ORIGINAL ARTICLE

Adolescent sexual risk behaviors and participation in structured leisure activities (SLA): Role of socio-demographic characteristics and school-related behaviors

Matea Belošević[1]

[1] Laboratory for Prevention Research (PrevLab), Department of Behavioural Disorders,Faculty of Education and Rehabilitation Sciences, University of Zagreb, Borongajska cesta 83f, 10 000 Zagreb, Croatia.

Corresponding Author Matea Belošević **Email:** matea.belosevic@erf.unizg.hr

Received: 10 June 2022 **Revised:** 19 July 2022 **Accepted:** 28 July 2022 **Available online:** January 2023
DOI: 10.55131/jphd/2023/210101

ABSTRACT

Adolescence is the transitional period between childhood and adulthood during which many physical, cognitive, social and emotional changes take place, characterized by an increasing interest in romantic and sexual relationships. During adolescence, young people enter into their first sexual partnerships. This may involve behaviors referred to as sexual risk behaviors. The aim of this study was to gain insight into the prevalence of sexual risk behaviors and to determine whether socio-demographic characteristics and school-related behaviors contribute to sexual risk behaviors among adolescents, independent of participation in SLA. The study was conducted from April to June 2021 in Croatia. The sample consisted only of students who reported having had sexual intercourse (N=702; 28.6%). Participants were between 14 and 21 years (46.3% female). Logistic analyses were conducted. The results of this study showed that socio-demographic characteristics make only a limited contribution to the sexual risk behaviors studied. However, it is evident that school-related behaviors are associated with sexual risk behaviors among adolescents, with slight differences depending on their participation in SLA. That is, better grades are a protective factor for sexual risk behavior for both those who do not participate in SLA and those who do, while intentionally skipping school is a risk factor for sexual risk behavior only for those who do participate in SLA. Even though the results show that some school-related behaviors are predictors of sexual risk behavior, it is not enough to implement preventive interventions only in school or leisure settings. It is important to intervene in all areas that influence adolescent development, because a comprehensive preventive approach that addresses all areas can have a greater impact on adolescent development. Therefore, it is necessary to plan comprehensive, evidence-based interventions targeting individuals and their environments, including SLA, to prevent sexual risk behaviors among adolescents.

Key words:
condom use; leisure time; number of sexual partners; school; socio-demographic characteristics.

Citation:
Matea Belošević. Adolescent sexual risk behaviors and participation in structured leisure activities (SLA): Role of socio-demographic characteristics and school-related behaviors. J Public Hlth Dev. 2023;21(1):1-14 (https://doi.org/10.55131/jphd/2023/210101)

INTRODUCTION

Adolescence is the transitional period between childhood and adulthood during which many physical, cognitive, social and emotional changes take place, characterized by an increasing interest in romantic and sexual relationships. It is important to note that the developmental outcomes of children and adolescents are influenced by complex processes of interaction and (possibly) multiple risk and protective factors.[1] Any major disruption to this growth may lead to the development of disorders through interaction with other events or environmental factors.[2] Moreover, risk and protective factors are neither immutable nor definitive. Therefore, if a child or adolescent is classified as 'at risk', this does not mean that they will automatically show behavioral problems. However, adolescents who have been exposed to a greater number of risk factors during adolescence are more likely to develop behavioral problems, including sexual risk behavior.[3]

How adolescents use their leisure time is an important issue for adolescents, families, and society as a whole, because the time spent in various activities is related to adolescent development.[4] The leisure context can provide opportunities for young people to develop skills, competencies, and initiative, to interact with peers, and to promote positive development.[5] However, it can also be seen as a context for the development of behavioral problems in young people, such as delinquency, substance abuse, and sexual risk behavior.[6]

Most commonly, leisure activities are defined as structured/organized and unstructured/unorganized. Structured leisure activities (SLA) have a clear structure and defined rules and are geared towards building skills and competencies.[7] They usually contribute to positive development, while unstructured activities lack structure and rules and do not contribute to building skills and competencies and often do not lead to positive development.[8,9] Milhausen et al[8] emphasized that a lack of organized activities, i.e. opportunities and resources for meaningful leisure activities, could contribute to sexual risk behavior.

Sexual behavior and the expression of one's sexuality are an integral and important part of life. Therefore, the development of sexuality is an important developmental task for adolescents.[11] Sexual health is a state of physical, mental, and social well-being in relation to sexuality. It requires a positive and respectful approach to sexuality and sexual relationships and the opportunity to have pleasurable and safe sexual experiences that are free from coercion, discrimination, and violence.[12] Although sexual intercourse in adolescence is normative, it is important to understand the timing of the first sexual activity and the risk behaviors associated with it, because young people's sexual behavior can have short- and long-term consequences that can be both positive and negative.[13-17] Adolescents and young adults are often involved in sexual risk behaviors (early sexual initiation, unprotected sex, sex with casual partners, promiscuity, etc.) that can lead to unplanned pregnancies, sexually transmitted diseases (STD), suicides, abortions, and school and work dropouts.[18] These consequences deserve special attention during adolescence, as this is the time of growth and development and the consequences of sexual risk behavior can affect health and lead to school dropouts.[19,20]

The global prevalence of sexual intercourse in early adolescence is high. A survey of 116,820 adolescents in 28 countries found that more than 1 in 8 (13.2%) of 12- to 15-year-olds had ever had sexual intercourse, of whom 52.4% reported having had more than one sexual partner.[21] Similarly, results from the 2018 Health Behaviour in School-aged Children (HBSC) international research study, which included 227,441 students aged 11, 13, and

15 years showed that boys were more likely than girls to report having had sexual intercourse at a young age, and that about 1 in 4 (25%) 15-year-olds who had sex had not used one of the most effective contraceptive methods (condom or pill) during their last sexual intercourse.[22] Current national data for Croatia are provided by the Laboratory for Prevention Research (PrevLab) at the Faculty of Education and Rehabilitation Sciences, University of Zagreb (ERF UNIZG), which conducted the "PRAG-HR" research project among 10,138 Croatian high school students (aged 14-19 years) in 2018. In terms of sexual risk behavior, the results showed that 23.5% of adolescents had ever had sexual intercourse, and of those who had, 11.1% reported having had it before the age of 14.[23]

SLA is often used to promote positive adolescent development and prevent risky behaviors. However, UNODC and WHO note that in the area of extracurricular activities, sports, and other SLA and out-of-school interventions, there is not yet sufficient evidence of effectiveness, or the evidence is weak or contradictory and requires further research.[24] Although participation in SLA can lead to positive developmental outcomes, it is important to think much more broadly and beyond the domain of the activities themselves, especially because knowledge about the effectiveness of interventions in the area of leisure is still very limited.[25,26] The aim of the study was to gain insight into the prevalence of sexual risk behaviors and to determine whether socio-demographic characteristics and school-related behaviors contribute to sexual risk behaviors among adolescents, independent of participation in SLA. The study results presented can serve as a basis for planning evidence-based interventions to promote positive development or prevention of risky behaviors among adolescents.

METHODS

Participants and procedure

The cross-sectional research project *Quality of leisure time as a protective factor for the development of behavioral problems* was conducted from April to June 2021, examining leisure and risk behaviors in Krapina-Zagorje County, Croatia. The aim of the study was to include the entire student population (who agreed to participate in the study) from all regular high schools in Krapina-Zagorje County, Croatia. The sample included students from three Croatian high school education programs: gymnasium program, three-year vocational schools, and four-year vocational schools. A total of 4,246 students were enrolled in Krapina-Zagorje County for the school year 2020/2021, and 2,977 students accessed the online survey, representing 70.11% of the total student population in Krapina-Zagorje County, Croatia. Of the total number of students who accessed the survey, 82 students refused to participate, while 72 students withdrew after having begun the survey. In the end, the total sample consisted of 2,823 students from 9 high schools, which represents 66.48% of the total number of students in Krapina-Zagorje County, Croatia. Only students who reported having already had sexual intercourse were included in the sample of this study (N=702; 28.6%). Participants were aged between 14 and 21 years (M=17.90, SD =1.20), with 46.3% of them being female. The socio-demographic characteristics of the participants who reported having had sexual intercourse are shown in Table 1.

Table 1. Socio-demographic characteristics of participants (sample - students that reported having had sexual intercourse) (N=702)

Krapinsko - Zagorska County									
N (%)	**702**	**N (%)**	**702**	**N (%)**	**702**	**N (%)**	**702**	**N (%)**	**702**
Gender, n (%)		**Age, n (%)**		**Grade, n (%)**		**High-school program, n (%)**		**Family's financial situation**	
Female	325 (46.3)	14	1 (0.1)	First grade	78 (11.1)	Two or three-year vocational program	137 (19.5)	Bad	18 (2.6)
Male	377 (53.7)	15	13 (1.9)	Second grade	129 (18.4)	Four or five-year vocational program	403 (57.4)		
		16	86 (12.3)	Third grade	217 (30.9)	Gymnasium program	162 (23.1)	Average	161 (22.9)
		17	143 (20.4)	Fourth grade	254 (36.2)			Good	523 (74.5)
		18	217 (30.9)	Fifth grade	24 (3.4)				
		19	202 (28.8)						
		20	32 (4.6)						
		21	8 (1.1)						

Ethics approval

Ethical approval for the study was obtained from the Ministry of Science and Education and Ethical Committee at the Faculty of Education and Rehabilitation Sciences, University of Zagreb. Consent was obtained online from all study participants after the objectives of the study were explained to them. Written informed consent was not obtained from the participants' legal guardians/next of kin because: according to the Ethical Codex for Research with Children[27], adolescents who are 14 years old can give consent independently.

Measures

The questionnaire was developed for the purposes of the project *Quality of leisure time as a protective factor for the development of behavioral problems*, and consists of several different scales in the area of leisure and risk behaviors. For the purposes of this article, the following data collected with these instruments will be used:

1. *Demographic Data Questionnaire* consists of questions to collect basic data of the participants, such as gender, age, grade, high-school program, and family financial situation.
2. *Questionnaire of Youth Leisure Time* (developed for the purpose of the project) consists of 15 questions. The questionnaire included the following topics: the amount of leisure time adolescents have during the week and on weekends; the activities adolescents typically spend their leisure time doing; participation in SLA; changes in patterns of participation in SLA due to the COVID-19 pandemic; payment for participation in SLA in which adolescents participate. In this study, we focused only on data on participation in SLA

(adolescents who participate in SLA and those who do not).

- Participation in SLA (1 item; How often do you usually spend leisure time on the organized/structured leisure time activities after school and over weekends? Note for participants:
  Organized/structured leisure time activities are those which are supervised by adults, are held at a predefined time, have defined rules and emphasize skill-building). The composite variable gives values from 1 to 7, where 1 is never and 7 is 6 hours and more per week. The dichotomous variable *participation in SLA* is created and it consists of two categories (0 = those who do not participate in SLA, and 1 = those who do participate in SLA).

3. *CTC Youth Survey* has been validated in previous studies in Croatia.[28] It is a questionnaire investigating behaviors related to school and attitudes towards school, internet use, experiences of peer violence, and alcohol and drug use. In this study, we focused on data on behaviors related to school.
   - General school performance (grades at the end of the last school year) (1 item; What was your GPA at the end of the last school year?). The composite variable gives values from 1 to 5, where 1 is fail and 5 is excellent.
   - Truancy (1 item; Over the past four weeks, when school was in session, how many whole days have you missed because you skipped or "cut" classes?). The composite variable gives values from 1 to 7, where 1 represents not even 1 day and 7 represents 11 or more days.
4. *Adolescent Sexual Risk Behavior Questionnaire* (developed for this project) consists of questions about experience with sexual intercourse, age of first sexual intercourse, number of sexual partners in a lifetime and in the past month, use of protection (against unwanted pregnancies and STDs), use of condoms during last sexual intercourse, unprotected sexual intercourse under the influence of substance use, and type of relationship according to last sexual intercourse. In the present study, we focused on data on the number of sexual partners in the last month and condom use at last sexual intercourse.
   - Number of sexual partners in the last month (1 item; How many people have you had sex with in the last month?); The composite variable gives values from 1 to 6, with 1 representing not even one partner and 6 representing 5 or more partners.
   - Condom use during last sexual intercourse (1 item; Did you use a condom the last time you had sex?). The possible responses were no and yes.

Data analysis

Data were analyzed using SPSS 21.0 predictive analysis software (IBM, Armonk, NY, USA). Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated for all variables studied, when appropriate.

Logistic regressions were used to assess the association between condom use at last sexual intercourse and number of sexual partners in the last month (criterion variables) and participants' socio-

demographic characteristics - gender, age, family financial situation, and behaviors related to school - general school performance (grades at the end of the last school year), and truancy (predictor variables). The regressions were run separately for two subgroups: 1) adolescents not participating in SLA and 2) adolescents participating in SLA. The dichotomous/binary variable *condom use at last sexual intercourse* consists of two categories (0 = those who did not use a condom at last sexual intercourse and 1 = those who used a condom at last sexual intercourse). The dichotomous/binary variable *number of sexual partners in the last month* consists of two categories (0 = two or more partners with whom I had sex in the last month and 1 = none or one partner with whom I had sex in the last month). All assumptions for the logistic regression were checked.

RESULTS

Among adolescents, 28.6% reported having had sexual intercourse and 35% of them reported having had their first sexual intercourse before the age of 16. At the same time, 11% of adolescents reported having had more than 2 partners in the last month. Regarding the use of protection (against unwanted pregnancies and STDs), 14.8% of adolescents reported that they never use condoms, and 34% of them reported that they did not use a condom during their last sexual intercourse. Regarding unprotected sexual intercourse under the influence of substance use, 14.2% of adolescents reported that they had unprotected sexual intercourse because they consumed alcohol, 5.6% of them because they consumed marijuana, and 4.6% of them because they used other psychoactive substances (e.g. party drugs).

Condom use at last sexual intercourse

The results of the logistic regression analysis predicting condom use at last sexual intercourse among adolescents participating in SLA and adolescents not participating are shown in Table 2. The selected variables statistically significantly predicted condom use at last sexual intercourse among adolescents not participating in SLA ($\chi2(6) = 16.519$, $p < 0.05$) and among adolescents participating in SLA ($\chi2(6) = 35.136$, $p < 0.05$).

Among adolescents not participating in SLA, the model showed that gender, age, family financial situation, general school performance, and truancy together could explain 7% of condom use. However, only age is a significant predictor of 1% of risk ($p < 0.01$). Age is negatively associated with the criterion (condom use). This means that older adolescents who do not participate in SLA are 0.70 times less likely to belong to the group of participants who used a condom during their last sexual intercourse.

Among adolescents participating in SLA, the model showed that the proposed predictors together explained 12% of condom use. Age, general school performance, and truancy were significant at 1% of risk ($p < 0.01$). General school performance was positively associated, while age and truancy were negatively associated with the criterion variable (condom use). The results suggest that older adolescents who participate in SLA are 0.78 times less likely to be in the group of participants who used a condom during their last sexual intercourse, and that those adolescents who are more likely to have intentionally skipped days of school are also 0.78 times less likely to be in the group of participants who used a condom during their last sexual intercourse. On the other hand, adolescents who report having had better grades at the end of the last school year are 1.55 times more likely to be in the group of participants who used a condom during their last sexual intercourse.

Table 2. Condom use at last sexual intercourse

Condom use at last sexual intercourse									
ADOLESCENTS WHO DON'T PARTICIPATE IN SLA						**ADOLESCENTS WHO DO PARTICIPATE IN SLA**			
		B (S.E.)	**Wald**	**OR**	**CI**	**B (S.E.)**	**Wald**	**OR**	**CI**
Gender		-.35 (.28)	1.518	.701	(.398 – 1.234)	-.45 (.24)	3.398	.636	(.393 – 1.029)
Age		-.35 (.11)**	9.730	**.700**	(.560 - .876)	-.24 (.09)**	6.528	**.781**	(.646 - .944)
Family financial situation	Bad		2.103				2.234		
	Average	.03 (.68)	.003	1.039	(.273 – 3.956)	.42 (.83)	.256	1.524	(.298 – 7.800)
	Good	.41 (.65)	.409	1.520	(.421 – 5.493)	.76 (.80)	.895	2.145	(.441 – 10.421)
General school performance (grades at the end of the last school year)		.28 (.18)	2.467	1.327	(.932 – 1.888)	.44 (.14)**	9.155	**1.557**	(1.169 – 2.074)
Truancy		.02 (.11)	.065	1.028	(.829 – 1.276)	-.24 (.07)**	12.262	**.781**	(.679 - .897)
Note: CI = 95% confidence interval; R2 = 0.07 (Nagelkerke); Omnibus Tests of Model Coefficients $\chi2(6) = 16.519$, $p < 0.05$; Hosmer and Lemeshow Test (χ^2 (8) = 12.232, p > 0,05); *p < .05, **p < 0.01; boldface odds ratios (*OR*) are significant at $p < .05$;						**Note:** CI = 95% confidence interval; R2 = 0.12 (Nagelkerke); Omnibus Tests of Model Coefficients $\chi2(6) = 35.136$, $p < 0.05$; Hosmer and Lemeshow Test (χ^2 (8) = 4.709, p > 0,05); *p < .05, **p < 0.01; boldface odds ratios (*OR*) are significant at $p < .05$;			

Number of sexual partners in the last month

The results of the logistic regression analysis predicting the number of sexual partners in the past month among adolescents participating in SLA and adolescents not participating in SLA are presented in Table 3. The selected variables statistically significantly predicted the number of sexual partners in the past month among adolescents not participating in SLA ($\chi2(6) = 23.697$, $p < 0.05$) and adolescents participating in SLA ($\chi2(6) = 28.382$, $p < 0.05$).

Among adolescents not participating in SLA, the model showed that gender, age, family financial situation, general school performance and truancy together can explain 18% of the number of sexual partners in the last month. Age is a significant predictor with a 1% risk ($p < 0.01$), while gender and general school performance are significant predictors with a 5% risk ($p < 0.05$). Gender and general school performance are positively associated with this criterion. It turns out that female adolescents (2.59 times) and those adolescents who report having had better grades at the end of the last school year (2.01 times) are more likely to belong to the group of participants who had no sexual partner or one sexual partner in the past month. On the other hand, age is negatively related to the criterion variable. This means that older adolescents are 0.56 times less likely to belong to the group of participants who had no or one sexual partner in the past month.

Among adolescents who participated in SLA, the model showed that the proposed predictors together explained 13% of the number of sexual partners in the past month. General school performance and truancy were significant at 1% of risk

participants who had no or one sexual partner in the past month, and adolescents who report having had better grades at the end of the last school year are 1.51 times more likely to belong to the group of participants who had no or one sexual partner in the past month. On the other hand, adolescents who are more likely to intentionally skip days of school are 0.76 times less likely to be in the group of participants who had no or one sexual partner in the past month.

Table 3. Number of sexual partners in the past month

NUMBER OF SEXUAL PARTNERS IN THE LAST MONTH									
ADOLESCENTS WHO DON'T PARTICIPATE IN SLA						**ADOLESCENTS WHO DO PARTICIPATE IN SLA**			
		B (S.E.)	**Wald**	**OR**	**CI**	**B (S.E.)**	**Wald**	**OR**	**CI**
Gender		.95 (.48)*	3.886	**2.599**	(1.005 - 6.716)	.75 (.36)*	4.266	**2.117**	(1.039 – 4.312)
Age		-.56 (.21)**	6.674	**.569**	(.371 - .873)	-.10 (.12)	.677	.902	(.707 – 1.152)
Family financial situation	Bad		.417				.697		
	Average	-.45 (1.21)	.142	.706	(.059 – 6.823)	-.37 (1.18)	.102	.685	(.067 – 6.980)
	Good	-.65 (1.15)	.322	.571	(.053 – 5.022)	.65 (1.14)	.328	.520	(.055 – 4.878)
General school performance (grades at the end of the last school year)		.70 (.31)*	4.854	**2.017**	(1.080 – 3.765)	.41 (.17)**	5.529	**1.512**	(1.071 – 2.134)
Truancy		-.22 (.16)	1.872	.800	(.581 – 1.101)	-.26 (.07)**	11.175	**.768**	(.658 - .896)

Note: CI = 95% confidence interval
R2 = 0.18 (Nagelkerke);
Omnibus Tests of Model Coefficients $\chi 2(6) = 23.697$, $p < 0.05$;
Hosmer and Lemeshow Test (χ^2 (8) = 3.650, p > 0,05);
*p < .05, **p < 0.01; boldface odds ratios (OR) are significant at p < .05;

Note: CI = 95% confidence interval
R2 = 0.13 (Nagelkerke);
Omnibus Tests of Model Coefficients $\chi 2(6) = 28.382$, $p < 0.05$;
Hosmer and Lemeshow Test (χ^2 (8) = 6.834, p > 0,05);
*p < .05, **p < 0.01; boldface odds ratios (*OR*) are significant at *p* < .05;

DISCUSSION

The results of this study show that overall, almost 30% of adolescents have already had sexual intercourse and 11% of them have had more than 2 partners in the last month, and that 34% of them did not use a condom during their last sexual intercourse. In addition, 14% of adolescents reported having had unprotected sexual intercourse under the influence of alcohol. These findings are consistent with previous studies showing that among adolescents, behaviors involving multiple partners and/or multiple partners at the same time are common.[3,29,30] In addition, previous studies have also highlighted inadequate and inconsistent use of contraception (e.g. condoms) among young people.[3,22,23,31-33]

To determine whether socio-demographic characteristics and school-related behaviors contribute to adolescents' sexual risk behaviors independent of participation in SLA, further analyses were conducted. Results showed that socio-demographic characteristics and school-related behaviors predicted condom use at last sexual intercourse among both adolescents not participating in SLA and adolescents participating in SLA. However,

there are some differences in predictors that contribute statistically significantly to the models depending on whether adolescents participate in SLA or not. Among adolescents who do not participate in SLA, only age is a significant predictor of condom use at last sexual intercourse. The data suggest that older adolescents are more likely to be in the group of adolescents who do not use condoms. The same result was obtained in the model with adolescents who participated in SLA. Previous findings suggest that older age increases the likelihood of adolescents having sexual experiences.[34-36]

School-related behaviors were also significant predictors of condom use among adolescents who participated in SLA. The results suggest that adolescents who reported having had better grades at the end of the last school year were more likely to be in the group of adolescents who used condoms during their last sexual intercourse. On the other hand, adolescents who reported having skipped school (unexcused) more often were more likely to belong to the group of adolescents who had not used condoms during their last sexual intercourse. Previous studies also show that condom use among adolescents is positively correlated with schooling.[37-39] Research shows that adolescents who have poor grades or have been demoted in a class are more likely to be sexually active and that adolescents with high educational aspirations are more likely to postpone sexual intercourse.[40] In addition, research shows that adolescents who report having higher goals and aspirations are less likely to be in the sexual risk behavior group than in the non-sexual risk behavior group.[3]

The analysis also showed that socio-demographic characteristics and behaviors related to school predicted the number of sexual partners in the past month, among adolescents who did not participate in SLA and among adolescents who did participate in SLA. There are also some differences in predictors that contribute statistically significantly to the models depending on whether adolescents participate in SLA or not.

Among adolescents who do not participate in SLA, the data analyzed show that older adolescents are more likely to be in the group of adolescents who have had 2 or more partners in the last month. Having multiple sexual partners is significantly associated with the risk of STDs among adolescents.[41] In terms of the age factor, older adolescents and young adults were found to be most likely to engage in risky sexual activity[16], which is consistent with the findings of this study.

However, the data analyzed by gender and its contribution to the number of sexual partners in the last month among adolescents participating in SLA is consistent with that of adolescents not participating in SLA. That is, female adolescents were more likely to be in the group of adolescents who had no or one sexual partner in the last month. In previous studies, female gender has been shown to be a protective factor for sexual experiences in adolescence.[35,42] In addition, previous findings have shown that older adolescents and boys have a higher number of sexual partners than girls.[35,43]

General academic performance and its contribution to the number of sexual partners in the last month among adolescents participating in SLA are also consistent with those of adolescents not participating in SLA. That is, those who reported better grades at the end of the last school year were more likely to be in the group of adolescents who had no or one sexual partner in the last month. However, for adolescents who participate in SLA, truancy is also a significant predictor of the number of sexual partners in the past month, while for adolescents who do not participate in SLA it is not a significant

predictor. Adolescents who participate in SLA and report skipping school more often are more likely to be in the group of adolescents with 2 or more sexual partners in the past month. In terms of school behavior, McCarthy and Grodsky[44] found that adolescents who had sex only with partners with whom they were not romantically involved were at greater risk of lowering their educational plans, aspirations, and grades than abstainers and adolescents who had sex only with stable partners. So, one could say that early sex and multiple partners could have a negative impact on educational success and academic achievement. According to these findings, previous study results by Lanari et al[45] also suggested a negative association between sexual activity and school grades, supporting the idea that the health and academic consequences of sexual activity among adolescents deserve policy efforts.

It is interesting to note that family financial situation was not a statistically significant predictor in any of the models in this study. This finding is not consistent with previous studies that have shown that lower socioeconomic status can be considered a risk factor for sexual experiences in adolescence.[34,36-39,46]

CONCLUSION

The results of the study show that in terms of condom use at last sexual intercourse among adolescents not participating in SLA, older age is a risk factor for not using condoms. Among adolescents participating in SLA, older age is also a risk factor, just as truancy is a risk factor for not using condoms during sexual intercourse. However, among adolescents who participate in SLA, better grades are a protective factor for condom use during sexual intercourse. Regarding the number of sexual partners in the last month among adolescents not participating in SLA, older age is a risk factor for multiple sexual partners. In addition, female gender and better school grades are protective factors for not having sexual intercourse with multiple partners. Among adolescents participating in SLA, truancy is a risk factor for multiple sexual partners, while female gender and better school grades are protective factors for not having sex with multiple partners.

Although the results of this study show that socio-demographic characteristics have limited contribution to the sexual risk behaviors studied, it is evident that school-related behaviors are associated with sexual risk behaviors among adolescents, with slight differences depending on their participation in SLA. That is, better grades are a protective factor for sexual risk behaviors for both those who do not participate in SLA and those who do, while truancy is a risk factor for sexual risk behaviors only for those who do participate in SLA.

RECOMMENDATIONS

Even though the results show that some school-related behaviors are predictors of sexual risk behavior, it is not enough to implement preventive interventions only in school or leisure settings. It is important to intervene in all areas that influence adolescents' development (school, family, community, leisure). A comprehensive preventive approach that takes into account all areas of adolescent development can also have a greater impact on their development. In addition, we should consider the age and gender of participants when developing interventions to prevent sexual risk behavior among adolescents.

All stakeholders whose interventions are primarily aimed at empowering adolescents should carefully consider how they can use the context of school, family, community, and leisure to promote positive values and behaviors and help adolescents use their time wisely so that it can contribute positively to their

development. This means that it is not enough to just provide leisure activities in a particular context, but that it is important to provide adolescents with quality and meaningful leisure time in order to positively influence their development [25,26] and prevent the occurrence of risky behaviors and problems, including sexual risk behaviors.

ACKNOWLEDGEMENTS

The author thanks Martina Ferić, Ph.D., Full Professor, for her support and assistance with preparing this article.

REFERENCES

1. Bašić J. Teorije prevencije: prevencija poremećaja u ponašanju i rizičnih ponašanja djece i mladih. Zagreb: Školska knjiga. 2009.
2. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Europski prevencijski kurikulum: priručnik za donositelje odluka, kreatore javnog mišljenja i kreatore politika u području znanstveno utemeljene prevencije korištenja sredstava ovisnosti. Zagreb: Hrvatski zavod za javno zdravstvo; Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu. 2020. Available from: https://www.emcdda.europa.eu/system/files/publications/11733/EUPC_CRO_On_Line_Final.pdf.
3. Belošević M, Selestrin Z, Ferić M. Doprinos individualnih čimbenika otpornosti u objašnjenju rizičnog seksualnog ponašanja adolescenata. Annu Soc Work. 2022;28(3):555–81. doi:10.3935/ljsr.v28i3.402.
4. Barnes GM, Hoffman JH, Welte JW, Farrell MP, Dintcheff BA. Adolescents' time use: Effects on substance use, delinquency and sexual activity. J Youth Adolesc. 2007;36(5):697–710. doi:10.1007/s10964-006-9075-0.
5. Caldwell LL, Faulk M. Adolescent Leisure from a Developmental and Prevention Perspective. In: Freire T, editor. Positive leisure science. New York, London: Springer; 2013. p. 41–60. doi:10.1375/acri.39.3.398.
6. Caldwell LL, Smith EA. Leisure as a context for youth development and delinquency prevention. Aust N Z J Criminol. 2006;39(3):398–418. doi: 10.1037/0003-066x.55.1.170.
7. Larson RW. Toward a psychology of positive youth development. Am Psychol. 2000;55(1):170–83. doi: 10.1080/04419057.2008.9674523.
8. Caldwell LL. Adolescent development through leisure: A global perspective. World Leis J. 2008;50(1):3–17. doi: 10.1080/04419057.2008.9674523.
9. Mahoney JL, Stattin H, Magnusson D. Youth recreation centre participation and criminal offending: A 20-year longitudinal study of Swedish boys. Int J Behav Dev. 2001;25(6):509–20. doi: 10.1080/01650250042000456.
10. Milhausen RR, Crosby R, Yarber WL, DiClemente RJ, Wingood GM, Ding K. Rural and nonrural African American high school students and STD/HIV sexual-risk behaviors. Am J Health Behav. 2003;27(4):373–9. doi: 10.5993/ajhb.27.4.9.
11. Tolman DL, McClelland SI. Normative sexuality development in adolescence: A decade in review, 2000-2009: Adolescent sexuality. J Res Adolesc. 2011;21(1):242–55. doi: 10.1111/j.1532-7795.2010.00726.x.
12. World Health Organization (WHO). Sexual health [Internet]. [Cited 2022 Mar 23]. Available from: https://www.who.int/health-topics/sexual-health.
13. Ghebremichael M, Larsen U, Paintsil E. Association of age at first sex with

HIV-1, HSV-2, and other sexual transmitted infections among women in northern Tanzania. Sex Transm Dis. 2009;36(9):570–6. doi:10.1097/OLQ.0b013e3181a866b8.
14. Layland EK, Ram N, Caldwell LL, Smith EA, Wegner L. Leisure boredom, timing of sexual debut, and co-occurring behaviors among South African adolescents. Arch Sex Behav. 2021;50(6):2383–94. doi:10.1007/s10508-021-02014-8.
15. Mavedzenge SN, Weiss HA, Montgomery ET, Blanchard K, De Bruyn G, Ramjee G, et al. Determinants of differential HIV incidence among women in three southern African locations. J Acquir Immune Defic Syndr. 2011;58(1):89–99. doi:10.1097/QAI.0b013e318225403.
16. O'Donnell L, O'Donnell CR, Stueve A. Early sexual initiation and subsequent sex-related risks among urban minority youth: the reach for health study. Fam Plann Perspect. 2001;33(6):268–75. doi:10.2307/3030194.
17. Pettifor AE, van der Straten A, Dunbar MS, Shiboski SC, Padian NS. Early age of first sex: a risk factor for HIV infection among women in Zimbabwe. AIDS. 2004;18(10):1435–42. doi:10.1097/01.aids.0000131338.61042.b8.
18. Badillo-Viloria M, Mendoza-Sánchez X, Barreto Vásquez M, Díaz-Pérez A. Comportamientos sexuales riesgosos y factores asociados entre estudiantes universitarios en Barranquilla, Colombia, 2019. Enferm glob. 2020;19(3):422–49. doi:10.6018/eglobal.412161.
19. Rojas Betancur M, Villamizar M, Torres M. Salud sexual y reproductiva en adolescentes: la fragilidad de la autonomía. Hacia promoc. salud. 2016;21:2462–8425. doi: 10.17151/hpsal.2016.21.1.6.
20. Miller D, Arvizu V. Ser madre y estudiante. Una exploración de las características de las universitarias con hijos y breves notas para su estudio. Rev educ super. 2016;45(177):17–42.
21. Smith L, Jackson SE, Jacob L, Grabovac I, Yang L, Johnstone J, et al. Leisure-Time Sedentary Behavior, Alcohol Consumption, and Sexual Intercourse Among Adolescents Aged 12-15 years in 19 Countries from Africa, the Americas, and Asia. J Sex Med. 2019;16(9):1355–63. doi: 10.1016/j.jsxm.2019.06.013.
22. Inchley J, Currie, D, Budisavljevic, S, Torsheim, T, Jåstad, A, Cosma, A. Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Volume 1. Key findings. Copenhagen: WHO Regional Office for Europe, 2020.
23. Ministarstvo znanosti i obrazovanja RH. Laboratory for Prevention Research ERF – Kako je biti adolescent u Hrvatskoj danas [Internet]. [Cited 2022 Mar 23]. Available from: https://mzo.gov.hr/vijesti/znanstveno-strucni-skup-kako-je-biti-adolescent-u-hrvatskoj-danas/3280.
24. United Nations Office on Drugs and Crime (UNODC); World Health Organization (WHO). International Standards on Drug Use Prevention. Second updated edition [Internet]. 2018. Available from: https://www.unodc.org/documents/prevention/standards_180412.pdf .
25. Belošević M, Ferić M. Contribution of frequency and structured leisure activities features to the alcohol use: perception of adolescents from the northwest county of Croatia. Int J Adolesc Youth 2022;27:249–63. doi: 10.3390/ijerph19020877.
26. Belošević M, Ferić M. Contribution of leisure context, motivation and experience to the frequency of participation in structured leisure activities among adolescents. Int J

Environ Res Public Health. 2022;19(2). doi:10.3390/ijerph19020877.
27. Ajduković M, Kolesarić V. Etički Kodeks Istraživanja s Djecom. Vijeće za Djecu Vlade Republike Hrvatske, Državni Zavod za Zaštitu Obitelji, Materinstva i Mladeži. Zagreb; 2003.
28. Mihić J, Novak M, Bašić J. Communities that care: CTC needs assesment questionnaire for planning preventive interventions in children and young people. Annu Soc Work. 2011;17(3):391–412.
29. Kalichman SC, Grebler T. Reducing numbers of sex partners: do we really need special interventions for sexual concurrency? AIDS Behav. 2010;14(5):987–90. doi:10.1007/s10461-010-9737-5.
30. Ramrakha S, Paul C, Bell ML, Dickson N, Moffitt TE, Caspi A. The relationship between multiple sex partners and anxiety, depression, and substance dependence disorders: a cohort study. Arch Sex Behav. 2013;42(5):863–72. doi:10.1007/s10508-012-0053-1.
31. Koumans EH, Welch R, Warner DL. Differences in adolescent condom use trends by global region. J Adolesc Health. 2020;66(2):S36–7. doi:10.1016/j.jadohealth.2019.11.073.
32. CDC. Sexual Risk Behaviors Can Lead to HIV, STDs, & Teen Pregnancy [Internet]. [Cited 2022 Mar 24]. Available from: https://www.cdc.gov/healthyyouth/sexualbehaviors/index.htm.
33. World Health Organization (WHO). Sexually transmitted infections (STIs) [Internet]. [Cited 2022 Mar 24]. Available from: https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis).
34. Doku D. Substance use and risky sexual behaviours among sexually experienced Ghanaian youth. BMC Public Health. 2012;12(1):571. doi: 10.1186/1471-2458-12-571.
35. Kugbey N, Ayanore MA, Amu H, Oppong Asante K, Adam A. International note: Analysis of risk and protective factors for risky sexual behaviours among school-aged adolescents. J Adolesc. 2018;68(1):66–9. doi:10.1016/j.adolescence.2018.06.013.
36. Peltzer K, Pengpid S. Risk and protective factors affecting sexual risk behavior among school-aged adolescents in Fiji, Kiribati, Samoa, and Vanuatu. Asia Pac J Public Health. 2016;28(5):404–15.
37. Juarez F, LeGrand T. Factors influencing boys' age at first intercourse and condom use in the Shantytowns of Recife, Brazil. Stud Fam Plann. 2005;36(1):57–70. doi: 10.1111/j.1728-4465.2005.00041.x.
38. Prata N, Vahidnia F, Stehr M, Morris L, Mazive E. Relationship between HIV risk perception and condom use: Evidence from a population-based survey in Mozambique. Int Fam Plan Perspect. 2006;32(04):192–200. doi: 10.1363/3219206.
39. Santhya KG, Acharya R, Jejeebhoy SJ. Condom use before marriage and its correlates: evidence from India. Int Perspect Sex Reprod Health. 2011;37(4):170–80. doi:10.1363/3717011.
40. Dryfoos JG. Adolescents at risk: Prevalence and prevention. New York: Oxford University Press. 1990.
41. Vasilenko SA, Lanza ST. Predictors of multiple sexual partners from adolescence through young adulthood. J Adolesc Health. 2014;55(4):491–7. doi:10.1016/j.jadohealth.2013.12.025.
42. Biddlecom A, Awusabo-Asare K, Bankole A. Role of parents in adolescent sexual activity and

contraceptive use in four African countries. Int Perspect Sex Reprod Health. 2009;35:72–81. doi:10.1363/ipsrh.35.072.09.
43. Sharma SK, Vishwakarma D. Transitions in adolescent boys and young Men's high-risk sexual behaviour in India. BMC Public Health. 2020;20(1):1089. doi:10.1186/s12889-020-09191-6.
44. McCarthy B, Grodsky E. Sex and school: Adolescent sexual intercourse and education. Soc Probl. 2011;58(2):213–34. doi:10.1525/sp.2011.58.2.213.
45. Lanari D, Mangiavacchi L, Pasqualini M. Adolescent sexual behaviour and academic performance of Italian students. Genus. 2020;76(1). doi: 10.1186/s41118-020-00093-4.
46. Madise N, Zulu E, Ciera J. Is poverty a driver for risky sexual behaviour? Evidence from national surveys of adolescents in four African countries. Afr J Reprod Health. 2007;11(3):83–98.