Model of Life Skills Based Drug Education on Knowledge About Drug Use, Self-Esteem, and Assertiveness Skills Among Indonesian Adolescents at Risk

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KEYWORDS

Drug Education, Adolescents, Life Skills

ABSTRACT

Introduction: Adolescent drug abuse is a global concern, affecting young people's freedom and development. In Indonesia, illicit drug abuse has increased, causing severe social, political, and economic problems. **Methods:** A quasi-experimental design was used in this study to test the effects of life skills-based drug education on knowledge about drug use, self-esteem, and assertiveness skills. Teen participants were divided into experimental and control groups. **Results:** Language and Social Education (LSE) significantly influences students' understanding of drug use and assertiveness training while also somewhat raising their self-esteem. On the other hand, it had no appreciable impact on Indonesia's at-risk students in Semarang, Central Java Province. The report stressed that the first stages in an LSE program intended to stop teenage drug use are for students to gain knowledge and skills. To attain the best results in drug use prevention, more routes must be created. **Conclusions**: gaining information and skills improves attitudes and values, which in turn encourages drug use in a good way. Consequently, to support Indonesian students who are at risk of drug use in staying drug-free and developing into healthy, contributing members of society, these programs require further study and improvement.

1. Introduction

Adolescent drug abuse is a global concern, affecting young people's freedom and development. In Indonesia, illicit drug abuse has increased, causing severe social, political, and economic problems. In 2003, 40% of Indonesian youth were drug abusers, with 8% admitting to having tried drugs. Research shows that spending time with friends increases the risk of drug use. However, the accuracy of these data is questioned, and the actual number of drug abuse cases may be higher.

Adolescence is a crucial developmental stage during which young people become more independent and separate from their parents. Risky activities like binge drinking, driving after drinking, and drug usage are more common at this time. Teenagers start with alcohol and tobacco, go on to marijuana, and occasionally experiment with additional narcotics. They encounter new social, psychological, and academic difficulties when they start high school. They might be exposed to more drug-related social activities, better access to drug users, and increased drug availability.

Adolescent drug use has been linked to several negative outcomes, such as an increase in absenteeism, psychological discomfort, depression, and unprotected sexual behavior. It can also lead to increased problems in the classroom. Additional dangers include low self-esteem, incorrect social behavior, low socioeconomic position, subpar academic achievement, and In this study, emphasis will be placed on three components of the LSE: knowledge about drug use, enhancement of self-esteem, and assertiveness skills.

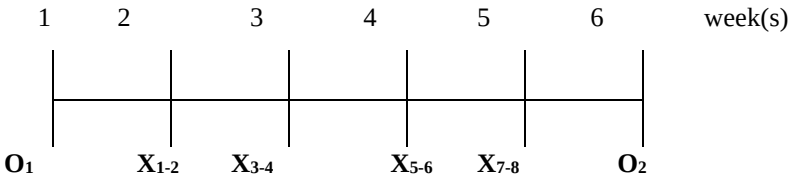
Previous studies primarily emphasized knowledge about drugs and social influences; self-esteem and feelings; and assertiveness skills (communication skills), which should enable adolescents to skillfully refuse a drug offer (Mangrulkar, Vince-Whitman, & Posner, 2002; Newcomb & Bentler, 1989; Tobler, 1994). Teaching these three components in this way promises early results on the way toward reducing and preventing serious drug use among students (Moorehouse & Tobler, 2000; United Nations Children's Fund [UNICEF], 2003). Furthermore, these components not only change the students' level of knowledge but usually also enhance their ability to translate that knowledge into specific positive behaviors (Mangrulkar, Vince-Whitman, & Posner, 2002). If implemented together, these components

have been recommended as an effective means of preventing drug use among adolescents.

2. Methodology

A quasi-experimental design was used in this study to test the effects of life skills-based drug education on knowledge about drug use, self-esteem, and assertiveness skills. Teen participants were divided into experimental and control groups. Participants in the experimental group (*n = 30*) received life skills-based drug education, whereas participants in the control group (*n = 30*) were only required to answer the questionnaires at the pre-test and post-test. Data were collected both before and after the intervention (pretest-posttest, two-group design). (Figure 1: Research Method)

Experimental group



Comparison group

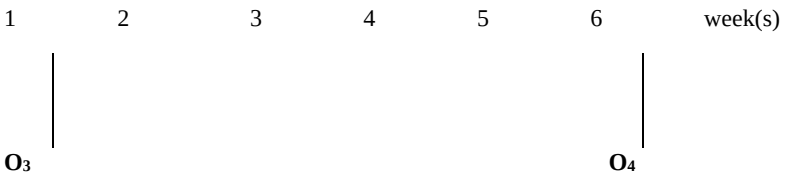


Figure 1: Research Method

O_1 refers to the data collection related to general information, knowledge about drug use, self-esteem, and assertiveness skills before the intervention (pretest) in the experimental group.

O_2 refers to the data collection after completing the intervention (posttest) in the experimental group.

O_3 refers to the data collection related to general information, knowledge about drug use, self-esteem, and assertiveness skills before the intervention (pretest) in the control group.

O_4 refers to the data collection after the intervention period (post-test) in the control group.

$X_{1\text{-}8}$ refers to the LSE activity in which the students in the experimental group participated in the LSE program for 8 sessions, which emphasized providing knowledge about drug use, training, and building up self-esteem, and assertiveness skills.

The target population in this study was students in 10th grade in the present academic year; there were about 4,480 students. These students were studying in high schools supervised by the Department of Education in Semarang, Central Java Province, Indonesia. Sample The sample in this study was composed of students who were identified as at risk for drug use based on the following criteria: Reported poor achievement at school (GPA of 2.5 or less) in the last semester, and I had never used any kinds of illegal drugs. We were members of low-income families (based on Indonesia's classification of prosperous families' levels I and II) with a total household per capita expenditure of 750,000 Rupiah per month (3100 Baht per month).

The sample size in this study was 60 students recruited from two schools (school A and school B). Among the 28 high schools in Semarang, Central Java, these two schools ranked central in terms of students' academic achievement. These two schools are in the same geographical area and have students with similar socio-economic status who are equally prone to drug abuse problems (classified by the Department of Health, Republic of Indonesia, 2004). An initial screening aimed at finding students who met the criteria found that there were 45 students at risk at school A and 37 students at risk at school B. Among the 45 students in school A, 14 were unable to participate in this study for reasons such as not

having enough time, sickness, and having dropped out of school. In the end, 30 students participated in this LSE program. From school B, 37 at-risk students were initially identified, but 7 of them could not participate in this study because of sports activities in their school, and/or they were denied permission to participate. On the flip of a coin, the students from School A were assigned to the experimental group (*n = 30*), and the students from School B were assigned to the control group (*n = 30).* So, the experimental group consisted of 30 students. According to Atherton (2003) and the United Nations Office on Drugs and Crime (2004), the number of students participating in an LSE should be approximately 20–30. Therefore, in each school, 30 subjects were randomly selected.

3. Result and Discussion

This part consists of general information concerning age, gender, religion, living status, number of siblings, and the birth order of the participants. Moreover, information related to the history of smoking among participants and their families is also presented in this part. Numbers and percentages of students as classified by socio-demographic characteristics: Age: The majority of students in both the experimental and control groups were 16 (60%), and all students ranged in age from 14 to 16 years old. In the experimental group, the youngest and eldest were 14 and 16 years, respectively. The average age in this group was 15.57 years (S.D. = +.59). In the control group, by contrast, the youngest and eldest ages were 15 and 16 years. The average age in this group was 15.60 years (*S.D.* = $\pm$.49). Gender: Most experimental and control group students were male. There were 60.0% males and 40.0% females in the experimental group. Conversely, the percentages of males and females in the control group were 56.7% and 43.3%, respectively. Religious background: Most experimental and control group students were Muslims. Only 3.3 percent of the students in the experimental group were Protestant. Living status: Most of the students in the experimental and control groups lived with their parents (83.3% and 76.7%, respectively). Only a few students in the experimental and control groups lived with other people, such as a stepmother or stepfather (3.3% and 6.7%, respectively). Number of siblings (not including the student): A majority of students in the experimental group had 1 sibling (43.3%). However, most of the students in the control group had two siblings (43.3%). Birth order: Most of the students in the experimental group were the firstborn child in their family (56.7%). Meanwhile, most students in the control group were the second child (40.0%).

The results concerning questions related to the history of smoking among participants and their families are presented. Numbers and percentages of students and their family's history of smoking. History of students smoking: Most students in both the experimental and control groups had a history of smoking (73.3% and 63.3%). History of family smoking: Most of the students' families in both the experimental and control groups had a history of smoking (80.0% and 73.3%, respectively). All of these general characteristics mentioned above were also tested for differences between the experimental and control groups by using Chi-square, and no significant differences were found.

Comparison of dependent variables (knowledge about drug use, self-esteem, and assertiveness) between the experimental and control groups before the period of intervention

An independent t-test was used to test the difference in mean scores for knowledge about drug use, self-esteem, and assertiveness between the experimental and control groups before the intervention. The results from this table show that before the intervention, the mean scores for self-esteem and assertiveness skills between the experimental and control groups were not significantly different. However, there was a significant difference regarding the mean scores for knowledge between the experimental (X = 7.90, *S.D.* = $\pm$ 1.58) and control (X = 8.80, *S.D.* = $\pm$ 1.65) groups. Before the intervention, participants in the control group had higher scores for knowledge than the experimental group.

Comparison of the mean scores of dependent variables within the experimental and control

groups before and after the intervention

A paired t-test was used to test the difference in mean scores for knowledge about drug use, self-esteem, and assertiveness within the experimental group before and after the period of intervention. In the experimental group, the results revealed that after the intervention period, the mean scores for all dependent variables knowledge about drug use, self-esteem, and assertiveness skills were significantly higher than before the intervention period at a p-*value* < 0.05. (table 1)

Table 1. Comparison of mean scores for knowledge about drug use, self-esteem, and assertiveness between the experimental and control groups before intervention

Variables	*N*	*X*	*S.D.*	*t*	*df*	*p-value*
Knowledge about Drug Use						
Experimental group	30	7.90	1.58	-2.16	58	.03*
Control group	30	8.80	1.65			
Self-Esteem						
Experimental group	30	28.30	3.02	-.64	58	.53
Control group	30	28.77	2.65			
Assertiveness						
Experimental group	30	37.17	2.96	.48	58	.63
Control group	30	36.80	2.99			

Note. *p-value <0.05

To examine the difference in mean scores for knowledge about drug use, self-esteem, and assertiveness within the control group before and after the period of intervention, the paired t-test was used. There were no statistically significant differences in mean scores for knowledge about drug use or assertiveness skills after the intervention period in comparison to before the intervention period. However, the score for self-esteem after the period of intervention (X = 30.30, $S.D.$ = +2.91) was significantly higher than the score before the period of intervention (X = 28.77, $S.D.$ = +2.65). (Table 2)

Table 2. Difference in mean scores for knowledge about drug use, self-esteem, and assertiveness within the control group before and after the period of intervention

Variables	*X*	*S.D.*	*t*	d	*df*	*p-value*
Knowledge about Drug Use						
Before the intervention	8.80	1.65	1.34	-.53	29	.19
After the intervention	8.27	1.66				
Self-Esteem						
Before the intervention	28.77	2.65	3.91	1.53	29	.00*
After the intervention	30.30	2.91				
Assertiveness						
Before the intervention	36.80	2.99	1.81	-1.23	29	.08
After the intervention	35.57	3.87				

Note. *p-value <0.05

Comparative analysis of the difference in the size of mean scores (*d*) regarding the dependent variable between the experimental and control groups after the period of intervention

An independent t-test was used to examine the difference in the increase in mean score from pretest to posttest between the experimental and control groups after the period of intervention. The findings demonstrate that the experimental group's mean score rise for drug use knowledge from before to after the intervention period (d1 = 5.37) was much greater than the control group's equivalent mean score increase (d2 = -.53). Likewise, concerning assertiveness abilities, individuals in the experimental group scored considerably better (d1 = 2.37) than those in the control group (d2 = -1.23). Regarding the rise

in the experimental group's mean self-esteem score from the pretest to the posttest (d1 = 1.87), the results indicate that this increase was marginally greater than the corresponding increase in the control group (d2 = 1.53); an independent t-test was used to compare d1 and d2, and no statistically significant difference was found.

The three outcomes drug use knowledge, self-esteem, and assertiveness skills that show how effective the LSE program is will be the main topics of discussion in this section. This study investigated the following hypotheses: Students in the experimental group will score higher on the LSE after the intervention period in terms of their awareness of drug use, self-esteem, and assertiveness abilities than they did before. In terms of knowledge about drug use, self-esteem, and assertiveness skills, students in the experimental group that took part in the LSE program will have higher mean scores (posttest minus pretest) than the control group.

Knowledge about drug use

Drug education is a crucial aspect of the LSE curriculum, aimed at preventing youth from using drugs. It helps in making decisions and establishing values and attitudes about drug use in personal and societal contexts. Increasing adolescents' knowledge about drug usage can reinforce individual characteristics and help them guard against it. Research shows that students with greater knowledge are better able to transform their ideas and knowledge into positive behaviors

The study revealed significant differences in drug usage awareness between experimental and control groups. The t-test analysis revealed that the experimental group significantly improved their posttest minus pretest mean scores of drug use knowledge compared to the control group. However, the control group's mean posttest score on drug usage knowledge dropped, as indicated by a lower posttest score than the pretest score.

The study suggests that the improvement in drug use knowledge among the experimental group was due to the integration of experiential participatory learning activities, which involve active participation in structured learning and connect life skills needed for drug use prevention with real-life situations. These methods help construct basic skills and are crucial for all other life skills components. The study also emphasizes the importance of acknowledging the credibility of teen participants, as factual information about potential hazards of drug use and how to prevent oneself from using drugs may be ignored when presented solely by teachers. Participants and their peer leaders can produce effective behavioral change by allowing them to express and investigate their attitudes and feelings with freedom, honesty, and intensity.

The study integrated various learning techniques to motivate students' interest and enthusiasm for participation, including games, brainstorming, role-play, group discussion, practicing skills, and homework. These techniques required teamwork and proved useful as students actively participated in the learning process. Group discussion allowed participants to present opinions, exchange knowledge, and answer questions. Brainstorming encouraged individual creativity and free interaction, while role-play stimulated learning experiences and exploration of social choices without experiencing the consequences. These techniques proved beneficial as they allowed students to actively participate in the learning process and work cooperatively.

The researcher focused on discussing drug-related topics with students, allowing them to voice their concerns and internalize concepts. Brainstorming was used to create an atmosphere where all participants felt free to participate, encouraging interactive learning rather than passive learning. Students were required to bring a series of questions or short responses to class to participate. Students who were nervous about spontaneous responses were more likely to talk when they could refer to their written comments. Verbalizing arguments before writing anything on paper was found to be more effective. Assigning homework activities to prepare students for discussion made them feel more comfortable. This aligns with a study by Hendayana and Imansyah (2006), which used the brainstorming method with 8th-grade students in a secondary school in Semarang. The study found

that brainstorming helped students generate innovative ideas and create a productive and enjoyable atmosphere, emphasizing student-centeredness. The research highlights the importance of student-centeredness in fostering a productive and enjoyable learning environment.

The study utilized both male and female students in a Learning English as a Second Language (LES) program. Initially, female students were hesitant to participate, but after working with males, they were fully engaged. The researcher aimed to eliminate barriers and create a lively atmosphere. The teen participants explored real situations based on their understanding of drugs. They agreed that the training course was different from their previous experiences, which were mostly boring lectures. They were afraid to reveal their feelings honestly, fearing it would affect their academic performance.

This study focuses on the effectiveness of a life skills development (LSE) program aimed at preventing drug abuse among teenagers. The results align with previous studies in Indonesia, such as NNCB (2003), YAKITA (2003), and the US, where LSE programs focused on drug abuse or smoking prevention were implemented. The experimental group showed significantly higher scores of knowledge about drug use compared to the control group. The study also supports Mc Crystal, Higgins, and Percy's (2005) longitudinal study, which found a significant reduction in drug use among students in the experimental school compared to the control school two years after the program's completion. These findings suggest that LSE programs can be effective in promoting knowledge about substance abuse among teenagers. The study found that teen participants who participated in a drug education program showed better knowledge about drug use, potentially leading to better prevention. However, the results only indicated that LSE would improve knowledge. Further research and follow-up are needed to determine if teen participants will engage in drug use and have better attitudes, values, or drug prevention behaviors. The study emphasizes the need for gradual implementation of drug education opportunities in ongoing education.

Self-esteem

Self-esteem is a crucial aspect of a person's confidence in their ability to think and cope with life's challenges. Adolescents often experience dramatic changes that threaten their self-worth. Implementing a program to enhance teens' self-esteem can prevent them from engaging in drug use. This program teaches students essential skills for increasing independence, personal control, and self-mastery. By having self-esteem, students are less likely to use drugs.

The study hypothesized that teen participants in the experimental group would show better improvement in their self-esteem scores before and after completing the LSE program. However, the results showed that the self-esteem score after the intervention was significantly higher than before. The significant mean score difference between the experimental and control groups was not supported, despite the slightly larger mean score difference in self-esteem. The statistically significant difference for the claim that the improvement of self-esteem in the experimental group was larger than that in the control group was not obtained.

The hypothesis that low socio-economic status (LSE) does not affect self-esteem improvement is premature. Factors such as family and social factors, particularly parents, can influence self-esteem. Low educational background and socioeconomic status of parents also play a role. Family self-esteem is influenced by attachment to parents and striving for a functioning family. The environment at home and relationships between youths and their parents also contribute to self-worth appraisal. Warm, supportive, understanding and caring relationships among family members can enhance self-esteem development. A study by Bunditchart (2003) found that the health status of parents was a significant factor associated with self-esteem among Thai adolescents. However, the study did not assess extrageneous factors such as the teens' perception of love from their parents and the value of parents toward their self-worth. Further assessment is needed to understand the impact of parental interaction on self-esteem. Overall, the study highlights the importance of considering various factors in enhancing self-esteem in adolescents.

The study aimed to measure self-esteem among teenagers through activities that promote it, but due to time and budget constraints, the results were only measured one week after the intervention. The experimental group's mean score might have been larger and significantly increased compared to the control group. This aligns with previous studies, such as Harmon's (1993) study that found no significant effect of LSE on self-esteem immediately after completing the program, but significant improvement at follow-up. Brown, D'Emidio-Caston, and Pollard's (1997) study on a program aimed at preventing substance use by promoting self-esteem among students in grades 7-12 showed no significant positive influence on most variables assessing students' substance use decisions. However, in the follow-up period three months later, the level of self-esteem showed significant improvement. Overall, the study highlights the need for more time and practice in real life to maximize self-esteem.

Studies have shown that self-esteem can improve immediately after experimentation, as demonstrated by YAKITA (2003) and Toonyasook (2003). In Jakarta, Semarang, Makassar, and Bali, the program was effective in building self-esteem skills among students and out-of-school youth. In Thailand, Toonyasook (2003) found that students in the experimental group had higher self-esteem skills after life skills development training, with a significant difference between the experimental and control groups. However, it is premature to conclude that LSE has no significant effect on improving self-esteem among adolescents. As adolescence is a time of growth, individual attitudes and behaviors may continue to change and develop as youth mature. Short-term evidence suggests that the program's effectiveness was not, but youth may continue practicing these behaviors for months or even years after the program ends. Further assessment of program implementation and fidelity data will help determine the specific effects produced and whether the effects will be sustained over time.

Assertiveness

The study highlights the importance of assertiveness skills in social situations, particularly drug use, in reducing adolescents' risk behavior and enhancing their ability to resist peer pressure. The effectiveness of an LSE program, which promotes skills like disagreeing, refusing, making requests, and initiating conversations, is crucial. Adolescents need these skills to resist negative peer pressure, which often affects them at this stage. Teaching these skills has been proven useful in prevention programs like those teaching adolescents to say no to sex, smoking, and alcohol. The study's LSE program taught teens specific communication techniques, allowing them to express their thoughts, feelings, and values openly and directly, acknowledging the feelings and values of others. These skills are crucial in social situations involving drug use and other real-life situations.

This study aimed to investigate the impact of an interactive learning (LSE) program on teen participants' assertiveness skills. The experimental group showed significantly higher mean scores for assertiveness skills after the intervention, and the control group showed a decrease in mean scores. The LSE program was implemented, with participants divided into sub-groups to brainstorm and discuss their thoughts on differentiating between aggressive, submissive, and assertive behaviors. They were also asked to participate in a role-play that followed a scenario for guidance related to assertiveness in assignment scenarios.

The study found that role-play was a useful strategy for teen participants, as it allowed them to practice and discuss appropriate behaviors in various situations. The results supported the hypothesis that teen participants would show significant improvement in assertiveness skills after the intervention and when compared to the control group. The LSE program was found to be effective in improving teen participants' assertiveness skills, and the study supports the application of LSE in enhancing assertiveness skills.

This study found role-play to be a useful learning activity for students, particularly in identifying peer pressure and coping with pressure situations. It also helped students recall relevant facts, understand themselves and others, apply assertiveness lessons, use feeling statements, and strive for compromise. This approach is recommended for LSE programs.

The study focused on a program that aimed to enhance students' assertiveness skills through various activities. Participants were encouraged to participate and provided feedback throughout the program. Some students reported improved ability to say "no" to drugs and increased alertness for exams. The program also helped build self-empowerment, which they had not experienced before. The best player was rewarded, as per Brown et al. (1997). Offering tangible rewards, such as books or t-shirts, was also a powerful method of influence. Homework assignments and organizational skills were also employed to strengthen assertiveness skills.

The study found that developing assertiveness skills is the most effective strategy for drug abuse prevention in adolescents, especially during crucial transition periods like high school. The study supports Botvin and Wills' claim that adequate assertiveness skills are necessary for confident, responsive, and mutually beneficial relationships. However, only a few studies have shown improvement in assertiveness skills, such as Goldsmith and McFall's 1975 study on schizophrenia patients. The results provide evidence of short-term improvements in assertiveness skills, but no long-term effects. Therefore, adequate assertiveness skills training is crucial for adolescents' confidence and relationships

4. Conclusion

According to the study, Language and Social Education (LSE) significantly influences students' understanding of drug use and assertiveness training while also somewhat raising their self-esteem. On the other hand, it had no appreciable impact on Indonesia's at-risk students in Semarang, Central Java Province. The report stressed that the first stages in an LSE program intended to stop teenage drug use are for students to gain knowledge and skills. To attain the best results in drug use prevention, more routes must be created. According to the approach, gaining information and skills improves attitudes and values, which in turn encourages drug use in a good way. Consequently, to support Indonesian students who are at risk of drug use in staying drug-free and developing into healthy, contributing members of society, these programs require further study and improvement.

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