

## Relationship Between Smoking Behavior, Alcohol Consumption, Sexual and Reproductive Health with Adolescent Health Quality of Life in East Bolaang Mongondow Regency

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### Abstract

### Original Research Article

The adolescent period is often considered a healthy phase of life. Risky behaviors such as smoking, alcohol consumption, and casual sex pose significant challenges to their quality of life. Data and research indicate that these behaviors not only impact physical health but also worsen the overall quality of life. The objective of this research is to analyze the relationship between smoking behavior, alcohol consumption, sexual and reproductive health, and the health-related quality of life among adolescents in East Bolaang Mongondow Regency. This study is quantitative, utilizing an analytical observational method with a cross-sectional approach. The sample size consists of 428 respondents. Primary data was obtained through interviews using questionnaires, while secondary data includes information obtained from schools in East Bolaang Mongondow Regency, such as student data, geographical and demographic descriptions. Data analysis in this study includes descriptive, bivariate (Chi-square), and multivariate (logistic regression) analyses. The research findings reveal that there is a relationship between smoking behavior and the health-related quality of life among adolescents in East Bolaang Mongondow Regency in all domains (physical domain  $p=0.000$ , psychological  $p=0.001$ , social  $p=0.000$ , and environmental  $p=0.000$ ). There is also a relationship between alcohol consumption and the health-related quality of life among adolescents in East Bolaang Mongondow Regency in all domains (physical domain  $p=0.000$ , psychological  $p=0.017$ , social  $p=0.060$ , and environmental  $p=0.047$ ). However, there is no relationship between sexual and reproductive health and the health-related quality of life among adolescents in East Bolaang Mongondow Regency in all domains (physical  $p=0.733$ , psychological  $p=0.465$ , social  $p=0.098$ , and environmental  $p=0.966$ ). In conclusion, smoking and alcohol consumption, except in the social domain, are related to the health-related quality of life among adolescents in East Bolaang Mongondow Regency. On the other hand, sexual and reproductive health is not associated with the health-related quality of life among adolescents in East Bolaang Mongondow Regency. Variables influencing the health-related quality of life among adolescents include smoking habits in the physical, psychological, and social domains, while alcohol consumption only influences the physical domain concerning the health-related quality of life among adolescents in East Bolaang Mongondow Regency.

**Keyword:** Smoking Behavior, Alcohol Consumption, Sexual and Reproductive Health, Adolescent Health Quality of Life.

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## INTRODUCTION

Adolescents are a societal group that is always assumed to be in a good health. Many adolescents die prematurely due to accidents, suicide attempts, violence, complications from pregnancy, and other diseases that can actually be prevented or treated. There are also many

serious illnesses resulting from behaviors that start during adolescence, such as smoking, sexually transmitted diseases, drug abuse, alcohol, psychotropic substances, and other addictive substances NAPZA, HIV-AIDS, malnutrition, and lack of exercise. All of these contribute to diseases or death at a young age (Anonymous, 2013). The data from the North Sulawesi

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Provincial Health Office in 2021 in East Bolaang Mongondow Regency found that among adolescents aged 10-18 years, 265 students (15.3%) were smokers, and in 2022, the number of adolescent smokers increased to 300 students (17.3%). The level of information regarding the consumption of alcoholic beverages increased from 3% to 3.3%. These findings indicate that there will be an impact on health hazards, leading to an increase in non-communicable diseases during adolescence (Najibah and Wahjuni, 2020). Alcohol consumption can cause sleep disturbances, where alcohol can inhibit oxygen in the blood from entering the brain, leading to dizziness (Prabowo, 2016). The proportion of alcohol consumption behavior in North Sulawesi Province in the last month among those aged 10-14 years is 1.09%, while in the age group of 15-19 years, it is 12.88%. Based on research in 2018, North Sulawesi became the province with the highest percentage of alcohol consumption, reaching 16%, followed by East Nusa Tenggara at 15.6%, and Bali at 14% (Anonymous, 2019).

The results of a study conducted by Suartini (2022) indicate that there is an influence of smoking and alcohol consumption behavior on the quality of life of junior and senior high school students in the city of Bitung. Adolescents who smoke and consume alcohol are likely to have a lower quality of life compared to those who do not engage in these behaviors. The research findings from Runtuwene (2022) indicate that smoking is associated with a decline in the health-related quality of life among adolescents in the environmental domain in South Minahasa Regency. Furthermore, alcohol consumption is linked to a decrease in the health-related quality of life among adolescents in the environmental domain in South Minahasa Regency, with alcohol consumption being the most significant factor associated with the decline in the health-related quality of life among adolescents in the environmental domain in South Minahasa Regency. The research findings from Pinaria (2023) show that the habit of smoking among adolescents is associated with the quality of life of adolescents in North Minahasa Regency, where the prevalence of smoking among adolescents in North Minahasa Regency is 28.9%. However, the habit of alcohol consumption among adolescents is not associated with the quality of life of adolescents in North Minahasa Regency. The quality of life indicates that a high quality of life is most prevalent among respondents who do not consume alcohol. Additionally, the prevalence of alcohol consumption among adolescents in North Minahasa Regency is 19.9%. The habit of smoking among adolescents is a significant factor influencing the quality of life of adolescents in North Minahasa Regency, where adolescents who smoke have a likelihood of 2.374 to have low quality of life compared to adolescents who do not smoke. The research by Wicaksono (2022) indicates that there is a correlation between smoking behavior and the health-related quality of life among students in the city of Tomohon. The

results of a study conducted by Emamviridi *et al.*, (2016) show that smoking and alcohol consumption are associated with poor health-related quality of life among students. Students who do not consume alcohol fare better in terms of emotional dimensions than those who do, indicating that alcohol may be linked to poor health-related quality of life, especially in the emotional dimension among students. Non-smoking students have better health-related quality of life in terms of emotional, vitality, social function, and general health dimensions, indicating overall better health-related quality of life, particularly in mental aspects, among non-smokers. Furthermore, the interaction between smoking and alcohol is only found in the emotional dimension, with results suggesting that the group consisting of smokers and alcohol consumers may significantly compromise health-related quality of life, unlike non-smokers or non-alcohol consumers and the non-smoking group.

According to the Indonesian Demographic and Health Survey (SDKI), 8% of males and 2% of females aged 15-19 years have engaged in sexual intercourse. Among adolescents who have had sexual intercourse, it is reported that 12% of women experience unwanted pregnancies (BKKBN, 2018). Based on data on sexual violence cases in North Sulawesi, there were 182 cases in 2021, which increased to 422 cases in 2022. In East Bolaang Mongondow Regency, sexual violence cases in 2021 amounted to 11 cases and increased to 31 cases in 2022 (Anonymous, 2023). Data from the Central Statistics Agency in 2018 shows that the proportion of women aged 20-24 who were married before the age of 18 in North Sulawesi Province ranks 11th nationally. The percentage of women aged 10 and above who have ever been married according to the age of first marriage in 2020 shows the highest rate of child marriage in East Bolaang Mongondow Regency, where 15% of women aged 10 and above had their first marriage before the age of 16. The primary cause of child marriage is early pregnancy outside of marriage. Suartini's research in 2022 indicates that there is an influence of sexual and reproductive health on the health-related quality of life of junior and senior high school students in the city of Bitung, particularly in the social and environmental domains.

Measuring the quality of life of adolescents is important because it allows the prediction of the health of adolescents for the next 10-20 years. Research on the quality of life in East Bolaang Mongondow Regency has not been conducted, so there is not data regarding the behaviors of alcohol consumption, smoking, and the sexual and reproductive health of adolescents in East Bolaang Mongondow Regency. Based on the initial observations, it was found that there are a total of 40 junior high schools, high schools, and vocational high schools in East Bolaang Mongondow Regency, comprising 5 high schools, 11 vocational high schools, and 24 junior high schools. The number of junior high school students is 2446, high school students are 1149,

and vocational high school students are 1766, making a total of 5361 students. Based on this, the researchers are interested in studying the relationship between smoking behavior, alcohol consumption, sexual and reproductive health, and the health-related quality of life of adolescents in East Bolaang Mongondow Regency.

## EXPERIMENTAL SECTION/MATERIAL AND METHODS

This research is an analytical observational study with a cross-sectional research approach. Data collection was conducted only once for each selected respondent to assess independent and dependent variables. The study was carried out from September 2023 to January 2024 in East Bolaang Mongondow Regency.

The population in this study consists of adolescents attending junior high school (SMP), senior high school (SMA), and vocational high school (SMK) in East Bolaang Mongondow Regency. The sampled participants are SMP, SMA, and SMK students aged 10–19 who included in the inclusion and exclusion criteria. Those involved in this study had to obtain parental consent if they were under 17 years old or declare their willingness to participate. The sampling technique used in this research was simple random sampling.

There were two stages in determining the sample. In the first stage, representatives of SMP, SMA, and SMK in East Bolaang Mongondow Regency were selected. School selection used purposive sampling considering factors such as accessibility and school willingness to participate. At the school level, students were then divided into three groups based on grade levels: 7, 8, 9 for SMP, and 10, 11, 12 for SMA and SMK. Subsequently, they were randomly selected to represent the population. All selected students were included as research samples. The sample size was determined according to the Lemeshow *et al.*, formula with a precision of 0.05, using a significance level of 95% for population proportion estimation at 50%, resulting in a total of 428 secondary school students for this study.

There are two variables: Independent variables include smoking behavior, alcohol consumption, sexual and reproductive health. The dependent variable is the score of adolescent health-related quality of life based on the WHOQOL-BREF instrument, consisting of four domains: physical health, psychological, social

influence, and environment. Standardized instruments used in this research include the Indonesian version of WHOQOL-BREF and the 2015 Indonesian version of GSHS.

Two types of data were collected: primary data in the form of numbers, written descriptions, oral information, and various other facts related to the research focus examined through interviews. Furthermore, secondary data obtained from schools in East Bolaang Mongondow Regency included student data, geographical and demographic descriptions. The collected data were then analyzed step by step through univariate, bivariate, and multivariate analyses.

## RESULTS

The distribution and characteristics of sociodemographic respondents, totaling 428 respondents (100%), show that the majority are in the age group of 15-18 years, comprising 251 respondents (58.6%), while in the age group <15 years, there are 177 respondents (41.4%). Furthermore, the majority are females, accounting for 292 respondents (68.2%), while in the male group, there are 136 respondents (31.8%). Regarding the class representation, the 10th grade has the highest number of respondents, with 162 respondents (37.9%), and the 12th grade has the fewest respondents, totaling 26 respondents (6.1%). The most represented school in this study is SMA Negeri 1 Modayag with 109 respondents (25.47%), while the least represented is SMK N I Tutuyan with 36 respondents (8.41%).

Results of Univariate Analysis Based on the Quality of Life Domains from 428 respondents (100%) show that in the physical domain, the majority fall into the good category, with 201 respondents (47.0%), followed by the moderate category with 180 respondents (42.1%), and the poor category with 47 respondents (11.0%). In the psychological domain, the majority fall into the good category, with 213 respondents (49.8%), followed by the moderate category with 202 respondents (47.2%), and the poor category with 13 respondents (3.0%). In the social domain, the majority fall into the good category, with 159 respondents (37.1%), followed by the moderate category with 214 respondents (50.0%), and the poor category with 55 respondents (12.9%). In the environmental domain, the majority fall into the good category, with 236 respondents (55.1%), followed by the moderate category with 143 respondents (33.4%), and the poor category with 49 respondents (11.4%).

**Table 6: Results of Univariate Analysis Based on Smoking Habits, Alcohol Consumption and Sexual and Reproductive Health Variables**

Variable	Categories	N	%
Smoking habit	No	356	83,2
	Yes	72	16,8
	Total	428	100
Alcohol Consumption	No	396	92,5
	Yes	33	7,5
	Total	428	100
Sexual and Reproductive Health	No	411	96,0
	Yes	17	4,0
	Total	428	100

Based on Table 6, the univariate analysis, totaling 428 respondents (100%), for the smoking habit variable shows that the majority fall into the non-smoker category, with 356 respondents (83.2%), while in the smoker category, there are 72 respondents (16.8%). For the alcohol consumption variable, the majority fall into the non-alcohol consumer category, with 396

respondents (92.5%), while in the alcohol consumer category, there are 33 respondents (7.5%). Regarding the sexual and reproductive health variable, the majority fall into the category of not engaging in sexual and reproductive activities, with 411 respondents (96.0%), while in the category of engaging in sexual and reproductive activities, there are 17 respondents (4.0%).

**Table 7: Bivariate Analysis Results of Cross-Tabulation between Smoking Habit Variable and Quality of Life Variable in Each Domain**

Quality of Life			Very Good	Good	Fair	Bad	The Worst	Total	Value P
<b>Physical Domain</b>									
Smoking habit	No	n	23	149	61	6	1	240	0,000
		%	5,4%	34,8%	14,3%	1,4%	0,2%	56,1%	
	Yes	n	15	77	63	30	3	188	
		%	3,5%	18,0%	14,7%	7,0%	0,7%	43,9%	
	Total	n	38	226	124	36	4	428	
		%	8,9%	52,8%	29,0%	8,4%	0,9%	100,0%	
<b>Psychology Domain</b>									
Smoking habit	No	n	46	131	55	7	1	240	0,001
		%	10,7%	30,6%	12,9%	1,6%	0,2%	56,1%	
	Yes	n	43	67	73	3	2	188	
		%	10,0%	15,7%	17,1%	0,7%	0,5%	43,9%	
	Total	n	89	198	128	10	3	428	
		%	20,8%	46,3%	29,9%	2,3%	0,7%	100,0%	
<b>Social Domain</b>									
Smoking habit	No	n	33	126	66	9	6	240	0,000
		%	7,7%	29,4%	15,4%	2,1%	1,4%	56,1%	
	Yes	n	29	51	69	5	34	188	
		%	6,8%	11,9%	16,1%	1,2%	7,9%	43,9%	
	Total	n	62	177	135	14	40	428	
		%	14,5%	41,4%	31,5%	3,3%	9,3%	100,0%	
<b>Environmental Domain</b>									
Smoking habit	No	n	35	149	48	6	2	240	0,000
		%	8,2%	34,8%	11,2%	1,4%	0,5%	56,1%	
	Yes	n	31	80	43	32	2	188	
		%	7,2%	18,7%	10,0%	7,5%	0,5%	4,9%	
	Total	n	66	229	91	38	4	428	
		%	15,4%	53,5%	21,3%	8,9%	0,9%	100,0%	

The analysis results using the chi-square test yielded a p=0.000 for the physical, social, and environmental domains, and a p=0.001 for the psychological domain. This means that the p-value is less

than 0.05, thus confirming the existence of a relationship between smoking habits and the quality of life in the physical, psychological, social, and environmental domains.

**Table 8: Bivariate Analysis Results of Cross-Tabulation between Alcohol Consumption Variable and Quality of Life Variable in Each Domain**

Quality of Life									
Physical Domain			Very Good	Good	Fair	Bad	The Worst	Total	Value P
Alcohol Consumption	No	n	21	200	114	28	3	366	0,000
		%	4.9%	46.7%	26.6%	6.5%	0.7%	85.5%	
	Yes	n	17	26	10	8	1	62	
		%	4.0%	6.1%	2.3%	1.9%	0.2%	14.5%	
	Total	n	38	226	124	36	4	428	
		%	8.9%	52.8%	29.0%	8.4%	0.9%	100.0%	
Psychology Domain									
Alcohol Consumption	No	n	67	176	111	10	2	366	0,017
		%	15.7%	41.1%	25.9%	2.3%	0.5%	85.5%	
	Yes	n	22	22	17	0	1	62	
		%	5.1%	5.1%	4.0%	0.0%	0.2%	14.5%	
	Total	n	89	198	128	10	3	428	
		%	20.8%	46.3%	29.9%	2.3%	0.7%	100.0%	
Sosial Domain									
Alcohol Consumption	No	n	48	157	119	12	30	366	0,060
		%	11.2%	36.7%	27.8%	2.8%	7.0%	85.5%	
	Yes	n	14	20	16	2	10	62	
		%	3.3%	4.7%	3.7%	0.5%	2.3%	14.5%	
	Total	n	62	177	135	14	40	428	
		%	14.5%	41.4%	31.5%	3.3%	9.3%	100.0%	
Environmental Domain									
Alcohol Consumption	No	n	51	199	83	29	4	366	0,047
		%	11.9%	46.5%	19.4%	6.8%	0.9%	85.5%	
	Yes	n	15	30	8	9	0	62	
		%	3.5%	7.0%	1.9%	2.1%	0.0%	14.5%	
	Total	n	66	229	91	38	4	428	
		%	15.4%	53.5%	21.3%	8.9%	0.9%	100.0%	

The analysis results using the chi-square test yielded a p=0.000 for the physical domain, a p=0.017 for the psychological domain, and a p=0.047 for the environmental domain. This means that the p-value is less than 0.05, thus confirming the existence of a relationship between alcohol consumption and the

quality of life in the physical, psychological, and environmental domains. However, the analysis results for the social domain show a p=0.060, meaning that the p-value is greater than 0.05, confirming the absence of a relationship between alcohol consumption and the quality of life in the social domain.

**Table 9: Bivariate Analysis Results of Cross-Tabulation between Sexual and Reproductive Health Variable and Quality of Life Variable in Each Domain**

Quality of Life									
Physical Domain			Very Good	Good	Fair	Bad	The Worst	Total	Value P
Sexual and Reproductive Health	No	N	35	217	120	35	4	411	0,733
		%	8.2%	50.7%	28.0%	8.2%	0.9%	96.0%	
	Yes	N	3	9	4	1	0	17	
		%	0.7%	2.1%	0.9%	0.2%	0.0%	4.0%	
	Total	N	38	226	124	36	4	428	
		%	8.9%	52.8%	29.0%	8.4%	0.9%	100.0%	
Psychology Domain									
Sexual and Reproductive Health	No	N	83	193	122	10	3	411	0,465
		%	19.4%	45.1%	28.5%	2.3%	0.7%	96.0%	
	Yes	N	6	5	6	0	0	17	
		%	1.4%	1.2%	1.4%	0.0%	0.0%	4.0%	
	Total	N	89	198	128	10	3	428	
		%	20.8%	46.3%	29.9%	2.3%	0.7%	100.0%	

Quality of Life									
Physical Domain			Very Good	Good	Fair	Bad	The Worst	Total	Value P
Social Domain									
Sexual and Reproductive Health	No	N	57	172	131	12	39	411	0,098
		%	13.3%	40.2%	30.6%	2.8%	9.1%	96.0%	
	Yes	N	5	5	4	2	1	17	
		%	1.2%	1.2%	0.9%	0.5%	0.2%	4.0%	
	Total	N	62	177	135	14	40	428	
		%	14.5%	41.4%	31.5%	3.3%	9.3%	100.0%	
Environmental Domain									
Sexual and Reproductive Health	No	N	63	221	87	36	4	411	0,966
		%	14.7%	51.6%	20.3%	8.4%	0.9%	96.0%	
	Yes	N	3	8	4	2	0	17	
		%	0.7%	1.9%	0.9%	0.5%	0.0%	4.0%	
	Total	N	66	229	91	38	4	428	
		%	15.4%	53.5%	21.3%	8.9%	0.9%	100.0%	

The analysis results using the chi-square test yielded a p-value of 0.733 for the physical domain, 0.465 for the psychological domain, 0.098 for the social domain, and 0.966 for the environmental domain. This

indicates that the p-values are greater than 0.05, confirming that there is not relationship between sexual and reproductive health and the quality of life in all domains studied.

**Table 10: Bivariate Variable Selection Results on the Quality of Life in Each Domain**

Variable	Quality of Life Health			
	Physical Domain	Psychological Domain	Social Domain	Environmental Domain
Smoking habit	0,000	0,001	0,000	0,000
Alcohol Consumption	0,000	0,017	0,060	0,047
Sexual and Reproductive Health	0,733	0,465	0,098	0,966

Based on the bivariate variable selection results in Table 10, the sexual and reproductive health variable in all domains and the alcohol consumption variable in

the social domain cannot proceed to multivariate analysis because the bivariate variable selection results indicate do not have relationship using the chi-square test.

**Table 11: Results of Multivariate Test for Influential Variables**

Model	Sig.	
Physical Domain	(Constant)	0,000
	Smoking habit	0,001
	Alcohol Consumption	0,035
Psychological Domain	(Constant)	0,000
	Smoking habit	0,042
	Alcohol Consumption	0,151
Social Domain	(Constant)	0,000
	Smoking habit	0,006
	Alcohol Consumption	0,034
Environmental Domain	(Constant)	0,000
	Smoking habit	0,592
	Alcohol Consumption	0,768

Based on the results from the previous Table 10, several variables underwent bivariate selection. The variables related were then proceeded to the multivariate analysis stage in the above Table 11. The results indicate that the smoking habit variable in the physical domain significantly influences the quality of life (Sig. = 0.001), in the psychological domain significantly influences the

quality of life (Sig. = 0.042), and in the social domain significantly influences the quality of life (Sig. = 0.006). The alcohol consumption variable in the physical domain significantly influences the quality of life (Sig. = 0.035), and in the social domain significantly influences the quality of life (Sig. = 0.034).

## DISCUSSION

Based on the research findings, it was found that there is a relationship between smoking behavior and the quality of adolescent health in East Bolaang Mongondow Regency in all domains, including physical, psychological, social, and environmental aspects. The increase in smoking among adolescents is caused by various factors such as family and peer influences. Parents serve as role models within the family, so their attitudes and views toward smoking, as well as the closeness between parents and adolescents, influence the attitudes of adolescents towards smoking. Additionally, having more friends or peers who smoke can also contribute to adolescents' smoking behavior. Adolescents may also believe that smoking will make them appear more mature, especially if there are influential figures (celebrities, athletes, etc.) who smoke.

This study is consistent with the research conducted by Wicaksono (2022) in the city of Tomohon, where the test of two variables indicates a statistically significant relationship between smoking behavior and quality of life in the physical domain ( $p = 0.005$ ), psychological domain ( $p = 0.026$ ), social domain ( $p = 0.000$ ), and environmental domain ( $p = 0.021$ ). Furthermore, a study by Sasube *et al.*, (2022) at SMA Negeri 3 Manado shows that the majority of adolescent smokers are 15-year-old males. They start experimenting with smoking at the age of 14, engaging in smoking activities for 10–29 days, and within their family environment, many members are smokers. This phenomenon is not only observed in North Sulawesi but also in parts of Java. Similar to the research conducted by Nugroho (2017) on a group of adolescents in Surabaya, several social identities were identified, where smoking is considered a benchmark of someone's maturity, which can also boost confidence. Adolescent smokers also tend to be open and easy-going with their peers in the surrounding environment. Additionally, some feel that smoking can alleviate stress and depression.

Contradictions that arise regarding research on the relationship between smoking behavior and the quality of life and health of adolescents often uncover several gaps or issues in the field, particularly in East Bolaang Mongondow Regency. These are caused by complex factors such as social and cultural factors, stress, and emotional well-being, as well as education and health awareness. The contradiction manifests as a compulsion experienced by some adolescents to be accepted in a group or social circle. Adolescents frequently face high emotional pressure from various aspects of their lives. Some of them use smoking as an escape to cope with stress, which negatively impacts their long-term quality of life.

Furthermore, there is a relationship between alcohol consumption and the quality of adolescent health

in East Bolaang Mongondow Regency in the physical, psychological, and environmental domains, while the social domain is not associated. Alcoholism is one of the risk factors for morbidity and mortality, where adolescents have easy access to alcohol, exist in an environment that supports alcohol consumption, and face weak school regulations regarding the prohibition of alcohol consumption (Lantyani *et al.*, 2020). Several studies align with the findings of this research.

The tendency of adolescents to consume alcohol is related to a father who enjoys alcohol consumption, although based on the research conducted, there is no difference between alcohol consumption and the quality of adolescent health. The mother's factor is not related to the alcohol drinking habits of adolescents (Use S, 2019). The research results by Lito (2021) indicate that factors such as curiosity about alcohol, influence from the environment, and the desire to appear cooler in the social circle are some underlying factors for alcohol consumption among late adolescents in Surakarta.

The study by Porajow (2021) found that adolescents in the city of Manado who consume alcohol, particularly male adolescents, tend to experience a decrease in the quality of life and health. This is consistent with other research by Hung C Chia *et al.*, (2015). This is reflected in this study, where alcohol-addicted adolescents experience a decline in the quality of life and health in terms of psychological aspects (related to mental health and pessimism) and environmental aspects (related to dissatisfaction and withdrawal from the surrounding environment).

This study aligns with Suartini's research (2022), which indicates a relationship between alcohol consumption and the quality of life in the physical and environmental domains. Alcoholic beverages and alcohol consumption are currently seen as a transitional medium from negative behaviors that should be prevented as early as possible to curb their spread, especially among adolescents. There is a pressing need to advocate for anti-alcohol and anti-liquor campaigns, voiced by various segments of society as a manifestation of concern and resistance against these illicit substances. This advocacy is undertaken with the awareness of the dangers posed by alcoholic beverages to human health and the environment.

The research results differ from the study by Runtuwene *et al.*, (2022), where their research concludes a relationship between smoking and alcohol consumption with the quality of adolescent health in South Minahasa. Contradictions that arise regarding research on the relationship between alcohol consumption and the quality of life and health of adolescents often uncover several gaps or issues in East Bolaang Mongondow Regency in the current era. These are caused by complex factors such as diverse social

perceptions and norms, the influence of media and product promotion, the availability of alcohol accessibility, and a lack of in-depth education. Sometimes, the lack of in-depth education about the risks of alcohol contributes to these contradictions.

Based on the research results, it was found that there is no relationship between sexual and reproductive health and the quality of adolescent health in East Bolaang Mongondow Regency in all domains. This is because a significant number of adolescents in this study have not engaged in sexual activity. Adolescents who are sexually active and have negative feelings about their sexual behavior tend to have lower quality of life, while those who do not have negative feelings about their sexual behavior tend to have a better quality of life. Quality adolescents are those who experience good physical and sexual maturity. Quality adolescents also go through stages of building identity, social independence, skill acquisition, and economic readiness for adulthood, as well as having good negotiation skills. Healthy reproductive and sexual development in adolescents plays a significant role in building skills in emotional, social, and cognitive aspects. It is important to develop these skills during adolescence due to the rapid and interconnected changes that occur during this period, coinciding with the onset of puberty, the intensification of gender-related behaviors and attitudes, which can become the foundation for future adolescent behavior and health (Suartini, 2022).

The results of this study indicate that the smoking habit variable is significantly related to the quality of life in the physical, psychological, and social domains. These findings align with Pinaria's research (2023), which suggests that smoking and alcohol consumption habits are significant variables influencing the quality of life. However, among these two variables, the smoking variable has the most significant impact on students' quality of life. Some reasons why smoking behavior can be considered the most influential variable on the quality of life and health of adolescents in East Bolaang Mongondow Regency include the broad impact of smoking on adolescent health, the presence of dependency, and its close connection to the social environment.

The assumptions made by the researcher based on field findings, particularly in understanding the contradictions and deeper relationships between smoking behavior and the quality of life and health of adolescents in East Bolaang Mongondow Regency, underscore the importance of conducting careful and holistic research that takes into account all factors influencing adolescents in that region. Comprehensive prevention and education efforts can also help mitigate the negative impact of smoking habits on the quality of life and health of adolescents.

## CONCLUSION

Based on the results of data collection and analysis conducted, it is evident that the variable most associated with the health quality of adolescents in East Bolaang Mongondow Regency is the smoking habit in all existing domains, as well as the habit of consuming alcohol, which is present in the physical, psychological, and environmental domains. However, this association was not found in sexual and reproductive health with the health quality of adolescents in all four existing domains. Therefore, comprehensive education that includes conveying the negative impacts of smoking, alcohol consumption, and the importance of a holistic healthy lifestyle is crucial. Additionally, promoting prevention programs regarding the dangers of smoking, alcohol, and sexual and reproductive health based on the findings is essential.

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