

## The Effect of the Good Behavior Game (GBG) on Adolescents' Knowledge of Sexual Violence Prevention

### ABSTRACT

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Many studies have shown that education can improve adolescents' knowledge about sexual violence prevention. However, most studies have used traditional methods such as lectures, discussions, or printed materials. The use of game-based learning methods such as the Good Behavior Game (GBG) to improve knowledge about sexual violence has received limited attention, especially among junior high school students. Therefore, further research is needed to determine whether GBG is effective in increasing adolescents' knowledge about sexual violence. This study aims to determine the effect of the educational media GBG on the level of knowledge about sexual violence in adolescents. This study used a pre-experimental design with a one-group pretest-posttest approach. Ninety-one students in grades VII, VIII, and IX of SMP Negeri 9, Kediri City, were selected using a purposive sampling technique. The research instrument was a questionnaire on the level of knowledge about sexual violence. Data were analyzed descriptively and inferentially using the Wilcoxon Signed Ranks Test with a significance level of  $\alpha = 0.05$ . The results showed that before the education, most respondents had a low level of knowledge about sexual violence (61.5%). After education using GBG, most respondents improved to a good level (93.4%). The Wilcoxon test showed a significant difference between the levels of knowledge before and after the intervention ( $p = 0.000 < 0.05$ ). GBG educational media has been effective in increasing adolescents' knowledge about sexual violence because it uses an interactive, participatory, and group-based learning approach that can increase student engagement, attention, and understanding of the material more effectively than conventional educational methods.

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### INTRODUCTION

Sexual violence against adolescents is a serious problem that impacts the physical, psychological, and social health of individuals. Based on data from the Online Information System for the Protection of Women and Children (SIMFONI PPA), 30,013 cases of sexual violence were recorded in Indonesia between January 2025 and December 2025. Of these, 80.3% of the victims were women (26,936 people) and 19.7% were men (7,359 people). When viewed by age group, according to SIMFONI PPA, the most cases of sexual violence affected adolescents aged 13–17 years (35.4%) (Ministry of Women's Empowerment and Child Protection, 2025). At the provincial level, East Java is

recorded as one of the regions with the highest rates of sexual violence in Indonesia. Based on the violence data report published by the Ministry of Women's Empowerment and Child Protection, the number of cases of sexual violence in East Java reached 3,188 cases, making the province with the second highest number of cases nationally after West Java (Ministry of Women's Empowerment and Child Protection, 2025). This figure indicates that East Java has a significant level of vulnerability to sexual violence, both against children and adults. At a more local level, 2024 data shows that the region Kediri Residence take notes 76 cases of sexual violence, consisting of 22 cases in Kediri City And 54 cases in Kediri Regency (Kediri PPPA Service, 2024). This data demonstrates that adolescents are a vulnerable group due to limited knowledge about the forms, risks, and prevention efforts of sexual violence.

Low levels of knowledge are known to be a factor that increases the risk of sexual violence in schools and adolescents' social environments (Sudaryasa et al., 2023; Ummul Mutia et al., 2025). Therefore, preventive education from school age is a crucial step in developing protective behaviors in adolescents. At the national level, Indonesia faces serious challenges related to the prevalence and forms of sexual violence against children. Case reports and field research indicate various forms of exploitation, online violence, and incidents in educational settings. This situation emphasizes the need for systematic, measurable, and evidence-based preventive interventions in junior high schools (Yamin & Susiana, 2025).

School-based educational interventions are considered effective in improving adolescents' understanding when using interactive and participatory learning methods. However, previous research indicates that most adolescents still have a fair to poor level of knowledge about sexual violence, necessitating innovative educational media that are more engaging and easier for students to understand (Kristiningrum et al., 2025). One approach that can be used is Good Behavior Game (GBG), namely a group game-based learning method that emphasizes cooperation, reinforcement of positive behavior, and active student involvement in the learning process.

Various studies show that the implementation of Good Behavior Game effective in increasing prosocial behavior and reducing negative behavior in the school environment (Putri et al., 2020; Mutmainnah, 2023). This approach has the potential to be a preventive education strategy in increasing adolescents' knowledge about sexual violence. Therefore, this study aims to analyze the influence of educational media on sexual violence. The Good Behavior Game (GBG) on increasing knowledge of sexual violence in adolescents at SMP Negeri 9 Kediri City.

## METHODS

The study was conducted in January 2026 at SMP Negeri 9 Kediri City. This study received ethical approval from the Health Research Ethics Committee of Strada Indonesia, Prior to data collection, all participants were informed about the study objectives, procedures, benefits, and their rights as research participants. Participation was voluntary, and written informed consent was obtained from all participants.

This study used a pre-experimental design with a single-group pretest–posttest approach. The number of respondents was 91 students in grades VII, VIII, and IX of SMP Negeri 9 Kediri City who were selected using a purposive sampling technique. The sampling technique used in this study was purposive sampling. Participants were selected based on predetermined, inclusion criteria, including adolescents aged 12–15 years, active school enrollment, willingness to participate, and attendance throughout the intervention sessions. The research instrument was a questionnaire about the level of knowledge about sexual violence. The Good Behavior Game (GBG) intervention was conducted in one 90-minute session aimed at improving adolescents' knowledge and positive behaviors regarding sexual violence prevention. Educational materials covered the definition of sexual violence, forms of sexual violence among adolescents, the impacts of sexual violence, strategies for preventing sexual violence, an introduction to the Good Behavior Game (GBG), implementation of GBG in the context of sexual violence prevention, and reflection and evaluation activities. The intervention began with team formation, in which participants were divided into 3–4 groups consisting of 6–8 students each. Each group selected a team name and a team leader. Before the game started, the facilitator explained the

learning objectives, game rules, scoring procedures, and expected behaviors during the activity. The facilitator served as an observer, guide, and scorekeeper throughout the intervention. Good behavior rules included listening respectfully when others were speaking, avoiding ridicule or teasing, actively participating in discussions, respecting others' opinions, refraining from speaking without permission, and demonstrating positive attitudes during discussions about sexual violence. Bad behaviors included mocking peers, using inappropriate language, creating disturbances, disrupting other groups, refusing to follow facilitator instructions, and failing to participate in activities.

The gameplay mechanism involved group discussions, question-and-answer activities, and completion of learning tasks related to sexual violence prevention. Each positive behavior was awarded one point (+1), while each rule violation was recorded with a check mark (√) on the group score sheet. At the end of the session, the group with the fewest violations and the highest number of positive behavior points was declared the winner. As a form of positive reinforcement, the winning group received stickers, praise, or additional points. Furthermore, all groups received constructive feedback from the facilitator to maintain motivation and encourage positive behavior. The intervention concluded with a reflection and evaluation session to assess participants' understanding of the educational content and their experiences during the GBG activity. Data were analyzed descriptively and inferentially using the Wilcoxon Signed Ranks Test with a significance level of  $\alpha = 0.05$

## RESULTS

Table 1. Respondent Characteristics

Respondent Characteristics	Frequency (f)	Percentage (%)	Total
<b>Age</b>			
12 years old	8	8,8%	91
13 years old	30	33%	
14 years	33	36,3%	
15 years	20	22%	
<b>Gender</b>			
Man	37	40,7%	91
Woman	54	59,3%	

Based on the table above, the majority of respondents were in the 14 year age group, namely 33 people (36.3%) and in terms of gender characteristics, most of the respondents were female, namely 54 people (59.3%).

Table 2. Cross Tabulation of Knowledge Level Before and After

Respondent Characteristics	Level of Knowledge					
	Before			After		
	Good	Enough	Not enough	Good	Enough	Not enough
<b>Age</b>						
12 years old	0 (0%)	2 (6,1%)	6 (10,7%)	8 (9,4%)	0 (0%)	0 (0%)
13 years old	0 (0%)	7 (21,7%)	23 (41,1%)	27 (31,8%)	3 (50,0%)	0 (0%)
14 years	0 (0%)	11 (33,3%)	22 (39,3%)	31 (36,5%)	2 (33,3%)	0 (0%)
15 years	2 (100%)	13 (39,4%)	5 (8,9%)	19 (22,4%)	1 (16,7%)	0 (0%)
<b>Gender</b>						
Man	0 (0%)	16 (48,5%)	21 (37,5%)	35 (41,2%)	2 (33,3%)	0 (0%)
Woman	2 (100%)	17 (51,5%)	35 (62,5%)	50 (58,8%)	4 (66,7%)	0 (0%)

The cross-tabulation results show that before being given education, the majority of respondents in all age groups still had a knowledge level in the poor category, especially at the age of 14 years, as many as 22 respondents (39.3%). After being given education using media Good Behavior Game(GBG), there was an increase in knowledge in all age groups, marked by the dominance of the good knowledge category, especially at the age of 14 years, as many as 31 respondents (36.5%).

Based on gender, before the intervention, the majority of female respondents were in the poor knowledge category (35 students (62.5%), while 21 male respondents (37.5%). After the education, both male and female respondents experienced an increase in knowledge, with the majority being in the good category (35 students (41.2%) and 50 students (58.8%), respectively. These results indicate that education Good Behavior Game (GBG) is able to increase respondents' knowledge evenly across various age and gender characteristics.

Table 3. Analysis of the Influence of Educational Media Good Behavior Game (GBG)

Variabel	Mean	Manimum	Miximum	Total
Pretest	51,10	10	80	91
Posttest	91,43	70	100	91

The average pretest score was 51.10, while the average posttest score was 91.43. The minimum pretest score was 10 and the maximum pretest score was 70, while the minimum posttest score increased to 80 and the maximum to 100. This indicates that there was an increase after the education.

	Post-test - Pre-test
WITH	-8.335 <sup>a</sup>
Asymp. Sig. (2-tailed)	.000

The results of the research analysis on the level of knowledge of adolescents about sexual violence based on statistical tests using the Wilcoxon test show statistical values  $Z = - 8.335$  with significance value Asymp. Sig. (2-tailed) = 0,000. The significance value is smaller than the limit of  $\alpha = 0.05$  ( $p < 0.05$ ). Thus, the results of this analysis indicate that educational media Good Behavior Game (GBG)has a significant influence on increasing knowledge of sexual violence among adolescents at SMP Negeri 9 Kediri City, so that the research hypothesis accepted.

## DISCUSSION

Adolescents' Knowledge Level Before Being Given Education Good Behavior Game (GBG). The results of the study show that before being given education using media The Good Behavior Game (GBG), most of the results pre-test. This indicates that 56 respondents (61.5%) had a low level of knowledge regarding sexual violence. This is due to limited exposure to information related to positive behavioral control, self-management, and effective behavior- based learning strategies in the school environment. Adolescents in the cognitive and social development phase tend to still be developing self-control, thus requiring appropriate educational stimulation to enhance their understanding (Santrock, 2018).

These findings indicate that junior high school students lack a comprehensive understanding of the definition, forms, impacts, and prevention strategies for sexual violence. This limited knowledge reflects the limited exposure to reproductive health information students receive in their school and social environments. Material on sexual violence is often not presented systematically due to the perception that discussing sexual issues has the potential to cause discomfort for both educators and students.

In fact, early adolescence is characterized by rapid cognitive and social development, marked by increased curiosity and expanded social interactions beyond the family. Without adequate knowledge, this can increase adolescents' vulnerability to various forms of sexual violence, including verbal and physical abuse, and digital media-based exploitation. Low levels of self-protection literacy make it

difficult for adolescents to identify safe behavioral boundaries and report mechanisms when facing risky situations.

Conceptually, these findings can be explained through the health behavior theory proposed by Soekidjo Notoatmodjo, which states that knowledge is the initial component in developing health behavior. Individuals will not be able to demonstrate preventive behavior if they do not understand the risks and consequences of a health problem. Therefore, adolescents' low knowledge not only indicates a lack of information but also illustrates a weak foundation for developing self-protective attitudes against sexual violence. The results of this study align with a study by Kristiningrum et al. (2025) which reported that most adolescents had limited understanding of sexual violence before being given educational interventions, particularly regarding the aspects of prevention and response to threats of violence. Level of knowledge of adolescents before being given education Good Behavior Game (GBG) is still limited, so systematic and interesting educational interventions are needed so that teenagers can understand and implement the concept of positive behavior in everyday life.

Level of Knowledge of Adolescents After Being Given Education Good Behavior Game (GBG). After providing education using media Good Behavior Game (GBG), there was a significant increase in the level of respondents' knowledge with a dominant category with 85 respondents (93.4%) having good knowledge. The Good Behavior Game is a classroom-based method designed to increase positive behavior through a group reward system and behavioral reinforcement (Embry, 2002). This change demonstrates that delivering information through a game-based learning approach can increase the effectiveness of the learning process in adolescents. It not only serves as a medium for delivering material, but also serves as a learning tool. Good Behavior Game (GBG) creates learning experiences that involve students' cognitive, social, and emotional aspects simultaneously.

Active student involvement during the game encourages discussion, information exchange, and reflection on experiences among group members. This collaborative learning situation allows students to understand the material contextually, rather than simply memorizing information. This approach aligns with Social Learning Theory Developed by Albert Bandura, individuals learn through observing behavior, social interactions, and direct experience in the learning environment. Through this mechanism, the information received becomes easier to understand and more strongly remembered.

In addition to improving conceptual understanding, game-based methods can also reduce psychological barriers to receiving sensitive material. Discussions about sexual violence often evoke feelings of shame or resistance when presented formally through lectures. However, this approach The Good Behavior Game (GBG) provides a more relaxed and participatory learning environment so students can engage without social pressure. This finding is supported by research by Nugrastuti et al. (2025), which showed that interactive psychoeducational methods significantly improved adolescents' understanding of sexual violence prevention compared to passive learning methods. This success is not only due to the educational material alone, but also to the approach Good Behavior Game (GBG) is interactive, collaborative, and based on direct experience. According to an implementation analysis by O'Connor et al. (2025), the success of reproductive health promotion and sexual violence prevention in schools depends heavily on how easily teachers can adopt the curriculum and how well students receive it. GBG-based educational media fulfills these criteria by packaging complex legal, biological, and social topics into competitive yet collaborative game mechanics, ultimately leading to more stable and sustainable behavior modification. Teenagers inherently absorb information more easily when they are actively involved in the learning process Good Behavior Game they not only receive explanations but also practice the rules, work in groups, and receive immediate feedback. This makes the knowledge gained more meaningful and longer-lasting than with conventional lecture methods.

The Influence of Good Behavior Game (GBG) Educational Media on Increasing Knowledge of Sexual Violence. The research analysis shows descriptively, there was an increase in the average knowledge score from 51.10 in the pre-test to 91.43 in the post-test, accompanied by a shift in the distribution of knowledge categories from the dominance of the poor category (61.5%) to the good category (93.4%). The results of the Wilcoxon test showed a significant difference between the level of knowledge before and after the intervention ( $p = 0.000 < 0.05$ ). towards increasing adolescent knowledge about sexual violence. The consistency of the increase in knowledge scores in almost all

respondents indicates that educational intervention is the main factor contributing to changes in students' cognitive achievements. From a long-term perspective, classic research that is still relevant shows that the implementation of Good Behavior Game (GBG) can reduce risky behavior, including risky sexual behavior in adulthood (Kellam et al., 2014). This finding strengthens that increasing knowledge through Good Behavior Game (GBG) has the potential to lead to real behavioral change. This effectiveness is inseparable from the characteristics of Good Behavior Game (GBG) which integrates the principles behavioral learning, namely learning through strengthening positive behavior and active involvement of students. Preventing sexual violence cannot rely solely on passive, one-way lecturing. According to a multi-year analysis by Basile et al. (2024), school-based developmental approaches yield substantially more sustainable results over time. Interactive educational media based on the GBG framework facilitates this developmental perspective adaptively. It allows adolescents to learn through social simulations, recognize critical windows of violence exposure (Mennicke et al., 2024), and collectively build self-protective and bystander capacities right inside the classroom.

In contrast to the lecture method which positions students as passive recipients of information, The Good Behavior Game (GBG) encourages direct participation through group competition, game rules, and a reward system that enhances intrinsic motivation to learn. This is supported by recent research showing that school-based interventions can improve social skills, self-regulation, and understanding of appropriate socially normative behavior (Djamnezhad et al., 2023). This contributes to improved focus, attention, and short- and medium-term information retention. Enjoyable learning also allows for more adaptive delivery of sensitive material such as sexual violence without causing psychological stress to students.

Critically, the findings of this study indicate that the success of adolescent health education is determined not only by the content but also by delivery strategies that are appropriate to the developmental characteristics of the students. The prevalence of Good Behavior Game (GBG) across age groups and genders indicates that a game-based approach has high flexibility for implementation in school contexts. Thus, the resulting increase in knowledge can be strongly associated with the educational intervention provided.

In addition, a systematic review by Zimmerman et al. (2024) showed that GBG has high social validity and is accepted by both students and teachers as an effective learning method. This indicates that Good Behavior Game (GBG) not only increases knowledge but is also easily implemented in educational contexts. This research confirms that innovative learning methods are a crucial component in promotional and preventive efforts to prevent sexual violence against adolescents. Good Behavior Game (GBG) as an interactive educational medium not only improves health literacy but also has the potential to develop critical awareness and self-protection skills in students. Integrating this method into health education programs and School Health Programs (UKS) can be a sustainable strategy for creating a safe and responsive school environment to issues of sexual violence.

## CONCLUSION

Education using media Good Behavior Game(GBG) has been proven effective in increasing adolescent knowledge about sexual violence in junior high school students. Before the intervention, the majority of respondents had a poor level of knowledge, but after the education, there was a significant increase, with a predominance of good knowledge. Statistical analysis showed a significant difference between pre- and post-intervention knowledge levels. These findings indicate that game-based educational methods can increase student active engagement and enhance the effectiveness of health information reception, particularly regarding the prevention of sexual violence in adolescents.

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