

# The Influence of Monopoly Game Simulations on Adolescent Attitudes and Knowledge about Basic Threats to Reproductive Health

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Adolescence is critical in the development of individuals. Adolescents "targets" who are very vulnerable to the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS and Drugs). More than 850 cases of adolescents have been counted with HIV/AIDS in Jayawijaya district, also has high risks as to sexuality and drugs. This made researchers interested in conducting research titled "Research Methods Monopoly Simulation of Adolescent Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) at Wamena 1 High School, Jayawijaya Regency. The True Experimental Design was used for research, with Pre-test–Post-test Control Group Design. The study was conducted at Senior School Wamena, from January to March 2020. The research sample was 138 students of class XI, selected using the Simple Random Sampling technique. The instruments were Monopoly games, questionnaires and secondary data. Data were analysed using the Chi Square statistical test. Chi Square statistical test results showed a p value of 0,000 ( $p < 0.05$ ). The assessment of statistical test results using the chi square test results showed a p value of 0,000 ( $p < 0.05$ ). Research Methodology (Sexuality, HIV/AIDS, Drugs) at Wamena 1 High School.

**Key words:** *Monopoly Game, Knowledge and Attitude, Basic Threats of Reproductive Health.*



## Introduction

Adolescence is a critical period in the development of individual behavior (Anggraheni, 2018). Healthy teenagers with a good quality of character are a serious concern for parents, education or adolescents themselves (Nurhamasyah et al., 2015). Healthy adolescents are productive and creative, according to their stages of development (Nasution, 2012). According to Jayawijaya Health Office (2016) United Nations Population Division data, as many as 592,975,000 adolescents aged 10-19 years in the world. Data from the 2015 United Nations Program on HIV and AIDS (UNAIDS) estimates there to be 75 million of AIDS sufferers worldwide, and more than 3.6 million people living with HIV/AIDS in Southeast Asia (Qomariyah, et al., 2017).

Data from the United Nations Drugs Control Program (UNDCP) states that approximately 220 million people worldwide have used drugs, 1.5% or around 3.2 million people of which are in Indonesia (Sihite et al., 2017). According to the domestic National Narcotics Agency (BNN), in Indonesia the number of narcotics case suspects by age group in 2015 i.e. school-age children and adolescents under 19 years of age, totals 2,186 or 4.4 percent of the total cohort (Sihite et al., 2017).

Monopoly is one of the most famous board games in the world (Suciati et al., 2015). The aim is to master all plots on the board through the purchase, leasing and exchange of property in a simplified economic system (Prayogo, 2017). According to Irawan (2017) one of the lessons that can increase students' interest in learning is learning with games. Irawan also believes that "Interactive games are games that are packaged in learning, so students become active and happy in learning" (Prayogo, 2017).

The results revealed that monopolistic learning media are more effective than conventional learning methods (Prayogo, 2017). The same was also shown in the study of Saputri & Azam (2015) which concluded that the Monopoly game simulation was effective in increasing comprehensive knowledge of HIV/AIDS in adolescents in Kesatrian 1 High School Semarang (Susanto et al., 2012).

Based on the results of preliminary data collection in the District Health Office of Jayawijaya, from the cumulative recapitulation of HIV sufferers in 2018 for the adolescent age group, there were 850 HIV cases. As for drug crime between January and September in 2019 in the district, there were four cases including two of cannabis, and two of methamphetamine (Sukini & Widodo, 2010). There was only one drug crime suspect aged <20 years (Jayawijaya Health Office, 2016). Whereas, for criminal cases recorded in 2018 there were 10 criminal cases caused by students including student theft, emergency law, embezzlement, immorality, arson, vandalism, and maltreatment (Jayawijaya Health Office, 2016). In 2019, between January and



September, cases of student and student crime increased by 17 cases. Based on available data, students suspected of crime come from several high schools in Jayawijaya Regency, including Wamena 1 High School, Wamena PGRI High School and Santo Thomas Wamena YPPK High School (Jayawijaya Health Office, 2016).

Based on interviews with the school, information about the Basic Threats of Adolescent Reproductive Health has never been given. The problem of Basic Threats of Reproductive Health is very high among adolescents. Therefore, the authors are interested in conducting research with the title "The Effect of Simulation Methods Using Monopoly Games Against Adolescent Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV, Drugs) in State High Schools 1 Wamena, Jayawijaya Regency" (Afnis, 2018). This study aims to determine the effect of Monopoly game simulation methods on adolescent knowledge, and attitudes about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena, Jayawijaya Regency (Burhanto & Putra, 2018).

### **Research Methods**

This research is a True Experimental Design with Pre-test–Post-test Control Group Design. There is the intervention group and the control group. The intervention group was given a Monopoly game simulation, on the knowledge and attitudes of adolescents about the Basic Threats to Reproductive Health (Sexuality, HIV/AIDS, Drugs), while the control group was given no treatment (Amalia, 2018).

This research was conducted at Senior School Wamena, Jayawijaya Regency from January to March 2020. The population were all teenagers in class XI of Senior School Wamena, amounting to 213 students (Walelasi et al., 2019). In this study 138 students were sampled by simple random sampling technique. The sample in each of the intervention group and the control group was determined by lottery, and divided into 69 samples for the intervention group and 69 samples for the control group.

Data collection techniques use primary data, in the form of questionnaires and secondary data. The material used by researchers was a game of Monopoly which the researchers modified about the Basic Threats of Adolescent Reproductive Health (Sections, HIV/AIDS, Drugs) (Tek, 2011). Univariate data analysis was performed, to produce frequency distributions of respondents' characteristics including age, sex, religion and ethnicity, and frequency distributions of knowledge and attitudes before and after intervention; bivariate analysis was performed using chi square statistical tests (Handayani, 2020).

## Research Result

Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) Before Being Given Monopoly Game Simulation in Wamena 1 High School, Jayawijaya Regency.

**Table 1:** Frequency Distribution of Adolescent Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) Before Given Monopoly Game Simulation in Senior High School Wamena Jayawijaya Regency in 2020. No. Control Group Intervention

No.	Variables	Group Intervention		Control Group	
		n	%	n	%
1.	Knowledge				
	Good	23	33.3	11	15,9
	Enough	42	60.9	45	65,2
	Less	4	5.8	13	18,8
2.	Attitude				
	Positive	49	71.0	40	58,0
	Negative	20	29.0	29	42,0
	Total	69	100	69	100

**Source:** Primary data, January 2020

Table 1 shows that of 138 class XI respondents of Senior School Wamena Jayawijaya in the intervention group, as many as 69 teenagers, most of which were 42 adolescents (60.9%), had sufficient knowledge about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs). A small portion, as many as four teenagers (5.8%) had less knowledge (Johariyah, 2018). As for attitudes, most, as many as 49 adolescents (71.0%), had positive attitudes about the Basic Threat of Reproductive Health (Sexuality, HIV/AIDS, Drugs), and a small portion, as many as 20 adolescents (29.0%), had negative attitudes (Siswoyo, 2012).

As for the control group, Table 1 showed that of 138 respondents in class XI of Senior School Wamena, Jayawijaya, in the control group were 69 teenagers, most of them (45) were youth, (65.2%) had sufficient knowledge or a small portion (11 youth) (15.9%) had good knowledge. As for attitudes, most, as many as 40 adolescents (58.0%) have positive attitudes about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs). A small proportion (29 adolescents) (42.0%) have negative attitudes.

Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drug Use) After Being Given a Monopoly Game Simulation in Wamena 1 High School, Jayawijaya Regency.

**Table 2:** Frequency Distribution of Teenagers' Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) After Being Given the Monopoly Game Simulation in Senior School Wamena, Jayawijaya Regency 2020.

No.	Variables	Group Intervention	
		n	%
1.	Knowledge		
	Good	63	91,3
	Enough	4	5,8
	Less	2	2,9
2.	Attitude		
	Positive	62	89,9
	Negative	7	10,1
	Total	100	100

**Source:** Primary data, January 2020

Table 2 shows 69 respondents in class XI of Senior School Wamena, Jayawijaya, in the intervention group, after receiving a Monopoly game simulation method on the Basic Threat of Reproductive Health (Sexuality, HIV/AIDS, Drugs). Most of them (63 teenagers) (91.3%) had good knowledge. A small part of them (two teenagers) (2.9%) had less knowledge. As for attitudes, the majority (62 adolescents) (89.9%) had a positive attitude about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs). A small portion (seven adolescents) (10.1%) had negative attitudes.

The Effect of Simulation Method of Monopoly Game on Increasing Adolescent Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena , Jayawijaya Regency (Floreska, 2014).

**Table 3:** Correlation Statistical Test Analysis: The Effect of Simulation Method of Monopoly Game on Increasing Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena, Jayawijaya Regency, in the year 2020.

No.	Variables	Group Intervention				score p
		before		after		
		n	%	n	%	
1.	Knowledge					0,000
	Good	23	33,3	63	91,3	
	Enough	42	60,9	4	5,8	
	Less	4	5,8	2	2,9	
2.	Attitude					0,011
	Positive	49	71,0	62	89,9	
	Negative	20	29,0	7	10,1	

**Source:** Primary data, January 2020

The results of the statistical correlation test display the effect of a Monopoly game simulation, as to increasing adolescents' knowledge and attitudes about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena, Jayawijaya. It is known that the statistical test results for knowledge using the Wilcoxon test shows a p-value of 0,000 ( $p < 0.05$ ). The results of statistical tests using McNemar test shows a p-value of 0.011 ( $p < 0.05$ ). It can then be concluded that there is an influence of the Monopoly game simulation on increasing the knowledge and attitudes of adolescents, about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior High School Wamena.

Effect of Simulation Method of Monopoly Game on Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena, Jayawijaya Regency.

**Table 4:** Correlation Statistical Test Analysis Effect of Simulation Method of Monopoly Game on Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena Wamena, Jayawijaya Regency year 2020.

No.	Variables	Group					score p
		Control		Intervention		Total	
		n	%	n	%	n (%)	
<b>1.</b>	Knowledge						0,000
	Good	11	14,9	63	85,1	74 (100)	
	Enough	45	91,8	4	8,2	49 (100)	
	Less	13	86,7	2	13,3	15 (100)	
<b>2.</b>	Attitude						0,000
	Positive	41	39,8	62	60,2	103 (100)	
	Negative	28	80,0	7	20,0	35 (100)	

**Source:** Primary Data, January 2020

From the results of the statistical correlation test the effect of the Monopoly game simulation method on the knowledge and attitudes of adolescents about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena , Jayawijaya Regency, it is known that the statistical test results for knowledge using the statistical test chi-square results show a p-value of 0,000 ( $p < 0.05$ ), while for attitudes the results of statistical tests using the chi-square test results show a p-value of 0,000 ( $p < 0.05$ ). The results demonstrate differences in adolescent knowledge and attitudes about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs), between groups that do not participate in Monopoly game simulations and groups that use such simulations in Wamena 1 High School. Thus, it can be concluded that there is an influence of Monopoly game simulation methods on the knowledge and attitudes of adolescents, about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena.

## Discussion

### *Adolescents' Knowledge and Attitudes about Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) Before Being Given Monopoly Game Simulation in Wamena 1 High School, Jayawijaya Regency*

The results obtained in the intervention group refer to knowledge about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs). They show most of the adolescents have sufficient knowledge; specifically that is 42 adolescents (60.9%), and some (23 adolescents) (33.3%) have good knowledge, while a small proportion has less knowledge (four teenagers) (5.8%). As to attitudes, some adolescents have a positive attitude (49 adolescents) (71.0%). As many as (20 adolescents) (29.0%) have a negative attitude.

In the control group, most of the adolescents (45 adolescents) (65.2%) had sufficient knowledge about the Basic Threats described above. As many as 11 adolescents (15.9%) had good knowledge. A small proportion had insufficient knowledge (13 teenagers) (18.8%). The majority of adolescent attitudes also are positive (40 adolescents) (58.0%). Some others have a negative attitude, as much as 29 adolescents (42.0%).

In accordance with the researchers' assumptions, adolescent knowledge prior to the intervention is not included in either category, because students do not yet understand or know well about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs). Some adolescents only know broadly, not particulars, about Sexuality, HIV/AIDS, Drugs, their characteristics, classification and how to prevent them. Especially on the topics of HIV/AIDS and drugs, most adolescents do not know the classification of HIV/AIDS stages. As to drugs, most adolescents do not know their types.

In accordance with the researchers' assumptions, in the pre-intervention stage the adolescents' level of knowledge is based only on their experience. Namely, teens are limited to their memory or existing knowledge about the material discussed, either from their own experiences or those they get from the influence of peers, the environment, and the mass media.

***Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drug Use) After Being Given a Monopoly Game Simulation in Wamena 1 High School, Jayawijaya Regency***

The intervention group was given the Monopoly game simulation about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs). The majority of adolescents then had good knowledge, as many as 63 adolescents (91.3%). The other, small part of students had sufficient knowledge, as many as four teenagers (5.8%). Only two teenagers (2.9%) have less knowledge. These results indicate differences in the level of knowledge before and after the intervention. As for attitudes, some students also had positive attitudes (62 teenagers) (89.9%). A small proportion had negative attitudes. As many as seven teenagers (10.1%) showed an increase in the number of students who had positive attitudes.

According to the researchers' own assumptions, the test results showed an increase because adolescents had been given intervention in the form of a Monopoly simulation, on Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs). It was packaged attractively, by modifying a game containing questions and answers about some material, to make it playable in groups, thereby giving teens a more active role.



This is in accordance with theory. According to Pitadjeng (2006), the game can be an alternative learning media which can increase interest in learning. Further, so that students are more happy and active in teaching and learning, it is necessary to modify the teaching media through activities that involve students' active roles, such as games (Prayogo, 2017).

The number of positive adolescents increased. According to the researchers' assumptions, that is supported by an increase in the level of knowledge from a category given in the study, which is quite good, due to the provision of the Monopoly simulation. Thus, adolescents begin to know more about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) when given Monopoly game simulations.

The Monopoly simulation is packaged into one of the learning tools. The game makes it very easy to give understanding to teenagers about the material, and make teenagers not apathetic about learning, because students are required to explore their own thinking skills and logic, to look for answers in every question, without being aware of it being a learning process even though it is a Monopoly game (Munawaroh, 2018).

***Effect of Simulation Method of Monopoly Game on Knowledge and Attitudes of Adolescents on Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Senior School Wamena , Jayawijaya Regency***

The results of statistical tests for knowledge using the Wilcoxon test showed a p-value of 0,000 ( $p < 0.05$ ). The attitude of the results of statistical tests using McNemar test showed a p-value of 0.011 ( $p < 0.05$ ). It can then be concluded that there is an influence of the Monopoly game simulation method on increasing the knowledge and attitudes of adolescents, about the Basic Threats of Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Wamena Senior School.

Based on the study, the results of the chi-square test for knowledge showed a p-value of 0,000 ( $p < 0.05$ ). The results of the chi-square test for attitude showed a p-value of 0,000 ( $p < 0.05$ ). This meant differences in adolescent knowledge and attitudes concerning Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) between groups that do not participate in Monopoly game simulations, and groups that follow Monopoly game simulations in Senior School, Wamena. Thus, there is an effect, from providing a Monopoly simulation on the knowledge and attitudes of adolescents about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) at Senior School Wamena.

According to the researchers' assumptions, the Monopoly simulation on the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) influenced increasing knowledge and attitudes. At the time of the intervention, students seemed very enthusiastic to think and try to find answers in each question, to get the most points. Students did not know

they were honing their reasoning, to unite it with their logic, to get answers. The Monopoly simulation was successful. It stimulated students to think independently and actively. There are differences in the results of knowledge between the intervention group and the control group, because giving a Monopoly simulation game to the intervention group encouraged the intervention group to think independently, logically, and critically, to solve each question. Without realising it, the intervention group acquired knowledge through game media.

Students learned by applying Monopoly game media in the intervention group. The results show that youth look more enthusiastic when learning, because of the creation of an atmosphere of teaching and learning that is not monotonous and passive. The learning atmosphere is more fun, and students play more active roles than the speakers, because adolescents innately love to play and tend to like crowds, making teenagers unconsciously following the learning process even when playing. In general, adolescents associate the word “learning” with monotony and getting more material, rather than being asked to express their own opinions. Therefore, adolescents tend to be silent. So often teenagers feel bored, sleepy, and even stressed when studying.

### **Conclusion**

The respondents are characterised by a majority of 16 year olds, in the intervention group (63.8%) control group (47.8%), sex intervention group (73.9%) control group (60.9%) female, Christian Protestant intervention group (52.2%), control group (59.4%). Also, the respondents come from non-Papuan ethnic groups, namely the intervention group (58.0%) and the control group (59.4%).

Knowledge and Attitudes of Adolescents about Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Wamena 1 High School. Before giving a Monopoly game simulation to the majority intervention, the figure for groups of knowledgeable teenagers was (60.9%), and being positive (71.0%). The majority of the control group of adolescents was well-informed (65.2%) and positive (58.0%).

Knowledge and Attitudes of Adolescents about Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs). After the Monopoly game simulation methods, the majority had good knowledge (63 adolescents) (91.3%), and 62 adolescents (89,9%) have a positive attitude.

There is an influence of Monopoly game simulation methods, on the knowledge and attitudes of adolescents, about the Basic Threats of Adolescent Reproductive Health (Sexuality, HIV/AIDS, Drugs) in Wamena 1 High School with a p value of 0,000 ( $p < 0.05$ ).



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