attitudes.

**Table 6.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your female students your own age?

|                                     | Type study     | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|-------------------------------------|----------------|--------|------|-------------------------|-------|-------|---------|---------|
|                                     |                |        |      | Lower                   | Upper |       |         |         |
| <b>Female students your own age</b> | Croatian Study | 1      | 2.68 | 2.24                    | 3.12  | 1.069 | 1       | 5       |
|                                     |                | 2      | 2.92 | 2.73                    | 3.11  | 1.100 | 1       | 5       |
|                                     |                | 3      | 2.50 | -16.56                  | 21.56 | 2.121 | 1       | 4       |
|                                     | English Study  | 1      | 2.12 | 1.84                    | 2.40  | 0.993 | 1       | 5       |
|                                     |                | 2      | 3.18 | 3.01                    | 3.35  | 0.972 | 1       | 5       |
|                                     |                | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom

Table 7 examines the perceived sexual attitudes of male students in relation to their peers of the same age across different study types. In the Croatian context, male students reported a moderate tendency towards liberal sexual attitudes, with mean scores ranging from 2.88 to 3.00 on a scale from 1 to 5, suggesting they view themselves as somewhat more liberal compared to their male peers. Similarly, in the English study, male students displayed a slightly higher perception of their liberalism in sexual attitudes, with mean scores ranging from 3.04 to 3.54. These findings indicate a consistent pattern where male students perceive themselves as more liberal in sexual attitudes than their male peers of the same age, regardless of the study program they are enrolled in.

**Table 7.** Students tendency to Generational Differences in Sexual Attitudes: Sexual attitudes are more liberal or conservative than your male students your own age?

|                                   | Type study     | Gender | Mean | 95% Confidence Interval |       | SD    | Minimum | Maximum |
|-----------------------------------|----------------|--------|------|-------------------------|-------|-------|---------|---------|
|                                   |                |        |      | Lower                   | Upper |       |         |         |
| <b>Male students your own age</b> | Croatian Study | 1      | 2.88 | 2.45                    | 3.31  | 1.054 | 1       | 5       |
|                                   |                | 2      | 3.00 | 2.80                    | 3.20  | 1.184 | 1       | 5       |
|                                   |                | 3      | 2.50 | -16.56                  | 21.56 | 2.121 | 1       | 4       |
|                                   | English Study  | 1      | 3.04 | 2.86                    | 3.22  | 0.631 | 2       | 5       |
|                                   |                | 2      | 3.54 | 3.39                    | 3.70  | 0.906 | 1       | 5       |
|                                   |                | 3      | NaN  | NaN                     | NaN   | NaN   | NaN     | NaN     |

Note. The CI of the mean assumes sample means follow a t-distribution with N - 1 degrees of freedom

The R<sup>2</sup>McF value of 0.367 (highlighted in yellow) indicates an excellent fit for the model. This suggests that the model effectively explains 36.7% of the variability in sexual

attitudes among medical students by gender. Such a high  $R^2_{McF}$  value implies that the conclusions drawn from this model are likely robust and can be generalized with confidence at a significance level of  $p < 0.05$ .

**Table 8<sup>A-C</sup>.** Generational similarity of sexual attitudes between medical students per gender.

| <b>A. Model Fit Measures</b> |                 |            |                               |  |
|------------------------------|-----------------|------------|-------------------------------|--|
| <b>Model</b>                 | <b>Deviance</b> | <b>AIC</b> | <b><math>R^2_{McF}</math></b> |  |
| 1                            | 230             | 282        | 0.367                         |  |

  

| <b>B. Model Coefficients - Gender</b> |                 |           |          |          |
|---------------------------------------|-----------------|-----------|----------|----------|
| <b>Predictor</b>                      | <b>Estimate</b> | <b>SE</b> | <b>Z</b> | <b>p</b> |
| Intercept                             | 17.518          | 2390.762  | 0.00733  | 0.994    |
| Mother:                               |                 |           |          |          |
| slightly more liberal                 | -17.324         | 2390.762  | -0.00725 | 0.994    |
| the same                              | -16.875         | 2390.762  | -0.00706 | 0.994    |
| slightly more conservative            | -17.506         | 2390.762  | -0.00732 | 0.994    |
| much more conservative                | -17.521         | 2390.762  | -0.00733 | 0.994    |
| Father:                               |                 |           |          |          |
| slightly more liberal                 | 0.535           | 1.631     | 0.32770  | 0.743    |

### B. Model Coefficients - Gender

| Predictor                     | Estimate | SE       | Z        | p     |
|-------------------------------|----------|----------|----------|-------|
| the same                      | 2.181    | 1.697    | 1.28516  | 0.199 |
| slightly more conservative    | 4.066    | 1.703    | 2.38802  | 0.017 |
| much more conservative        | 3.878    | 1.767    | 2.19439  | 0.028 |
| Close male friends:           |          |          |          |       |
| slightly more liberal         | 3.861    | 1.476    | 2.61700  | 0.009 |
| the same                      | 2.235    | 1.452    | 1.53976  | 0.124 |
| slightly more conservative    | 2.644    | 1.527    | 1.73154  | 0.083 |
| much more conservative        | 22.795   | 1716.031 | 0.01328  | 0.989 |
| Close female friends:         |          |          |          |       |
| slightly more liberal         | -3.125   | 1.335    | -2.34035 | 0.019 |
| the same                      | -1.965   | 1.362    | -1.44253 | 0.149 |
| slightly more conservative    | -0.765   | 1.567    | -0.48805 | 0.626 |
| much more conservative        | -3.823   | 2.531    | -1.51071 | 0.131 |
| Male students your own age:   |          |          |          |       |
| slightly more liberal         | -4.006   | 1.433    | -2.79512 | 0.005 |
| the same                      | -5.130   | 1.552    | -3.30497 | <.001 |
| slightly more conservative    | -4.462   | 1.647    | -2.70812 | 0.007 |
| much more conservative        | 12.304   | 1683.720 | 0.00731  | 0.994 |
| Female students your own age: |          |          |          |       |
| slightly more liberal         | 2.083    | 0.958    | 2.17469  | 0.030 |
| the same                      | 2.804    | 1.114    | 2.51601  | 0.012 |
| slightly more conservative    | 2.076    | 1.190    | 1.74430  | 0.081 |
| much more conservative        | -16.097  | 1683.720 | -0.00956 | 0.992 |
| Type of Study:                |          |          |          |       |
| English – Croatian            | 0.140    | 0.400    | 0.35088  | 0.726 |

Note. Estimates represent the log odds of "Gender = Female\_2" vs. "Gender = male\_1"

The model coefficients in Table 8B provide valuable insights into the perceived differences in sexual attitudes among medical students based on various social influences. Starting with perceptions of parental attitudes, both mothers and fathers exhibit nuanced influences: mothers are generally perceived as slightly more liberal or conservative, whereas fathers' attitudes are seen as more consistently liberal or conservative. These perceptions underscore the role of parental influence in shaping attitudes towards sexuality among medical students. Moving to peer influences, both close male and female friends are perceived to have

varying degrees of liberalism or conservatism in their attitudes, with male friends perceived as slightly more liberal and female friends potentially more conservative. Interestingly, perceptions of attitudes among male and female peers of the same age also vary, with male peers seen as potentially more conservative and female peers as slightly more liberal. Moreover, the type of study program (English vs. Croatian) shows minimal influence on perceived attitudes towards sexuality, as indicated by the small coefficient and negligible effect size. Overall, these findings highlight the complex interplay of social influences on gender-specific sexual attitudes among medical students, emphasizing the importance of both familial and peer contexts in shaping these attitudes. The variation in perceptions suggests that individuals interpret social norms differently, influencing their own attitudes towards sexuality in significant ways within academic and cultural contexts.

## Assumption Checks

### C. Collinearity Statistics

|                      | VIF  | Tolerance |
|----------------------|------|-----------|
| Mother               | 1.20 | 0.831     |
| Father               | 1.29 | 0.776     |
| Close male friends   | 1.34 | 0.745     |
| Close female friends | 1.37 | 0.730     |

### C. Collinearity Statistics

|                              | VIF  | Tolerance |
|------------------------------|------|-----------|
| Male students your own age   | 9.46 | 0.106     |
| Female students your own age | 9.01 | 0.111     |
| Type of study                | 1.18 | 0.849     |

Table 8C presents collinearity statistics for the predictors in the model assessing sexual attitudes among medical students. Generally, collinearity is considered problematic when variance inflation factor (VIF) values exceed 10 or when tolerance values fall below 0.1. In this context, predictors such as mothers' attitudes (VIF = 1.20, tolerance = 0.831), fathers' attitudes (VIF = 1.29, tolerance = 0.776), close male friends' attitudes (VIF = 1.34, tolerance = 0.745), and close female friends' attitudes (VIF = 1.37, tolerance = 0.730) exhibit low levels of collinearity, indicating no significant multicollinearity issues among these variables. However, both male students' (VIF = 9.46, tolerance = 0.106) and female students' (VIF = 9.01, tolerance = 0.111) attitudes from their own age group display high VIF values and low tolerance, suggesting potential multicollinearity concerns due to strong correlations among these predictors. Conversely, the type of study variable (VIF = 1.18, tolerance = 0.849) shows minimal collinearity, indicating it does not contribute significantly to multicollinearity in the model. Overall, these collinearity statistics suggest that while most predictors are independent and contribute uniquely to the model, caution should be exercised in interpreting the effects of attitudes among male and female peers of the same age due to their high intercorrelation.

**Table 9<sup>A-C</sup>.** Generational similarity of sexual attitudes between medical students by type of cultural background (Croatian vs. English study).

A. Model Fit Measures

| Model | Deviance | AIC | BIC | R <sup>2</sup> <sub>McF</sub> |
|-------|----------|-----|-----|-------------------------------|
| 1     | 363      | 413 | 509 | 0.239                         |

Table 9A presents model fit measures assessing the similarity of sexual attitudes between medical students from Croatian and English cultural backgrounds. The model indicates a deviance of 363, with corresponding AIC and BIC values of 413 and 509, respectively. The R<sup>2</sup><sub>McF</sub> value of 0.239 suggests a moderate model fit, implying that approximately 24% of the variance in sexual attitudes between Croatian and English medical students can be explained by cultural background. This statistical model allows us to generalize conclusions at a significance level of  $p < 0.05$ , indicating notable differences in sexual attitudes influenced by cultural context among medical students in these two distinct study programs.

B. Model Coefficients – Type of Study

| Predictor             | Estimate | SE      | Z       | p     |
|-----------------------|----------|---------|---------|-------|
| Intercept             | -14.694  | 603.848 | -0.0243 | 0.981 |
| Mother:               |          |         |         |       |
| slightly more liberal | 15.686   | 603.849 | 0.0260  | 0.979 |
| the same              | 16.479   | 603.850 | 0.0273  | 0.978 |

## B. Model Coefficients – Type of Study

| Predictor                     | Estimate | SE      | Z       | p     |
|-------------------------------|----------|---------|---------|-------|
| slightly more conservative    | 15.320   | 603.850 | 0.0254  | 0.980 |
| much more conservative        | 14.135   | 603.850 | 0.0234  | 0.981 |
| Father:                       |          |         |         |       |
| slightly more liberal         | -1.649   | 1.602   | -1.0294 | 0.303 |
| the same                      | -1.705   | 1.592   | -1.0707 | 0.284 |
| slightly more conservative    | -1.648   | 1.597   | -1.0316 | 0.302 |
| much more conservative        | -1.983   | 1.636   | -1.2120 | 0.226 |
| Close male friends:           |          |         |         |       |
| slightly more liberal         | 0.451    | 0.946   | 0.4773  | 0.633 |
| the same                      | 0.682    | 0.986   | 0.6919  | 0.489 |
| slightly more conservative    | 1.382    | 1.024   | 1.3496  | 0.177 |
| much more conservative        | -0.765   | 1.557   | -0.4915 | 0.623 |
| Close female friends:         |          |         |         |       |
| slightly more liberal         | -0.440   | 0.904   | -0.4871 | 0.626 |
| the same                      | -1.604   | 0.951   | -1.6871 | 0.092 |
| slightly more conservative    | -2.491   | 1.043   | -2.3891 | 0.017 |
| much more conservative        | -1.308   | 1.662   | -0.7869 | 0.431 |
| Male students your own age:   |          |         |         |       |
| slightly more liberal         | 1.261    | 0.918   | 1.3740  | 0.169 |
| the same                      | 1.919    | 0.994   | 1.9303  | 0.054 |
| slightly more conservative    | 2.935    | 1.064   | 2.7593  | 0.006 |
| much more conservative        | 2.558    | 1.197   | 2.1366  | 0.033 |
| Female students your own age: |          |         |         |       |
| slightly more liberal         | -0.666   | 0.744   | -0.8961 | 0.370 |
| the same                      | -1.205   | 0.829   | -1.4534 | 0.146 |
| slightly more conservative    | -0.907   | 0.857   | -1.0579 | 0.290 |
| much more conservative        | -0.879   | 1.266   | -0.6939 | 0.488 |

Note. Estimates represent the log odds of Type of study: "2= English Study" vs. "1 = Croatian Study"

Table 9B presents the coefficients from a logistic regression model examining the differences in sexual attitudes between medical students from Croatian and English cultural backgrounds. The intercept, -14.694 with a standard error (SE) of 603.848, indicates the baseline log odds of sexual attitudes for Croatian students, although it is not statistically significant ( $p = 0.981$ ), suggesting no significant difference in attitudes by default. When comparing attitudes influenced by mothers, all coefficients (slightly more liberal: 15.686,



the same: 16.479, slightly more conservative: 15.320, much more conservative: 14.135) show positive estimates, but none are statistically significant ( $p > 0.978$ ). Fathers' influence similarly shows non-significant coefficients (slightly more liberal: -1.649, the same: -1.705, slightly more conservative: -1.648, much more conservative: -1.983, all  $p > 0.226$ ). Among close male friends, only the coefficient for slightly more conservative attitudes (1.382,  $p = 0.177$ ) reaches marginal significance. Close female friends' coefficients indicate a significant negative association with slightly more conservative attitudes (-2.491,  $p = 0.017$ ), suggesting that English students may perceive their female friends' attitudes as more conservative compared to Croatian students. Male students of the same age in the English study tend to report more conservative attitudes compared to Croatian students, with statistically significant coefficients for slightly more conservative (2.935,  $p = 0.006$ ) and much more conservative (2.558,  $p = 0.033$ ) categories. Conversely, female students of the same age do not show statistically significant differences in attitudes between the Croatian and English studies.

## Assumption Checks

### C. Collinearity Statistics

|                            | VIF  | Tolerance |
|----------------------------|------|-----------|
| Mother                     | 1.17 | 0.858     |
| Father                     | 1.19 | 0.838     |
| Close male friends         | 1.33 | 0.752     |
| Close female friends       | 1.32 | 0.759     |
| Male students your own age | 1.48 | 0.674     |

### C. Collinearity Statistics

|                              | VIF  | Tolerance |
|------------------------------|------|-----------|
| Female students your own age | 1.42 | 0.704     |

Table 9C presents collinearity statistics for variables used in assessing generational similarity of sexual attitudes among medical students across Croatian and English cultural backgrounds. The Variance Inflation Factor (VIF) ranges from 1.17 to 1.48, indicating generally low levels of multicollinearity among the predictors—mother, father, close male friends, close female friends, male peers of the same age, and female peers of the same age. Correspondingly, the Tolerance values range from 0.674 to 0.858, affirming that these variables are not highly correlated with each other. These findings suggest that the regression model's estimates of coefficients related to cultural backgrounds and their influence on sexual attitudes are likely robust, as multicollinearity is not likely to unduly affect the predictive accuracy of the model.

## **5. DISCUSSION**

An intriguing aspect of our findings lies in the comparative analysis of attitudes toward sexuality among various social groups compared to the examinees. We explored attitudes relative to mother, father, close female friends, close male friends, female students of examinees' own age, and male students of examinees' own age.

Parental attitudes toward sexuality play a pivotal role in shaping their children's beliefs and behaviors, influenced by individual experiences and cultural contexts (10, 11). In conservative households, parents often impart traditional values and expectations regarding sexual behavior, which significantly influence their children's attitudes and choices. These attitudes may reflect broader societal norms and religious beliefs, emphasizing modesty, chastity, and adherence to established moral standards (10, 11).

Conversely, in more liberal or progressive households, parents may adopt open communication and supportive attitudes toward sexual exploration, promoting autonomy and informed decision-making among their children (10, 11). The variability in parental attitudes underscores the diversity of familial influences on young adults' sexual attitudes and behaviors, highlighting the complex interplay between parental guidance and individual autonomy.

Peer groups, particularly close friends, exert considerable influence on attitudes toward sexuality during adolescence and young adulthood (13, 14). Friends within these close-knit circles often share similar values and experiences, contributing to the normalization of certain sexual behaviors and attitudes. Discussions within peer networks can shape perceptions of acceptable sexual norms, influencing individuals' comfort levels with sexual exploration and expression (13, 14).

The influence of close female friends and close male friends extends beyond mere social interactions to include emotional support, validation, and shared experiences of sexual development (7, 8). Peer dynamics may vary based on gender composition, with female friendships often characterized by empathy and shared perspectives on intimacy and relationships, while male friendships may emphasize camaraderie and solidarity in navigating societal expectations (7, 8).

Attitudes toward sexuality among peers of the same age group reflect contemporary societal norms and evolving cultural attitudes (15, 17). Factors such as media influence, educational background, and exposure to diverse perspectives contribute to the variability in attitudes within these groups. Young adults engage in ongoing discussions and debates about sexuality within peer networks, shaping their beliefs and attitudes over time (15, 17).

Female students of examinees' own age often engage in dialogue about sexual health, autonomy, and empowerment, challenging traditional gender roles and advocating for inclusive sexual education (15, 17). These discussions foster critical thinking and awareness of social justice issues related to sexuality, encouraging female students to assert their rights and preferences in sexual encounters.

Conversely, male students of examinees' own age may navigate societal expectations of masculinity and sexual prowess, influenced by peer interactions and media portrayals of male sexuality (15, 17). Discussions within male peer networks may focus on themes of sexual performance, conquest, and peer acceptance, shaping attitudes toward sexual behavior and relationships (15, 17).

Comparative analysis between Croatian and English medical students highlighted notable variations in self-esteem levels and sexual attitudes. Croatian students, influenced by conservative religious perspectives and differing socioeconomic contexts, exhibited more conservative attitudes towards sexuality compared to their English counterparts (27, 29). These cultural nuances underscore the impact of sociocultural factors on shaping sexual attitudes and behaviors among young adults, reflecting broader societal norms and expectations.

It seems worth mentioning the results of the first part of this study (45, 46).

In first part of this study, we investigated the intricate relationship between age, self-esteem, and adherence to double standards among medical students. We discovered a robust negative relationship between age and the endorsement of double standards ( $r = -0.608$ ,  $p < 0.001$ ), suggesting that younger individuals are more likely to uphold double standards compared to their older counterparts (1, 25). This finding aligns with developmental theories such as Kohlberg's Theory of Moral Development, which posits that moral reasoning evolves with age and cognitive maturity (26). In early stages of moral development, individuals may prioritize personal desires and immediate gratification over consistent moral principles, potentially justifying or rationalizing adherence to double standards in sexual behavior (20). As individuals advance through higher stages of moral reasoning, they typically adopt more principled and sophisticated approaches to moral dilemmas, reducing the likelihood of endorsing double standards (26). This developmental trajectory underscores the importance of cognitive growth and self-awareness in shaping attitudes toward sexual norms and behaviors.

Second, but not less important part of sexuality in relation with a self-esteem. Self-esteem emerged as a pivotal factor influencing sexual attitudes and behaviors among medical students in our study. Higher levels of self-esteem were consistently associated with more

liberal attitudes towards sexuality, encompassing assertive communication of desires, positive body image perceptions, and enhanced sexual satisfaction (16, 21). Individuals with healthier self-esteem tend to engage in sexual behaviors that align with their personal values and desires, fostering positive sexual experiences and relationships (16, 21).

Conversely, lower self-esteem was linked to more conservative attitudes and behaviors, such as inhibited sexual expression and vulnerability to coercive or non-consensual sexual encounters (18, 20). This reciprocal relationship highlights the profound impact of self-concept on sexual well-being and confidence, suggesting that interventions aimed at enhancing self-esteem could potentially mitigate conservative sexual attitudes and behaviors among young adults (18, 20).

Our study revealed significant gender disparities in attitudes toward sexuality among medical students. Men exhibited higher adherence to traditional double standards compared to women, regardless of age or educational background (27, 32). These findings underscore the pervasive influence of societal norms and expectations regarding gender roles in sexual behavior (27, 32).

Moreover, educational attainment played a crucial role in shaping sexual attitudes, with higher levels of education associated with more liberal views towards sexuality and lower endorsement of double standards (34, 35). This suggests that educational interventions and exposure to diverse perspectives may contribute to challenging traditional gender norms and promoting more egalitarian sexual attitudes among medical students (34, 35).

We investigated the intricate relationship between age, self-esteem, and adherence to double standards among medical students. We discovered a robust negative correlation between age and the endorsement of double standards ( $r = -0.608$ ,  $p < 0.001$ ), suggesting that younger individuals are more likely to uphold double standards compared to their older counterparts (1, 25). This finding aligns with developmental theories such as Kohlberg's Theory of Moral Development, which posits that moral reasoning evolves with age and cognitive maturity (26). In early stages of moral development, individuals may prioritize personal desires and immediate gratification over consistent moral principles, potentially justifying or rationalizing adherence to double standards in sexual behavior (26).

As individuals progress through higher stages of moral reasoning, they tend to adopt more principled and nuanced approaches to moral dilemmas, which are less likely to endorse double standards (26). This developmental trajectory underscores the importance of cognitive growth and self-awareness in shaping attitudes toward sexual norms and behaviors.

Our study explored also phenomenom of sexuality and Self-esteem emerged as a pivotal factor influencing sexual attitudes and behaviors among medical students in our study. Higher levels of self-esteem were consistently associated with more liberal attitudes towards sexuality, encompassing assertive communication of desires, positive body image perceptions, and enhanced sexual satisfaction (16, 21). Individuals who possess stronger self-esteem often participate in sexual behaviors that align with their personal values and desires, fostering positive sexual experiences and relationships (16, 21).

Conversely, lower self-esteem was linked to more conservative attitudes and behaviors, such as inhibited sexual expression and vulnerability to coercive or non-consensual sexual encounters (24, 25). This reciprocal relationship highlights the profound impact of self-concept on sexual well-being and confidence, suggesting that interventions aimed at enhancing self-esteem could potentially mitigate conservative sexual attitudes and behaviors among young adults (24, 25).

Despite the valuable insights gained from our study, several limitations warrant consideration. The reliance on self-reported data introduces potential biases, including social desirability and recall biases, which may influence the accuracy and reliability of responses (38, 39). Additionally, the disproportionate representation of male participants in our sample limits the generalizability of gender-related findings, highlighting the need for more balanced sampling strategies in future research (39, 40).

Future research endeavors could benefit from employing longitudinal designs to explore the temporal dynamics of age-related changes in sexual attitudes and behaviors. Qualitative methodologies could provide deeper insights into the cultural and contextual factors that shape variations in sexual conservatism or liberalism among young adults (41, 42). By adopting a comprehensive approach, future studies could enhance our understanding of the complex interplay between age, self-esteem, gender, and sociocultural influences on sexual attitudes.

Understanding the factors influencing sexual attitudes among medical students has profound implications for healthcare education. Integrating comprehensive sexual health education into medical curricula can help address diverse cultural perspectives, gender disparities, and the influence of self-esteem on sexual well-being (36, 43). By promoting inclusive and empathetic healthcare practices, future healthcare professionals can better support patients in navigating their sexual health with confidence and respect (36, 43). These

educational strategies are essential for fostering a supportive healthcare environment that promotes holistic well-being among patients and healthcare providers alike.

In conclusion, our study provides a comprehensive examination of the complex interplay between age, self-esteem, gender, and cultural factors in shaping sexual attitudes among medical students. By elucidating these dynamics, we aim to inform educational strategies and interventions that promote healthier sexual behaviors and attitudes in healthcare settings. Through collaborative efforts and evidence-based approaches, we can enhance patient care and promote well-being by addressing the multifaceted dimensions of sexual attitudes among young adults.



## **6. CONCLUSIONS**

Our study revealed the following comparative results between Croatian and English study program participants, highlighting differences in perceived sexual attitudes across various relationships and demographics:

1. In the Croatian program study, students rated their sexual attitudes as slightly more conservative than their mothers, while in the English program study, students perceived their attitudes as generally similar to their mothers
2. In the Croatian program study, students perceived their sexual attitudes as slightly more conservative than their fathers, while in the English program study, students viewed their attitudes as generally similar to their fathers
3. In the Croatian program study, students viewed their sexual attitudes as slightly more liberal than their close female friends, while in the English program study, male students perceived their attitudes as less liberal than their close female friends
4. In the Croatian program study, students perceived their sexual attitudes as slightly more liberal than their close male friends, while in the English study, female students viewed their sexual attitudes as similar to their close male friends
5. In the Croatian program study, female students perceived themselves as slightly more liberal than their peers, while in the English program study, female students generally saw themselves as similar to their peers in sexual attitudes
6. In the Croatian program study, male students saw themselves as moderately more liberal in sexual attitudes than their peers, while in the English program study, male students perceived themselves as slightly more liberal than their peers

## **7. REFERENCES**

1. WHO. Sexual and Reproductive Health and Research (SRH). [Internet]. WHO: Defining Sexual Health; WHO 2006a [cited 2024 Apr 17]. Available from: [https://www.who.int/reproductivehealth/topics/sexual\\_health/sh\\_definitions/en/](https://www.who.int/reproductivehealth/topics/sexual_health/sh_definitions/en/)
2. Epstein S, Mamo L. The proliferation of sexual health: diverse social problems and the legitimization of sexuality. *Soc Sci Med.* 2017;188:176-90.
3. Dosch A, Rochat L, Ghisletta P, Favez N, Van der Linden M. Psychological Factors Involved in Sexual Desire, Sexual Activity, and Sexual Satisfaction: A Multi-factorial Perspective. *Arch Sex Behav.* 2016;45(8):2029-45.
4. Crocker PRE. Positive sexual identity and well-being: A positive psychology of sexuality. In: Valsiner AK, editors. *The Oxford Handbook of Human Development and Culture: An Interdisciplinary Perspective.* Oxford University Press. 2020. p 381-97.
5. Fernandes B, Newton J, Essau CA. The mediating effects of self-esteem on anxiety and emotion regulation. *Psychol Rep.* 2022;125:787-803. Esere MO. Effect of Sex Education Programme on at-risk sexual behaviour of school-going adolescents in Ilorin, Nigeria. *Afr Health Sci.* 2008 Jun;8(2):120-5.
6. Esere MO. Effect of Sex Education Programme on at-risk sexual behaviour of school-going adolescents in Ilorin, Nigeria. *Afr Health Sci.* 2008 Jun;8(2):120-5.
7. Santelli JS, Grilo SA, Choo TH, Diaz G, Walsh K, Wall M, et al. Does sex education before college protect students from sexual assault in college? *PLoS One.* 2018;13:e0205951.
8. Muise, A., Schimmack, U, Impett, EA. Sexual frequency predicts greater well-being, but more is not always better. *Soc Psychol Pers Sci.* 2016;7(4):295-302.
9. Wellings K. Sexual health: theoretical perspectives. In: Wellings K, Mitchell K, Collumbien M. *Sexual health: a public health perspective: Berkshire: Open University Press, 2012:3-15.*
10. Starrs AM, Ezeh AC, Barker G, et al. Accelerate progress—sexual and reproductive health and rights for all: report of the Guttmacher-Lancet Commission. *Lancet.* 2018; 391:2642-92.
11. Stephenson R, Gonsalves L, Askew I, Say L. Detangling and detailing sexual health in the SDG era. *Lancet* 2017;390:1014-15.
12. Boone CA, Bowleg L. Structuring sexual pleasure: equitable access to biomedical HIV prevention for black men who have sex with men. *Am J Public Health.* 2020;110:157-59.
13. Gruskin S, Kismödi E. A call for (renewed) commitment to sexual health, sexual rights, and sexual pleasure: a matter of health and well-being. *Am J Public Health.* 2020;110:159-60.
14. The Global Advisory Board for Sexual Health and Wellbeing. Sexual pleasure: the forgotten link in sexual and reproductive health and rights. [Internet. ]Berkshire: The Global Advisory

- Board for Sexual Health and Wellbeing, 2018. [cited 2024 Apr 17]. Available from: [https://www.gab-shw.org/media/1038/gab\\_sexualpleasuretrainingtoolkit\\_final\\_webversion\\_withhyperlinks\\_updatejune2018.pdf](https://www.gab-shw.org/media/1038/gab_sexualpleasuretrainingtoolkit_final_webversion_withhyperlinks_updatejune2018.pdf).
15. Mc Clelland SI. "What do you mean when you say that you are sexually satisfied?" A mixed methods study. *Fem Psychol.* 2014;24:74-96.
  16. Elmerstig E, Wijma B, Sandell K, Berterö C. "Sexual pleasure on equal terms": young women's ideal sexual situations. *J Psychosom Obstet Gynaecol.* 2012;33:129-34.
  17. Mc Glynn C, Westmarland N, Godden N. 'I just wanted him to hear me': sexual violence and the possibilities of restorative justice. *J Law Soc.* 2012;39:213-40.
  18. Carter A, Greene S, Money D, et al. The problematization of sexuality among women living with HIV and a new feminist approach for understanding and enhancing women's sexual lives. *Sex Roles.* 2017;77:779-800.
  19. O'Loughlin JI, Brotto LA. Women's sexual desire, trauma exposure, and posttraumatic stress disorder. *J Trauma Stress.* 2020;33:238-47.
  20. Bird ER, Seehuus M, Clifton J, Rellini AH. Dissociation during sex and sexual arousal in women with and without a history of childhood sexual abuse. *Arch Sex Behav.* 2014;43:953-64.
  21. Hooghe M. Is sexual well-being part of subjective well-being? An empirical analysis of Belgian (Flemish) survey data using an extended well-being scale. *J Sex Res.* 2012;49:264-73.
  22. Öberg K, Fugl-Meyer KS, Fugl-Meyer AR. On sexual well-being in sexually abused Swedish women: epidemiological aspects. *Sex Relationship Ther.* 2002;17:329-41.
  23. Laumann EO, Paik A, Glasser DB, et al. A cross-national study of subjective sexual well-being among older women and men: findings from the Global Study of Sexual Attitudes and Behaviors. *Arch Sex Behav.* 2006;35:145-61.
  24. Muise A, Preyde M, Maitland SB, Milhausen RR. Sexual identity and sexual well-being in female heterosexual university students. *Arch Sex Behav.* 2010;39:915-25.
  25. Crawford M, Popp D. Sexual double standards: A review and methodological critique of two decades of research. *J Sex Res.* 2003;40(1):13-26.
  26. Marks MJ, Fraley RC. The sexual double standard: Fact or fiction?. *Sex Roles.* 2005;52(3):75-86.

27. Milhausen RR, Herold ES. Reconceptualizing the sexual double standard. *J Psych Human Seks.* 2002;13(2):63-86.
28. Kreager DA, Staff J. The Sexual Double Standard and Adolescent Peer Acceptance. *Soc Psych Quart.* 2009;72:143-64.
29. Hamilton L, Armstrong L, Armstrong EA. Gendered Sexuality in Young Adulthood Double Binds and Flawed Options. *Gend Soc.* 2009;23:589-616.
30. Harding DJ. Cultural Context, Sexual Behavior, and Romantic Relationships in Disadvantaged Neighborhoods. *American Soc Rev.* 2007;72:341-64.
31. Soller B, Haynie DL. Variation in Sexual Double Standards across Schools. *Soc Perspect.* 2017;60(4):702-21.
32. Peixoto C, Botelho F, Tomada I, Tomada N. Sexual patterns in Portuguese medical students and its predictive factors. *Rev Int Androl.* 2016;14:53-68.
33. Marks, M. J., Young, T. M, & Zaikman, Y. The sexual double standard in the real world. Evaluations of sexuality active friends and acquaintances. *Soc Psychol.* 2019;50:67-79.
34. Sakaluk JK, Todd LM, Milhausen R, Lachowsky, NJ. Dominant heterosexual sexual scripts in emerging adulthood: Conceptualization and measurement. *J Sex Res.* 2014;51:516-31.
35. Fasula AM, Carry M, Miller KS. A multidimensional framework for the meanings of the sexual double standard and its application for the sexual health of young black women in the U.S. *J Sex Res.* 2014;51:170-183.
36. Kreager DA, Zhang H, Felmlee D, Veenstra V. The sexual double standard and adolescent stigma: A sociometric and comparative approach. *J Sex Res.* 2024;6:1-11.
37. Farvid P, Braun V, Roney C. “No girl wants to be called a slut!”: Women, heterosexual casual sex and the sexual double standard. *J Gender Stud.* 2017;26(5):544-60.
38. Bordini G S, Sperb TM. Sexual double standard: A review of the literature between 2001 and :010. *Sexuality & Culture.* 2013;17(4):686-704.
39. Zaikman, Y, Marks M J. Promoting theory-based perspectives in sexual double standard research. *Sex Roles.* 2017;76(7-8):407-20.
40. Krems JA, Ko A, Moon JW, Varnum ME. Lay beliefs about gender and sexual behavior: First evidence for a pervasive, robust (but seemingly unfounded) stereotype. *Psychological Science.* 2021;32(6):871-89.
41. Endendijk JJ, Deković M, Vossen H, van Baar AL, Reitz E. Sexual double standards: Contributions of sexual socialization by parents, peers, and the media. *Archives of Sexual Behavior.* 2022;51(3):1721-40.

42. Kirk, David S. and Andrew V. Papachristos. Cultural Mechanisms and the Persistence of Neighborhood Violence. *Am Journal Soc.* 2011;116:1190-233.
43. Sheff E. Polyamorous Women, Sexual Subjectivity and Power. *JCE.* 2005;34:251-83.
44. Lottes IL, Weinberg MS. Indicators of double standard and generational differences in sexual attitudes. In: Davis CM, Yarber WL, Bausreman R, Schreer G, Davis SL, editors. *Handbook of Sexuality-Related Measures.* Thousand Oaks: SAGE Publications; 1998. p 184-186.
45. Matulić I. The influence of sexual behaviour, attitude and awareness of sexual health on self-esteem in medical students. Master's thesis. School of Medicine, University of Split, 2023.
46. Franc K. Stavovi studenata sveučilišta u splitu o spolnom zdravlju [Diploma thesis]. Split: Medicinski fakultet Sveučilišta u Splitu; 2023.

## **8. SUMMARY**



Sexual health, per the WHO, includes physical, emotional, mental, and social aspects of sexuality. It stresses a positive and respectful approach to sexual relationships and rights. However, public health often emphasizes the negative outcomes and risks, neglecting the important aspects of sexual well-being and pleasure. Integrating these aspects into public health is crucial for addressing inequalities and improving overall sexual health and justice.

### **OBJECTIVES:**

This research explores how double standards in evaluating sexual behavior affect the sexual health and self-esteem of medical students in Croatian program and English program. It also looks at how these standards vary between generations and how open students are to reconsidering stigmas when discussing their own and others' sexuality.

### **METHODS:**

This study, conducted from January to May 2023, examined how double standards in sexual behavior affect the sexual health and self-esteem of medical students in Split, Croatia. Participation included 347 medical students from the University of Split's Croatian and English programs, provided they were over 18, enrolled in the medical program, and consented to take part.

### **RESULTS:**

Medical students in the Croatian program generally perceive their sexual attitudes as more conservative than their parents, whereas those in the English program see their attitudes as similar to their parents. Regarding close friends, Croatian students view their attitudes as more liberal than those of their peers, while English students see their attitudes as more aligned with their peers. These findings suggest cultural influences play a significant role in shaping the perceived liberal or conservative sexual attitudes among medical students.

### **CONCLUSION:**

The research shows that medical students tend to view their sexual attitudes as more conservative than those of their parents, indicating a generational shift towards traditional norms. Influences such as societal expectations, medical education, and strong family values contribute to this conservatism among younger individuals.

## **9. CROATIAN SUMMARY**

## **NASLOV: UTJECAJ DVOSTRUKIH STANDARDA I OTVORENOSTI ZA REDEFINIRANJE STIGME U SEKSUALNIM ODNOSIMA STUDENATA MEDICINSKOG FAKULTETA**

### **CILJEVI:**

Ovo istraživanje ispituje kako dvostruki standardi u ocjenjivanju seksualnog ponašanja utječu na seksualno zdravlje i samopoštovanje studenata medicine u hrvatskom programu i engleskom programu. Također istražuje kako se ovi standardi razlikuju između generacija i koliko su studenti otvoreni za preispitivanje stigmi kada raspravljaju o vlastitoj i tuđoj seksualnosti.

### **METODE:**

Ovo istraživanje, provedeno od siječnja do svibnja 2023. godine, ispitalo je kako dvostruki standardi u seksualnom ponašanju utječu na seksualno zdravlje i samopoštovanje studenata medicine u Splitu, Hrvatska. Ukupno je sudjelovalo 347 studenata medicine hrvatskog i engleskog programa Sveučilišta u Splitu, pod uvjetom da su stariji od 18 godina, upisani u medicinski program te pristanak na sudjelovanje.

### **REZULTATI:**

Studenti medicine u hrvatskom programu općenito percipiraju svoje seksualne stavove kao konzervativnije u odnosu na svoje roditelje, dok studenti u engleskom programu svoje stavove vide sličnima onima svojih roditelja. Što se tiče bliskih prijatelja, studenti sa hrvatskog programa svoje stavove vide liberalnijima u odnosu na svoje vršnjake, dok studenti engleskog programa svoje stavove vide usklađenima s onima svojih vršnjaka. Ovi nalazi sugeriraju da kulturni utjecaji igraju značajnu ulogu u oblikovanju percipiranih liberalnih ili konzervativnih seksualnih stavova među studentima medicine.

### **ZAKLJUČAK:**

Istraživanje pokazuje da studenti medicine imaju tendenciju da svoje seksualne stavove smatraju konzervativnijima od stavova svojih roditelja, što ukazuje na generacijski pomak prema tradicionalnim normama. Utjecaji poput društvenih očekivanja, medicinske edukacije i snažnih obiteljskih vrijednosti doprinose ovoj konzervativnosti među mlađim pojedincima.