

SELF-EFFICACY AND UNWANTED SEXUAL INTERCOURSE: 'REPRODUCTIVE HEALTH EDUCATION PROGRAMME FOR HIGH-SCHOOL STUDENTS IN VOJVODINA' SAMOUČINKOVITOST IN NEŽELENI SPOLNI ODNOSI: »PROGRAM ZDRAVSTVENE VZGOJE NA PODROČJU REPRODUKTIVNEGA ZDRAVJA SREDNJEŠOLCEV V VOJVODINI«

Tanja TOMAŠEVIĆ^{1,3*}, Snežana UKROPINA^{1,2}, Vesna MIJATOVIĆ JOVANOVIĆ^{1,3},
Svetlana KVRGIĆ^{1,3}, Sonja ČANKOVIĆ^{1,3}, Dragana MILIJAŠEVIĆ^{1,3}

¹University of Novi Sad, Medical Faculty, Social Medicine, Hajduk Veljkova 3, 21000 Novi Sad, Serbia

²Institute of Public Health of Vojvodina, Center for Health Promotion, Futoška 121, 21000 Novi Sad, Serbia

³Institute of Public Health of Vojvodina, Center for Analysis, Planning and Organisation of Health Care, Futoška 121, 21000 Novi Sad, Serbia

Received: May 8, 2021
Accepted: Feb 10, 2022

Original scientific article

ABSTRACT

Keywords:

unwanted sexual intercourse, self-efficacy, health education, programmes, reproductive health

Introduction: Studies have shown the importance of self-efficacy in the domain of risky sexual behaviour. The aim of this study was to examine the association of unwanted sexual intercourse among secondary-school students with socio-demographic factors and perceived self-efficacy, and to assess the effectiveness of the programme on reproductive health.

Methods: The study involved 5,026 second-grade students in 72 high schools in the Province of Vojvodina, Serbia (APV). They were surveyed before and after the implementation of the extracurricular 'Reproductive health education programme for secondary-school students in APV'. A questionnaire consisting of 57 questions (socio-demographic characteristics, knowledge, attitudes, and behaviour of students regarding reproductive health, and a general self-efficacy scale) was used as the research instrument.

Results: One quarter of students had engaged in unwanted sexual intercourse on one or more occasions. Students with poor material status were twice as likely to engage in unwanted sexual intercourse (OR=2.01; 95%CI=1.07-3.75) as students with average or good material status. Students who did not engage in unwanted sexual intercourse had a higher self-efficacy score than students who did (t=2.903; p<0.01). After the programme was completed, there was an increase in general self-efficacy.

Conclusion: Poor material status is a predictor of unwanted sexual intercourse. Students who have a higher level of self-efficacy engaged to a lesser degree in unwanted sexual intercourse. The programme is effective in terms of increasing general self-efficacy, and can be applied to encourage responsible sexual behaviour.

IZVLEČEK

Ključne besede:

neželeni spolni odnosi, samoučinkovitost, zdravstvena vzgoja, programi, reproduktivno zdravje

Uvod: Študije so pokazale, kako pomembna je samoučinkovitost na področju tvegane spolne vedenja. Cilj je bil raziskati povezavo med neželenimi spolnimi odnosi pri srednješolcih, socialno-demografskimi dejavniki in zaznani samoučinkovitostjo ter oceniti učinkovitost uvedene programa zdravstvene vzgoje na področju reproduktivnega zdravja.

Metode: V študijo je bilo vključenih 5026 dijakov drugega letnika z 72 srednjih šol v avtonomni pokrajini Vojvodina v Srbiji (APV). Dijaki so pred uvedbo programa zunajšolskega izobraževanja »Zdravstvena vzgoja na področju reproduktivnega zdravja srednješolcev v APV« in po njej izpolnili anketo. Kot raziskovalni instrument je bil uporabljen vprašalnik s 57 vprašanji (socialno-demografske značilnosti, znanje, stališča in vedenje dijakov v zvezi z reproduktivnim zdravjem ter splošna lestvica samoučinkovitosti).

Rezultati: Vsak četrti dijak je imel enega ali več neželenih spolnih odnosov. Pri dijakih v slabem materialnem položaju je bila 2-krat večja verjetnost sodelovanja v neželenem spolnem odnosu (OR = 2,01; 95-% CI = 1,07-3,75) v primerjavi z dijakom v povprečnem ali dobrem materialnem položaju. Dijaki, ki niso sodelovali v neželenem spolnem odnosu, so imeli višji rezultat na lestvici samoučinkovitosti kot dijaki, ki so privolili v sodelovanje v neželenem spolnem odnosu (t = 2,903; p < 0,01). Po uvedbi programa se je splošna samoučinkovitost povečala.

Zaključek: Slab materialni položaj je dejavnik, ki napoveduje neželene spolne odnose. Dijaki z večjo samoučinkovitostjo so manj pogosto sodelovali v neželenem spolnem odnosu. Uvedeni program je učinkovit v smislu povečanja splošne samoučinkovitosti in ga lahko uporabimo za spodbujanje odgovornega spolnega vedenja.

*Corresponding author: Tel. + 381 695 550 858; E-mail: tanja.tomasevic@mf.uns.ac.rs

1 INTRODUCTION

Adolescence is a time of transition marked by many physical, psychological and social milestones. The biological changes that occur during this period affect adolescents' behaviour and decision-making as they relate to sexual and reproductive health. Brain development and changes in hormone levels increase the adolescent's predisposition to take risks. Their tendency to take risks plays an important role in their development. In some situations, it can be positive and encourage the development of new skills; on the other hand, it can induce risky sexual behaviour among adolescents (1).

In Serbia, research shows that young people are at risk and that they are engaging in sexual relations earlier without the correct information about sexual and reproductive health (2-4). One particular concern is the fact that 3.4% of girls had had unwanted sexual intercourse (5) and every seventh girl had experienced some form of abuse within a relationship by the end of adolescence (6).

Serbia is one of the only countries in Europe that does not incorporate comprehensive sexual education or other forms of reproductive health education into the school education system. While the school education system does feature some health education content, an insufficient number of lessons are devoted to this topic. Successful reproductive health education programmes encourage adolescents to delay sexual activity until they become more mature, and provide them with skills to protect their health and protect themselves from unwanted pregnancies and sexually transmitted diseases, including HIV (7, 8). Programmes should be comprehensive and human rights-based, aim to prevent sexually transmitted infections and unwanted pregnancies, and include positive sexuality and the empowerment of adolescents to help them acquire the skills to protect their health (9, 10).

Volitional sex, or sex by choice, is central to improving the health and well-being of women and girls globally. The empowerment of women and girls is a recognised target under the Sustainable Development Goals (SDGs), where SDG-5 aims to eliminate discrimination against women and girls, eradicate violence in both public and private spheres, and achieve universal access to sexual and reproductive health (SRH) services. A growing body of literature highlights the relationship between women's empowerment and improved reproductive health outcomes, including an increase in the use of contraceptives and a decrease in unintended pregnancies (11, 12).

Unwanted sexual intercourse as a type of sexual violence can be reduced by implementing comprehensive sex education programmes (13). These programmes contain objectives and elements that affect negotiation skills and self-efficacy.

Some researchers believe that measuring self-efficacy when evaluating reproductive health education programmes is essential because it is an important mediator of behaviour change between knowledge and behaviour, and is very important for sexual and reproductive health issues (14). According to modern pedagogical theories, knowledge alone is not enough to change behaviour. Skills-building, self-efficacy, and motivation are better predictors of successful behavioural change (15), which is health education programmes should be directed. By strengthening psychosocial competencies, young people can protect themselves from risky sexual behaviour. Interventions aimed at reducing risky sexual behaviours usually affect self-efficacy (16).

Self-efficacy, a core aspect of social cognitive theory, refers to people's beliefs about their ability to exercise control over their own lives and over the events that affect their lives. These beliefs influence a person's motivation and may be the most important factors for determining behaviour. Self-efficacy is not about an individual's objective ability; rather, it captures an individual's perception of their performance capability. Those with higher levels of self-efficacy tend to select, create and transform their environmental circumstances more actively than those with lower levels of self-efficacy (17). According to Bandura, self-efficacy is context-dependent. Assessment methods must be tailored to each event or research setting. However, other researchers have proposed the concept of general self-efficacy. The essential idea behind this concept is that self-efficacy can be of a general character, or a universal construct, and can be used in a wide range of situations (16, 18, 19).

The literature provides evidence that reducing sexual risk among young people is associated with high sexual self-efficacy, i.e. the belief that unwanted sexual intercourse can be refused. High self-efficacy is a predictor of greater academic and sporting success, and greater job satisfaction, leads to safe sexual practices and relationships, and also reduces risky sexual behaviours (20, 21). Numerous studies have shown the role self-efficacy plays in the field of risky sexual behaviour, as well as the association of self-efficacy with the practice of safe sexual relations. In their study, Ozer and Bandura showed that women who were exposed to violence had lower levels of self-efficacy (22).

The aim of this study was to examine the association of unwanted sexual intercourse among secondary-school students in AP Vojvodina with socio-demographic characteristics and perceived self-efficacy, and to assess the effectiveness of the extracurricular 'Reproductive health education programme for secondary-school students in APV' in terms of increasing general self-efficacy.

2 MATERIALS AND METHODS

2.1 Study design and programme

Our research is part of a three-year study conducted during three academic years (2013-2016), with each year constituting an independent research cycle. The research was conducted among secondary-school students in the extracurricular 'Reproductive health education programme for secondary-school students in APV'. The paper presents the results of the last year of research (2015/16 academic year). The programme was supported by the Provincial Secretariat for Sports and Youth of AP Vojvodina, and was implemented by the Institute of Public Health of Vojvodina. To assess the effectiveness of this programme, pre- and post-intervention surveys of students participating in the programme were conducted. The questionnaires were distributed to schools by post and collected in the same way before the implementation of the programme in September 2015 and after the implementation of the programme in May 2016. The survey was conducted during one school class. Students gave their consent to participation in the research before the programme started.

The programme curriculum contained 14 90-minute workshops with topics including health, communication, genital anatomy, sexuality, pregnancy and childbirth, sexually transmitted infections and HIV, contraception, contact with a gynaecologist, urologist, paediatrician, and psychologist, risky behaviours, gender issues, and human rights. During the programme, a participatory approach to education was applied, which implies the active involvement of participants in the learning process, i.e. the exchange of knowledge between participants and educators. The purpose of the programme was to acquire knowledge, form correct attitudes, and master life skills important for preserving and improving the adolescent health. The methodology used to conduct the programme was based on the available professional literature, standards and guidelines, the WHO Standards for Sexuality Education and the UNESCO International Technical Guidelines on Sexuality Education (both of which recommend holistic or comprehensive sexuality education covering a wide range of topics), and the 'It's All One Curriculum' Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV and Human Rights Education (23-25).

The training was conducted by educators at the school and by educators specially engaged for the purpose of the project (pedagogues, psychologists, teachers of sociology, biology and physical education, and teachers of medical subjects at vocational schools). A group of 112 educators underwent eight hours of theoretical training provided by the authors of the programme (university teachers in the fields of gynaecology, urology, developmental psychology, social medicine and epidemiology).

2.2 Participants

The sample consisted of second-grade students at 72 high schools across Vojvodina in the 2015/16 academic year. The schools were selected at the Competition of the Provincial Secretariat for Sport and Youth of Vojvodina. The study involved 5,026 students who were surveyed before and after implementation of the programme.

2.3 Instrument

The research instrument consisted of a questionnaire containing 57 questions; those questions related to the socio-demographic characteristics of the students, and the students' knowledge, attitudes and behaviours regarding reproductive health. Certain questions were also designed to assess students' general self-efficacy. Unwanted sexual intercourse was analysed via the following question: 'Have you ever engaged in sexual intercourse even when you did not want to?' This was transformed into a dichotomous variable (yes/no). Gender, type of area of residence, mother and father's education, self-assessment of socio-economic status and success at school were used as socio-demographic variables.

The General Self-Efficacy Scale was used for the purposes of the study. This is a psychometric scale consisting of ten questions on a four-point Likert scale. It was created to assess self-efficacy in dealing with different life situations, such as willingness to overcome problems and solve difficulties in life, and the ease with which this is done (26). Respondents were asked to express agreement or disagreement with each of the ten statements. The possible answers were 1 - completely incorrect, 2 - partially incorrect, 3 - partially correct, 4 - completely correct. This gave a total score of between 10 and 40. A higher score indicated a high level of self-efficacy, while a low score indicated a low level of self-efficacy. Numerous studies have confirmed the reliability and validity of the scale (26). Based on the data derived from this study, good reliability of the self-efficacy scale was determined. The coefficient of internal consistency was $\alpha=0.86$ before the programme and $\alpha=0.87$ after the programme. Before conducting further analyses, the normal distribution of scores on the self-efficacy scale was checked. The results showed that the scale distribution corresponded to the normal distribution (Skewness and Kurtosis values are below ± 1.5).

2.4 Statistical analysis

The primary database was transformed into a form suitable for processing using the statistical package SPSS 21 for Windows (IBM). Standard methods of descriptive and inferential statistics were used in the statistical analysis of the data. A binary logistic regression model was used to assess the association between socio-demographic variables as independent variables and unwanted sexual

intercourse as a dependent variable. The student t test was used to analyse intergroup differences in engagement in unwanted sexual intercourse as they related to general self-efficacy. The Cronbach alpha coefficient was used to measure the internal consistency of the self-efficacy scale. Significance levels of $p < 0.05$ were considered statistically significant.

Table 1. Socio-demographic characteristics of the sample students.

Variables	n	%
Gender		
Male	2,424	49.1
Female	2,514	50.9
Type of area of residence		
Rural	2,188	44.5
Urban	2,731	55.5
Success at school		
Excellent	1,480	30.1
Very good	2,048	41.7
Good	1,232	25.1
Satisfactory	105	2.1
Unsatisfactory	51	1.0
Socio-economic status		
Good	2,398	49.4
Average	2,308	47.5
Poor	153	3.1
Level of mother's education		
Elementary	707	14.5
High school	2,773	57.0
University	1,329	27.3
No mother present	56	1.2
Level of father's education		
Elementary	667	13.7
High school	2,882	59.2
University	1,174	24.1
No father present	139	3.0

3 RESULTS

The study involved 5,026 second-grade secondary-school students in Vojvodina with an average age of 15.83 years (Min15, Max18; SD=0.48). A total of 4,938 students were entered in the final analysis. Data on the socio-demographic characteristics of the students is shown in Table 1.

Of the total respondents, 23.9% were sexually active (n=1180), including 779 boys (66.0%) and 387 girls (32.7%) ($\chi^2=199.413$; $p < 0.000$), while 14 students did not indicate their gender.

Among those who had had sexual intercourse, 285 (24.2%) stated that they had unwanted sexual intercourse (13.1% of students once and 11.1% of students more than once). Seventy students (5.9%) did not answer this question. There was no statistical difference in the answers between boys and girls regarding unwanted sexual intercourse ($\chi^2=4.997$; $p=0.081$) (Table 2).

As a reason for getting into unwanted relationships, students most often cited: the desire to please their partner (61.3%), the influence of alcohol (11.2%), partner pressure (8.9%), and a partner spending a large amount of money on going out or buying something (6.9%). Ten students did not answer the question. It is noticeable that a significant number of young people (11.6%) cited 'something else' as the reason why they could not find an adequate answer among those offered in the questionnaire. Boys most often engaged in unwanted sexual intercourse because of the desire to please their partner (61.6%) and the influence of alcohol (12.6%), while girls most often did so because of partner pressure (14.3%) and because the partner had spent a lot of money on going out (5.9%). However, there was no significant statistical difference in the answers between genders ($\chi^2=8.986$; $p=0.112$) (Table 3).

The binary logistic analysis shows that students with poor socio-economic status are twice as likely to engage in unwanted sexual intercourse as students who describe their status as good or average (OR=2.01; 95%CI 1.07-3.75; $p=0.028$). There was no significant association between other the socio-demographic variables analysed and unwanted sexual intercourse (Table 4).

Table 2. Gender differences in unwanted sexual intercourse among students.

Variables	Male		Female		Total	
	n	%	n	%	n	%
Unwanted sexual intercourse						
Never	556	74.9	285	77.4	841	75.8
Once	95	12.8	51	13.8	146	13.1
Multiple times	91	12.3	32	8.8	123	11.1
Total	742	100.0	368	100.0	1,110	100.0

($\chi^2=4.997$; $p=0.081$)

Table 3. Gender differences in reasons for engaging in unwanted sexual intercourse among secondary-school students.

Variables Reason for consent to unwanted sexual intercourse	Male		Female		Total	
	n	%	n	%	n	%
Desire to please my partner	114	61.6	51	60.7	165	61.3
Partner pressure	12	6.5	12	14.3	24	8.9
Partner spent a lot of money on going out	5	2.8	5	5.9	10	3.7
Partner offered me money or a gift in return	8	4.3	1	1.2	9	3.3
Influence of alcohol	23	12.4	7	8.4	30	11.2
Other	23	12.4	8	9.5	31	11.6
Total	185	100.0	84	100.0	269	100.0

($\chi^2=8.986$; $p=0.112$)

Table 4. Association between socio-demographic variables and unwanted sexual intercourse among secondary-school students.

Variables	OR	95%CI	p
Gender			
Male	1.19	0.86-1.65	0.271
Female	1		
Type of area of residence			
Rural	1.11	0.82-1.51	0.462
Urban	1		
Father's education			
Elementary	1.42	0.92-2.21	0.111
Secondary/university	1		
Mother's education			
Elementary	1.05	0.66-1.65	0.830
Secondary/university	1		
Socio-economic status			
Poor	2.01	1.07-3.75	0.028
Good/average	1		
Success at school			
Excellent/very good	0.81	0.66-1.09	0.176
Good/satisfactory, unsatisfactory	1		

3.1 Self-efficacy score and engagement in unwanted sexual intercourse among students

There was a statistically significant difference in the average score in the general self-efficacy scale according to gender ($t=4.326$; $p=0.000$), with male students having a higher average score on the scale (Table 5). We were also interested in the association between general self-efficacy and unwanted sexual intercourse. The mean score on the self-efficacy scale was 33.44 for students who had not engaged in unwanted sexual intercourse and 31.79 for students who had done so. The results showed that students who had not engaged in unwanted sexual intercourse had a significantly higher self-efficacy score than those who had ($t=2.903$; $p=0.004$) (Table 6).

3.2 Differences in students' self-efficacy before and after implementation of the programme

Differences in self-efficacy scores before and after implementation of the programme in all respondents who engaged in the programme (i.e. regardless of their sexual activity) were examined. The results showed that the mean self-efficacy score was 32.32 before implementation of the programme (3,742 students answered) and 32.67

Table 5. Average score on the general self-efficacy scale between genders.

Variables	n	Min	Max	Mean self-efficacy score	SD	t	p
Male	1,765	10	40	32.68	5.2	4,326	0.000
Female	1,977	10	40	31.97	5.8		

Table 6. Average score on the self-efficacy scale and unwanted sexual intercourse among students.

Variables	n	Mean self-efficacy score	SD	t	p
Unwanted sexual intercourse					
no	609	33.44	4.96	2,903	0.004
yes	269	31.79	7.50		

after implementation of the programme (3,304 students answered). There was a statistically significant increase in self-efficacy among students ($t=2.737$; $p=0.006$) (Table 7). However, when we split the results according to gender, the difference in improvements in self-efficacy were statistically significant only among female students ($t=-3.100$; $p=0.002$) (Table 9), while in male students it was not statistically significant ($t=-0.920$; $p=0.358$) (Table 8). We can therefore conclude that the programme was effective for female students in terms of general self-efficacy.

4 DISCUSSION

The programme was based on standards and guidelines for the implementation of comprehensive sex education. This type of education has the potential to prevent and reduce gender-based violence and discrimination, to teach young people to build stronger and healthier relationships, and to improve self-efficacy (24, 27).

As the results show, 23.9% of the students surveyed (average age 15.83 years) had entered into sexual relations. There was a significant difference between boys and girls (boys 66.0% and girls 32.7%), which was consistent with the results of the 'Health Behaviour in School-Aged Children' study conducted in Serbia in 2018, which found that 25% of young people aged 15 had entered into sexual relations (4). Of those who had had sexual intercourse, 24.2% stated that they had done so even when they did not want to (25.1% of male and 22.6% of female students). It is concerning to note that 7% of young people engaged in unwanted sexual intercourse after their partner had spent a large amount of money on them or bought them a gift, and 11.2% had done so under the influence of alcohol, which indicates the presence of associated risky behaviours among young people. Among the respondents,

11.6% stated that 'something else' was the reason for their engagement in unwanted sexual intercourse. The relation between wanting or not wanting sex may be conditioned by a range of different factors: individual, relational, contextual and structural, such as gender, social class, age or ethnicity (28). When we analysed unwanted sexual intercourse in relation to socio-demographic variables, we found that there was a significant difference when it came to socio-economic status. For example, those students who assessed their status as poor were almost twice as likely to engage in unwanted sexual intercourse as those who described their status as good or average. These findings are consistent with the results of other studies that examine child and adolescent health behaviours in relation to socio-economic status, which have shown that children from families with a lower socio-economic status are more likely to engage in risky sexual behaviour (29, 30). Moreover, these children more often smoke and consume alcohol and drugs (29).

Studies have shown an association between self-efficacy and various sexual behaviours in adolescence, such as the ability to negotiate sexual relations and resistance to peer pressure to engage in unwanted sexual intercourse, as avoidance of risky sexual behaviours (31, 32). Factors that make it difficult to discuss sexual boundaries and say 'no' to unwanted sex included low self-efficacy and an underlying desire to nurture or preserve a relationship. Adolescents must be helped to develop the ability to request sexual consent, and to say 'yes' to certain activities and 'no' to others. Without supportive norms and skills for enhancing self-efficacy, adolescents may be unwilling to engage in verbal communication about sexual consent and boundaries (33).

Table 7. Average score on the general self-efficacy scale among students before and after implementation of the programme.

	n	Min	Max	Mean self-efficacy score	SD	t	p
Before implementation	3,742	10	40	32.32	5.0	-2.737	0.006
After implementation	3,304	10	40	32.67	5.0		

Table 8. Average score on the general self-efficacy scale among male students before and after implementation of the programme.

	n	Min	Max	Mean self-efficacy score	SD	t	p
Before implementation	1,765	10	40	32.68	5.0	-0.920	0.358
After implementation	1,473	10	40	32.75	5.0		

Table 9. Average score on the general self-efficacy scale among female students before and after implementation of the programme.

	n	Min	Max	Mean self-efficacy score	SD	t	p
Before implementation	1,977	10	40	31.97	4.8	-3.100	0.002
After implementation	1,831	10	40	32.45	4.8		

Studies have shown that adolescents with high levels of self-efficacy appear to be more likely to refuse unwanted sex and remain abstinent than those of their peers with low levels of self-efficacy (31). The present study also found that respondents who had low levels of self-efficacy were more likely to have unwanted sexual relations. However, because the present study addresses general self-efficacy while the other studies limit the self-efficacy scales to the specific domain being examined (sexual self-efficacy, self-efficacy in condom use, self-efficacy in refusing unwanted sexual intercourse), the data is not fully comparable. In the available literature, no papers have been found on the impact of general self-efficacy on decision-making when engaging in unwanted sexual relations.

The results show that the programme was effective, i.e. it increased the level of self-efficacy, which is in line with the results of other studies in which a similar model of education has been applied (34, 35). In this study, male students had a higher self-efficacy score before the programme, while the programme was effective in increasing self-efficacy among female students. This means that there was a difference in the effectiveness of the programme when it came to the gender of the participant. A study by Miller et al. showed that, in addition to having a positive impact on self-efficacy, health education programmes also had positive impacts on young people's sexual autonomy (31). Increasing sexual self-efficacy can empower young people in many ways, including by enhancing their ability to refuse unwanted sexual intercourse (36). As our research found that young people who have higher levels of self-efficacy are less likely to have unwanted sexual relations, we can indirectly conclude that, given that it was effective in increasing self-efficacy, the programme also had a positive effect on increasing female students' autonomy when deciding whether to have sexual intercourse or refusing to do so.

Although this study has provided significant data on the impact of self-efficacy on unwanted sexual intercourse, the authors are aware that it has examined general self-efficacy and its impact on unwanted sexual intercourse, while other self-efficacy scales exist that address a specific domain, such as self-efficacy for rejecting unwanted sexual intercourse. The second limitation may be an incomplete presentation of the reasons for involving in unwanted sexual intercourse. Some of the students stated that 'something else' was the reason for their engagement in unwanted sexual intercourse. Since the answer is unspecified, further research on this topic could be improved by asking an open-ended question so that respondents can independently state the reasons why they had sexual intercourse even though they did not want to. It is very important to identify all the factors that affect relations in partner relationships and patterns of engagement in unwanted sexual relationships in order to create effective reproductive health education programmes.

5 CONCLUSION

The study showed that almost one in four students had had unwanted sexual intercourse on one or more occasions. A significant predictor of engagement in unwanted sexual intercourse was poor socio-economic status, i.e. students who assessed their socio-economic status as poor were more likely to engage in unwanted sexual intercourse. Students with higher levels of self-efficacy were less likely to engage in unwanted sexual intercourse.

This research shows that the 'Reproductive health education programme for secondary-school students in AP Vojvodina' had a positive effect on increasing self-efficacy in female students and should be applied in order to encourage responsible sexual behaviour. Students with higher levels of self-efficacy are less likely to be involved in unwanted sexual intercourse, so we can conclude that the programme had a positive impact on autonomy in decision-making for female students when it came to sexual intercourse.

Such findings should encourage decision-makers to provide adolescents with a supportive environment and with programmes enable them to develop the ability to protect their health as soon as possible. Programmes should be gender-specific.

The evaluation of the programme in terms of its impact on knowledge about reproductive health and attitudes about autonomy in decision-making in partnerships relevant to reproductive health and behaviours is ongoing.

CONFLICT OF INTEREST

The authors report no conflicts of interest.

FUNDING

The study was funded by Provincial Secretariat for Sports and Youth in Vojvodina

ETHICAL APPROVAL

The research was approved by the Ethics Committee of the Institute of Public Health of Vojvodina.

REFERENCES

1. Ballonoff Suleiman A, Johnson M, Shirtcliff EA, Galván A. School-based sex education and neuroscience: what we know about sex, romance, marriage, and adolescent brain development. *J Sch Health*. 2015;85:567-74. doi: 10.1111/josh.12285.

2. Institute of Public Health of Serbia „Dr Milan Jovanović Batut“. Results of the national health survey of the Republic of Serbia 2013. Accessed May 28th, 2020 at: https://www.researchgate.net/publication/313651235_Results_of_the_National_Health_Survey_of_the_Republic_of_Serbia_2013.
3. Kapamadzija A, Vajnovic T, Novakov Mikic A, Yukelic J, Kopitovic V, Bjelica A. Sexual knowledge, attitudes and practice of adolescents in Northern Serbia - are we making any progress? Follow up study 2000-2008. *J Reprod Med Endocrinol.* 2010;7:106-11.
4. Institute of Public Health of Serbia „Dr Milan Jovanović Batut“. Results of health behaviour in school aged children survey, HBSC, 2018. Accessed November 16th, 2019 at: <http://www.batut.org.rs/>.
5. Mijatovic-Jovanovic V, Ukropina S, Kvrjic S, Surkovic-Niciforovic O. Sexual behaviour of adolescents. *Med Pregl.* 2004;57:116-9.
6. Rasevic M. Serbia 20 years after the Cairo conference: is there any progress in the sphere of reproductive health? *Matica Srp J Soc Sci.* 2013;144:413-28. doi: 10.2298/ZMSDN1344413R.
7. Mitchel CM, Kaufman CE, Rumbaugh Whitesell N, Beals J, Keane EM. Self-efficacy about sexual risk/protective behaviors: intervention impact trajectories among American Indian youth. *J Res Adolesc.* 2017;27:697-70. doi: 10.1111/jora.12308.
8. Chin HB, Sipe TA, Elder R, Mercer SL, Chattopadhyay SK, Jacob V, et al. The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: two systematic reviews for the Guide to Community Preventive Services. *Am J Prev Med.* 2012;42:272-4. doi: 10.1016/j.amepre.2011.11.006.
9. Constantine NA, Jerman P, Berglas NF, Angulo Olaiz F, Chou CP, Rohrbah LA. Short-term effects of a rights-based sexuality education curriculum for high-school students: a cluster-randomized trial. *BMC Public Health.* 2015;15:293. doi: 10.1186/s12889-015-1625-5.
10. Centers for Disease Control and Prevention. Compendium of evidence-based interventions and best practices for HIV prevention. Accessed February 10th, 2019, at: www.cdc.gov/hiv/research/interventionresearch/compendium/index.html.
11. James-Hawkins L, Peters C, Vander Ende K, Bardin L, Yount KM. Women's agency and its relationship to current contraceptive use in lower- and middle-income countries: a systematic review of the literature. *Glob Public Health.* 2018;13(7):843-58. doi: 10.1080/17441692.2016.1239270.
12. Samari G. Women's empowerment and short- and long-acting contraceptive method use in Egypt. *Cult Health Sex.* 2018;20(4):458-73. doi: 10.1080/13691058.2017.1356938.
13. UNESCO. International technical guidance on sexuality education: an evidence-informed approach. Revised ed, 2018. Accessed December 13th, 2019 at: <https://unesdoc.unesco.org/ark:/48223/pf0000260770>.
14. United Nations Population Fund. Comprehensive sexuality education. Accessed December 13th, 2019 at: <https://www.unfpa.org/comprehensive-sexuality-education>.
15. Bandura A. Social cognition theory of mass communications. In: Bryant J, Zillman D, editors. *Media effects: advances in theory and research.* 2nd ed. New Jersey: Lawrence Erlbaum Associates, 2001:121-53.
16. Schwarzer R, Luszczynska A. Self-efficacy, adolescents risk taking behaviors, and health. *Sussex: University of Sussex,* 2005:139-59.
17. Crandall A, Abdul Rahim HF, Yount KM. Validation of the general self-efficacy scale among Qatari young women. *East Mediterr Health J.* 2016;21:891-6. doi: 10.26719/2015.21.12.891.
18. Schwarzer R. General perceived self-efficacy in 14 cultures. Accessed May 24th, 2019 at: <http://userpage.fu-berlin.de/~health/world14.htm>.
19. Kvarme LG, Haralstad K, Helset S, Serum R, Natvig GK. Associations between general self-efficacy and health-related quality of life among 12-13-year-old school children: a cross-sectional survey. *Health Qual Life Outcomes.* 2009;7:85.
20. Glassman JR, Franks HM, Baumler ER, Coyle KK. Mediation analysis of an adolescent HIV/STI/pregnancy prevention intervention. *Sex Educ.* 2014;14:497-509. doi: 10.1080/14681811.2014.914025.
21. Morton M, Montgomery P. Youth empowerment programs for improving self efficacy and self-esteem of adolescents. *Campbell Syst Rev.* 2011;6:1-80. doi: 10.4073/csr.2011.5.
22. Ozer EM, Bandura A. Mechanisms governing empowerment effects: a self-efficacy analysis. *J Pers Soc Psychol.* 1990;58:472-86.
23. WHO Regional Office for Europe, BZgA. Standards for sexuality education in Europe: a framework for policy makers, education and health authorities and specialists. Cologne: BZgA, 2010.
24. UNESCO. International technical guidance on sexuality education. Vol. II: topics and learning objectives. Paris, 2009. Accessed December 21th, 2019 at: (http://data.unaids.org/pub/ExternalDocument/2009/20091210_international_guidance_sexuality_education_vol_2_en.pdf).
25. Population Council. It's all one curriculum: guidelines and activities for a unified approach to sexuality, gender, HIV, and human rights education. Accessed December 21th, 2019 at: <https://www.popcouncil.org/research/its-all-one-curriculum-guidelines-and-activities-for-a-unified-approach-to->.
26. Schwarzer R, Bassler J, Kwiatek P, Schroder K. The assessment of optimistic self-beliefs: comparison of the German, Spanish, and Chinese versions of the General Self-efficacy Scale. *Appl Psychol.* 1997;46:69-88. doi: 10.1111/j.1464-0597.1997.tb01096.x.
27. Montgomery P, Knerr W. Review of the evidence on sexuality education: report to inform the update of the UNESCO International Technical Guidance on Sexuality Education. University of Oxford, Centre for Evidence-Based Intervention. Paris: UNESCO, 2016.
28. Holmström C, Plantin L, Elmerstig E. Complexities of sexual consent : young people's reasoning in a Swedish context. *Psychology & Sexuality.* 2020;11(4):342-57. doi: 10.1080/19419899.2020.1769163.
29. Milton B, Cook PA, Dugdill L, Porcellato L, Springett J, Woods SE. Why do primary school children smoke? A longitudinal analysis of predictors of smoking uptake during pre-adolescence. *Public Health.* 2004;118:247-55. doi: 10.1016/j.puhe.2003.10.006.
30. Wardle J, Jarvis MJ, Steggle N, Sutton S, Williamson S, Farrimond H, et al. Socioeconomic disparities in cancer-risk behaviors in adolescence: baseline results from the Health and Behaviour in Teenagers Study (HABITS). *Prev Med.* 2003;36:721-30. doi: 10.1016/S0091-7435(03)00047-1.
31. Miller JA, Smith EA, Coffman D, Mathew C, Wegner L. Forced sexual experiences and sexual situation self-efficacy among South African youth. *J Res Adolesc.* 2016;26:673-86.
32. Lalbahadur K. The influence of self-esteem and self-efficacy on sexual risk-taking behaviour in school-going adolescents in the Durban Metropolitan area: M. S. thesis. Durban: University of Kwazulu-Natal, Faculty of Humanities, 2008.
33. Brady SS, Saliars E, Kodet AJ, Rothberg V, Schonfeld Hicks M, Hager-Garman E, et al. Communication about sexual consent and refusal: a learning tool and qualitative study of adolescents' comments on a sexual health website. *Am J Sex Educat.* 2021. doi: 10.1080/15546128.2021.1953658.
34. Espada JP, Orgilés M, Morales A, Ballester R, Huedo-Medina TB. Effectiveness of a school HIV/AIDS prevention program for Spanish adolescents. *AIDS Educ Prev.* 2012;24(6):500-13. doi: 10.1521/aeap.2012.24.6.500.
35. Espada JP, Morales A, Orgilés M, Jemmott JB 3rd, Jemmott LS. Short-term evaluation of a skill-development sexual education program for Spanish adolescents compared with a well-established program. *J Adolesc Health.* 2015;56(1):30-7. doi: 10.1016/j.jadohealth.2014.08.018.
36. Shekar A, Gross A, Luebbers E, Honsky J. Effects of an interprofessional student-led sexual education program on self-efficacy and attitudes about sexual violence in youths in juvenile detention. *J Pediatr Adolesc Gynecol.* 2020;33(3):302-6. doi: 10.1016/j.jpjg.2019.12.005.