

## Improving Understanding of Legal Regulations on the Use of Motor Vehicle Exhaust Pipes Among Students at SMAN 40 Jakarta

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### ABSTRACT

High school students, as Indonesian citizens, have a responsibility to maintain a healthy and comfortable environment, including reducing noise levels. The main problems faced by partners, in this case SMAN 40 Jakarta, are (1) limited access to legal information and (2) a lack of understanding of the legal provisions relating to the use of motor vehicle exhausts. This legal education activity aims to increase students' knowledge and awareness of the importance of complying with legal regulations related to the use of motor vehicle exhausts. This outreach activity was carried out using a participatory action research approach combined with lectures and interactive discussions. Implementing the programme significantly improved students' understanding of, and awareness of the importance of compliance with, these legal regulations. Before the counselling session, only 16% of students understood the regulations; this figure increased to 98% afterwards. Alongside this increase in understanding, there was also greater compliance with the rules regarding motor vehicle exhausts. This resulted in fewer violations and helped create a healthier environment.

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### ARTICLE INFO

#### **Article History:**

*Submitted/Received: 21-11-2025*

*First Revised: 28 December 2025*

*Accepted: 10 December 2025*

*First Available online: 31 January 2026*

*Publication Date: 31 January 2026*

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#### **Keyword :**

Legal Education

Motor Vehicle Exhaust

Noise Pollution

## INTRODUCTION

The number of motor vehicles in Indonesia, especially in urban areas such as Jakarta, is increasing rapidly every year. This growth does support people's mobility, but at the same time, it raises legal and social problems, especially related to the use of vehicle components that do not meet standards, such as noisy exhaust. The phenomenon of using non-standard exhaust by teenagers, including high school students, often causes serious disturbances in the community because the noise is unsettling, hurts health, strengthens noise pollution, and has the potential to trigger social conflicts. In terms of regulations, the use of exhaust that does not meet technical provisions is a violation of Law Number 22 of 2009 concerning Road Traffic and Transportation and Regulation of the Minister of Environment Number 56 of 2019 concerning Motor Vehicle Noise Quality Standards.

BPS data from Jakarta Province in 2024 shows that there are 12.06 million motor vehicles in Jakarta, consisting of 2.33 million passenger cars, 36,380 buses, 520,050 trucks, and 9.17 million motorcycles. This large amount certainly increases the risk of noise, especially from motorcycles and heavy vehicles. Martono's research (2004) recorded that the noise level at several points in Jakarta reached 81.53 dBA—exceeding the threshold of 55 dBA for residential areas (Decree of the Minister of Environment No. 48 of 1996). Exposure to this high noise can cause sleep disturbances, stress, and the risk of hypertension. However, students' legal knowledge and awareness of this regulation is still low. Many students view the use of noisy exhausts as part of their lifestyle or self-expression without understanding the legal consequences and their impact on society. In fact, understanding the rules from an early age has an important role in shaping orderly traffic behavior and responsibility for the environment.

The Community Service Team of the Faculty of Law, YARSI University, assesses that students of SMA Negeri 40 Jakarta have great potential to play a role in reducing noise pollution. With a proper understanding of driving rules, students are able to contribute to maintaining the quality of the surrounding environment. Legal education is a strategic means to build this awareness, especially when the rampant violations of non-standard exhaust show the urgency of educational intervention. Putra and Sulastri (2021) emphasized the importance of legal coaching for adolescents so that they understand that the use of non-standard exhaust is not only a technical problem, but also a social and legal problem.

Through legal counseling regarding the use of motor vehicle exhaust, students are expected to gain knowledge about applicable legal norms, understand the negative impact of the use of noisy exhaust, and foster awareness of obeying regulations as part of their responsibilities as citizens. This activity not only aims to prevent violations of the law, but also to form a younger generation that is more disciplined, cares about the environment, and can contribute to maintaining public order. With this understanding, students can be role models in creating a more orderly and comfortable environment. In addition, increasing legal awareness among students is expected to encourage the formation of a stronger legal culture, where people obey the rules out of awareness, not solely out of fear of sanctions.

## Problem Formulation

The problems faced include (1) in general, members of the community, in this case, students of SMAN 40 Jakarta, have not received a basic understanding of the Legal Rules in the Use of Motor Vehicle Exhaust, (2) Students have never received counseling about the Legal Rules in the Use of Motor Vehicle Exhaust

The school hopes to get counseling on this issue. It was agreed that the priorities that will be completed during the implementation of the community service program were agreed. Providing

understanding to partners about the Legal Rules in the Use of Motor Vehicle Exhaust to SMAN 40 Jakarta Students

### **Activity Objectives and Benefits**

The objectives of community service activities in the form of legal counseling are as follows: First, so that partners in this case SMAN 40 Jakarta students gain insight and knowledge about environmental law, especially about the Legal Rules in the Use of Motor Vehicle Exhaust, Second, so that partners in this case SMAN 40 Jakarta students know the development of environmental law, especially from laws regulating motor vehicle exhaust, standard exhaust, consequences of using non-standard exhaust, criminal imprisonment, fines, for those who violate the rules, and measures to overcome noise pollution. So that the realization of traffic ethics and national culture, as well as law enforcement and legal certainty.

This activity is expected to provide benefits in the form of:

- Increasing the insight and knowledge of partners, in this case, SMAN 40 Jakarta students, about environmental law, especially about Legal Rules in the Use of Motor Vehicle Exhaust,
- Increasing awareness of partners, in this case SMAN 40 Jakarta, about the development of environmental law, especially in terms of legal rules for the use of motor vehicle exhaust. So that the realization of traffic ethics and national culture, law enforcement, and legal certainty for the community.

### **Literature Review**

Legal education is an important means of building public awareness of the law, especially among teenagers who are in the process of developing their character and mindset. In the context of motor vehicle exhaust use, legal education for high school students in Jakarta is increasingly urgent, given the high number of violations involving the use of non-standard exhausts that cause noise pollution (Putra & Sulastri, 2021). Students' lack of knowledge about legal regulations and the impact of noisy exhausts reinforces the urgency of implementing legal education as a preventive tool to instill orderly and responsible attitudes.

Regulations regarding the use of motor vehicle exhaust have been expressly regulated in Law Number 22 of 2009 concerning Road Traffic and Transportation (LLAJ Law). Article 285 paragraph (1) stipulates that motorists who use the exhaust not in accordance with technical standards can be subject to criminal sanctions of imprisonment for a maximum of one month or a maximum fine of Rp250,000. In addition, the Regulation of the Minister of Environment Number 7 of 2009 affirms the noise limit for motor vehicles, which is a maximum of 80 dBA for motorcycles with a capacity of 175 cc and below. Strengthening understanding of this regulation is very relevant, considering the lack of knowledge of students about the technical provisions that are the basis for law enforcement.

Noise pollution due to the use of motor vehicles that do not meet standards is one of the increasing urban environmental problems, especially in metropolitan centers such as Jakarta. Heavy traffic activities, coupled with the rampant use of modified exhausts by teenagers, create noise disturbances that have a direct impact on public health and public order. This is where the urgency of legal counseling for high school students becomes very important, considering that the adolescent age group is one of the active motorcycle users and is prone to commit violations related to the use of non-standard exhaust.

According to the World Health Organization (2018), excessive exposure to environmental noise has significant impacts on health, including sleep disturbances, stress, and decreased cognitive function.

According to Soerjono Soekanto (2002), legal awareness includes knowledge of the rules (law awareness), understanding the content of the rules (law acquaintance), attitude towards the law (legal attitude), and legal behavior (legal behaviour). In the context of motor vehicle exhaust, these four dimensions determine the effectiveness of counseling: increasing knowledge about Law No. 22 of 2009 Article 285, understanding technical and social reasons, positive attitudes towards legal compliance, and behavior choosing standard exhausts. Without internalizing the value of the law, sanctions alone tend to cause short-term compliance.

Preventive legal education emphasizes the prevention of violations through education and the internalization of norms, rather than just the enforcement of sanctions. This concept involves understanding the impact of noise on health and the learning process, the formation of social norms, and empowering students to enforce compliance independently. Repetitive and participatory preventive programs can reduce the intention to break the rules and increase long-term compliance (Kurniawati, 2021).

### **Regulation on the Use of Motor Vehicle Exhaust**

Indonesia has quite comprehensive regulations related to technical standards for motor vehicles, including provisions regarding exhaust. Several studies show that existing regulations have not been optimally understood by the public, especially teenagers. Hidayat, Pratama, and Dewi (2023) emphasized that violations of the use of racing exhausts among teenagers occur due to a lack of understanding of the rule of law, especially Article 285 of the Traffic Law, which contains sanctions for vehicles that do not meet technical requirements. The study showed that many violators did not know that the use of non-standard exhaust was classified as an administrative offense that could be subject to fines or imprisonment.

Putra and Sulastri (2021) also found that the legal awareness of motorcyclists is still low, especially in understanding the difference between standard exhaust and modified exhaust. They emphasized the need for systematic education so that adolescents are aware of the noise limits set by the government as well as the technical and environmental reasons behind them. This is in line with the goal of legal education to build a culture of compliance with regulations, as emphasized by Putri and Hartono (2021) that students have a strategic role as maintainers of legal culture in schools and the surrounding environment.

### **Law Enforcement and Its Consequences**

Empirical studies on non-standard exhaust law enforcement show that this violation is rampant in urban areas. According to Hidayat et al. (2023), police officers face a number of obstacles in cracking down on violations, including resistance from adolescents and the lack of participation of parents and schools in educating children. On the other hand, the sanctions set by regulations are not enough to provide a deterrent effect if they are not balanced with legal education.

Santoso and Widodo (2022) emphasized that the enforcement of traffic discipline will be effective if there is synergy between educational institutions and law enforcement officials. They said that schools can be strategic partners in introducing legal provisions, including the consequences for the use of non-standard exhaust. The legal consequences are not only fines and confinement, but also vehicle confiscation and other administrative actions. Knowledge about this needs to be passed on to

adolescents so that they understand the risks of their actions.

### **Social and Environmental Impacts of Non-Standard Exhaust Use**

Stated that the use of non-standard exhaust has a significant social impact. Excessive noise often triggers conflicts between residents, especially in densely populated settlements. Many people consider noisy, exhausted motorcycles as a form of disrespect for public order and comfort. Adolescents are the group most often involved in these actions for lifestyle reasons or a desire to stand out (Fauzan, 2023). Noise caused by the use of non-standard mufflers is classified as noise pollution that threatens public health. Wulandari and Rahmat (2020) explain that traffic noise can cause sleep disturbances, stress, hypertension, and decreased concentration in students. Suryani, Arifin, and Ningsih (2022) found that areas with heavy traffic have higher health risks, especially due to chronic noise exposure. Their research proves that noise from motor vehicles is one of the causes of increasing health problems in cities.

This context is particularly relevant for high school students in Jakarta, given that many schools are located near major highways. Therefore, understanding the noise from motor vehicle exhaust is an important aspect of environmental and legal education.

### **Sources of Noise Pollution and Its Relationship to Adolescent Behavior**

Noise pollution in Jakarta comes not only from traffic congestion, but also from the behavior of young motorists who modify the exhaust to produce loud noises. According to Fauzan (2023), the main motivation of teenagers to use racing exhaust is to show group identity and express themselves, so their actions are more symbolic than functional.

Hidayat et al. (2023) show that violating behavior is influenced by low legal awareness, lack of technical understanding of vehicles, and lack of education in the school environment. Kurniawati (2021) emphasized that legal education, especially provided in the form of interactive counseling, can improve students' understanding of traffic regulations, including noise limits and the consequences of violating behavior.

### **Legal Education in Building Legal Awareness Among Students**

Legal education plays an important role in raising traffic awareness among students, especially regarding the use of standard mufflers. Kurniawati (2021) shows that structured legal education not only increases knowledge but also influences attitudes and behavior. This is in line with the views of Putri and Hartono (2021), who emphasize that high school students can become agents of change when they understand the rules, legal consequences, and social impacts of violations, enabling them to influence their surroundings.

Beyond academic aspects, the effectiveness of legal education will increase through collaboration between schools and law enforcement officers, as stated by Santoso and Widodo (2022). Cooperation in the form of counseling, simulations, and educational raids has proven to be more effective than theoretical learning alone. Health findings from Suryani et al. (2022) and Wulandari and Rahmat (2020), which emphasize the dangers of noise, reinforce the urgency of interdisciplinary counseling, so that a comprehensive educational approach can be developed based on the synergy between legal and health aspects.

Two international studies show that school-based legal education can improve legal literacy and ethical awareness among adolescents. First, according to Tyler and Trinkner (2018), trust in the law

increases when adolescents gain hands-on understanding through legal education programs relevant to their daily lives. Interactive legal education has been shown to increase voluntary compliance. Second, research by McNeal and Dunbar (2019) found that legal education in high schools significantly increases knowledge of traffic regulations and reduces deviant behavior among adolescents. They emphasize that legal education not only increases knowledge but also shapes moral perceptions about the importance of obeying the law for the public good. These two international findings strengthen the argument that legal education for high school students in Jakarta is a strategic and evidence-based step. .

## METHOD

To realize the PKM program plan, the team established the following work procedures: first, developing an Activity Plan: At this stage, the team developed a plan that began with a team coordination meeting, correspondence, identification of criteria, resource persons, activity schedule, submission of the YARSI University PKM budget proposal, implementation of the outreach program, monitoring and evaluation, and preparation of activity reports and scientific articles for national journals/mass media.

Second, hold an implementing team coordination meeting: At this stage, the team will hold a meeting to divide tasks, such as scheduling preparatory coordination meetings, submitting the YARSI University PKM budget proposal, implementing monitoring and evaluation, and compiling reports so that everything can run according to the predetermined plan.

Third, compiling the PKM Activity Schedule: The PKM program is planned to last for 10 months, starting with preparation, program implementation (socialization, monitoring, and evaluation, and preparation of activity reports), and ending with the writing of scientific articles for PKM journals with an ISSN. Fourth, Implementation of Legal Consultation: Consultation was conducted in the hall of SMAN 40 Jakarta

Fifth, Implementation of Monitoring and Evaluation: Monitoring was carried out by the proposing team, while the evaluation function aimed to assess all program activities from the beginning to the implementation in the field and measure success indicators. This is intended as material for the preparation of reports and recommendations, which are part of the action plan for the sustainability of the YARSI University PKM program.

The method of implementing these activities was generally carried out in three stages and ran smoothly. This method can be seen in detail in Figure 1.



**FIGURE 1.** Activity Stage

Counseling was conducted using a participatory action method supported by lectures and discussions. This method was used to deliver cognitive counseling material. Legal counseling material included: motor vehicle emission regulations, noise pollution, sources of noise pollution, the impact of noise pollution, and solutions to overcome noise pollution.

This method is applied with 40% of the time allocated for lectures or material delivery, while the remaining 60% is used for discussions and question and answer sessions. Before additional material is

delivered, a pre-test questionnaire is distributed, followed by an intervention in the form of material on Motor Vehicle Emission Regulations, which is delivered through socialization using the lecture method.

### Troubleshooting Framework

Based on the description mentioned above, this counseling was carried out so that the participants, namely school students and teachers, could increase their knowledge about the legal rules of motor vehicle exhaust, so that the knowledge obtained could contribute to efforts to support the achievement of security, safety, order, and smooth traffic and road transportation to support economic development and regional development.

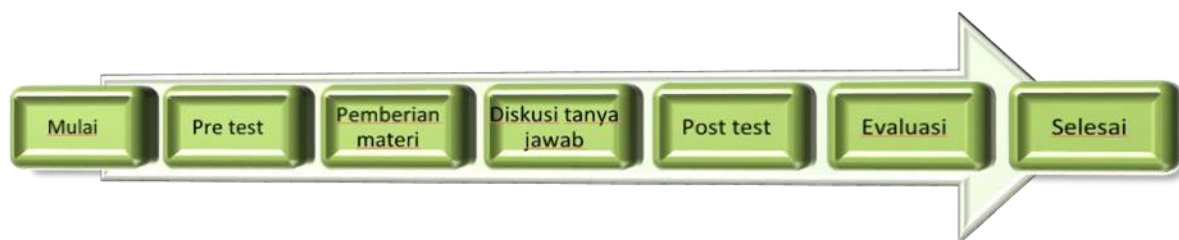
### Realization of Problem Solving

Counseling activities were carried out by introducing a team of resource persons to build familiarity with the target audience, as well as providing pre-test questionnaires. Furthermore, the provision of counseling materials begins with the provision of knowledge about the laws that regulate motor vehicle exhaust, standard exhaust, the consequences of using non-standard exhaust, imprisonment, fines for those who violate the rules, and actions to overcome noise pollution. Participants were given time to conduct a question-and-answer session after the material was delivered. Before the event was closed, participants were also given a final test (post-test). As previously explained, there are 3 (three) divisions of material provided in this counseling. The material was delivered alternately by the speakers, as lecturers at YARSI University.

### Target Goal

The strategic target audience reached in this community service activity is students of SMAN 40 Jakarta

### Implementation Method



**FIGURE 2.** Flow chart

This activity was carried out using a participatory action method supported by lecture and discussion methods. This method is used to deliver cognitive counseling materials such as students' awareness to obey the rules as part of a good citizen's obligations, the legal rules of motor vehicle exhaust, noise pollution from motor vehicles, sources of noise pollution, the impact of noise pollution, and solutions to overcome noise pollution. The application of this method uses 40% of the time for lectures or material delivery, while the remaining 60% is used for discussions and questions and answers.

### **Time and Place of Activity**

The counseling activity was held on Monday, June 16, 2025, and took place from 13.00-15.00 WIB. The activity took place in the Hall of SMAN 40 Jakarta. which is located on Jl. Budi Mulia No.8A 8, RT.8/RW.11, Pademangan Bar., Pademangan District, North Jakarta, Special Region of Jakarta 14420. This activity was attended by 50 participants, consisting of students and teachers

### **Facilities and Tools Used**

The presentation by the resource person was delivered in the form of a PowerPoint. Participants received snack books and souvenirs, while schools received active speakers from YARSI University. Participants were very enthusiastic about participating in this activity, with many questions. The activity hall has been equipped with computers, projector slides, and a good sound system, making it easier to present. The activity material and the sound are clear when the question and answer process between the participants and the speaker takes place. Although there was a slight disruption of the internet, the counseling activities went very well without any significant obstacles.

### **Parties Involved**

The parties involved in this activity were the YARSI Foundation, the Rectorate and Dean, as well as FHUY Lecturers as resource persons. The YARSI Foundation has facilitated this activity in the form of funding. The Rectorate and the Faculty of Law, YARSI University have fully supported this activity by providing PKM information in the form of PKM seminars and counseling proposal selection activities, and correspondence needed in the implementation of this legal counseling activity.

### **Obstacles Faced and Efforts to Solve Them**

There are no significant obstacles in the implementation of this legal counseling activity. It's just that it takes time to adjust each other's activity schedules between the students' activity schedules and the resource person's activity schedules.

### **Benchmark Success**

This activity received support from the Principal, Vice Principal, and teachers. This activity was successfully attended by 50 participants, consisting of students and teachers.

## **RESULTS AND DISCUSSION**

The aim of this community service activity, which took the form of legal education, was to improve students' understanding of the law at SMAN 40 Jakarta regarding the legal regulations on the use of motor vehicle exhaust pipes. The activity was a success and was received with great enthusiasm by the participants. Many questions were asked about the Legal Regulations on the Use of Motor Vehicle Exhaust Pipes. The school provided optimal facilities, while the team received a warm welcome from both teachers and students.

The counseling activity began with the introduction of the resource team as an effort to build familiarity with the target audience, as well as distributing pre-test questionnaires to find out the initial level of understanding of participants. After that, the resource person delivered legal counseling



material.



**FIGURE 3.** FHUY Community Service Team and students

The counseling activity began with the introduction of the resource team as an effort to build familiarity with the target audience, as well as distributing pre-test questionnaires to find out the initial level of understanding of participants. After that, the resource person delivered legal counseling material.

The counseling material began by delivering material about: students' awareness to obey the rules as part of the obligation of good citizens, the legal rules of motor vehicle exhaust, noise pollution from motor vehicles, sources of noise pollution, the impact of noise pollution, and solutions to overcome noise pollution. In detail, the level of students' understanding of noise pollution control can be seen in this table



**FIGURE 4.** Presentation of legal education material

Furthermore, the results of pre-test and post-test data processing, whose data were obtained before and after legal counseling activities took place. The results of this data processing consisted of 6 question materials. Questions given before and after the counseling activities, as well as the calculation of increasing understanding.

**TABLE 1.** Understanding of the legal rules of motor vehicle exhaust

Question material		Pre Test		Post Test		Increased	
1.	Laws regulating motor vehicle exhaust	5	10%	50	100%	46	92%
2.	Standard exhaust	10	20%	49	98%	43	86%
3.	Consequences of Using Non-Standard Exhaust	11	22%	50	100%	43	86%
4.	Anyone who drives a motorcycle on a road that does not meet the technical requirements and roadworthiness can be sentenced to imprisonment	9	18%	49	98%	44	88%
5.	Anyone who drives a motorcycle on a road that does not meet the technical and roadworthiness requirements can be fined at most	7	14%	48	96%	47	94%
6.	Actions to combat voice pollution	7	14%	49	98%	42	84%

Table 1 shows that after legal counseling activities were carried out, there was an increase in students' knowledge about the legal rules of motor vehicle exhaust, the results of questionnaire data processing for legal counseling participants, consisting of 50 students of SMAN 40 Jakarta. This questionnaire was given before, and after the legal counseling activities were carried out, the results of data processing were obtained as follows:

First, related to motor vehicle exhaust, it is regulated in Law Number 22 of 2009 concerning Road Traffic and Transportation. Article 285 paragraph (1) states: every person who drives a motorcycle on a road that does not meet the technical requirements and roadworthiness, which includes rearview mirrors, horns, headlights, brake lights, directional lights, light reflectors, speed measuring devices, exhaust, and depth of tire grooves as mentioned in Article 106 paragraph (3) Jo. Article 48 paragraph (2), and paragraph (3) is sentenced to imprisonment for a maximum of 1 month or a maximum fine of Rp250,000. A total of 5 people, or 10% of counseling participants, understand. After counseling, another questionnaire was given with the same question, with 50 people or 100% who understood, meaning that there was an increase in understanding of 93% related to the law regulating motor vehicle exhaust.

Second, related to standard exhaust, namely exhausts that are designed with standard sizes adjusted to the needs of the motorcycle, considering comfort and performance, as well as to minimize the gas and noise produced. As many as 10 people, or 20% of the counseling participants, understood. After the counseling was carried out, another questionnaire was given with the same question to 49 people or 98%, who understood, meaning that there was an increase in understanding of 86% related to standard exhaust.

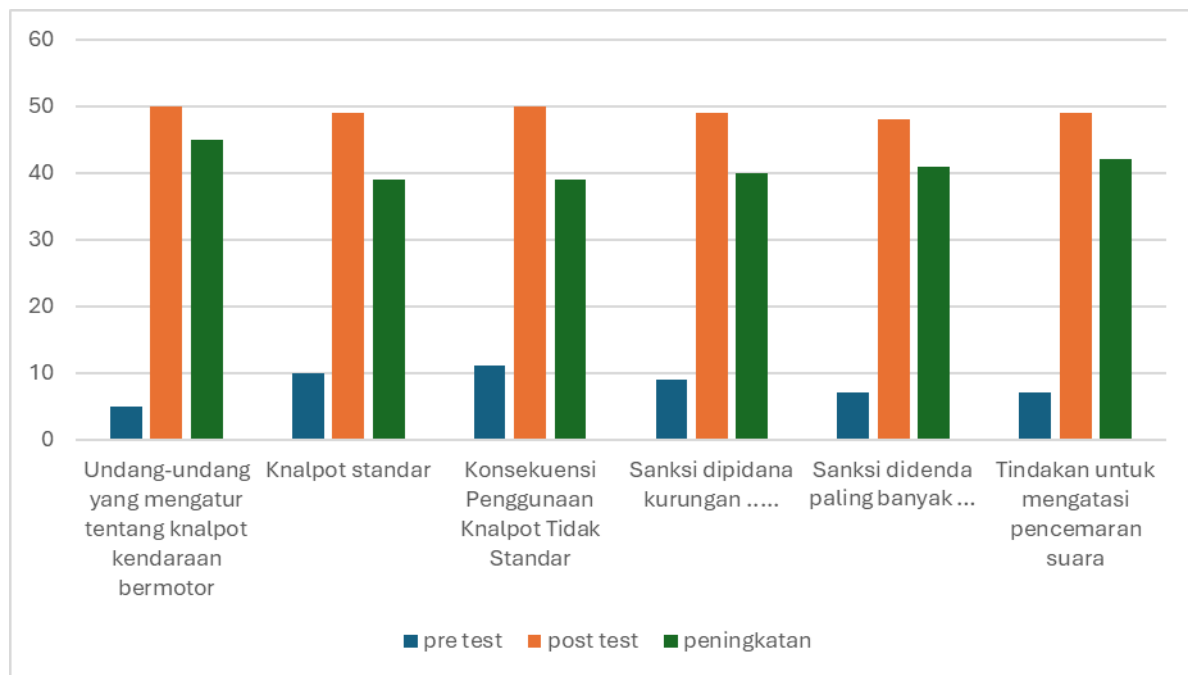
Third, related to the Consequences of Using Non-Standard Exhaust, among others, the consequences are noise and air pollution, disturbance of public tranquility, potential for tickets and legal sanctions. A total of 11 people, or 22% of the counseling participants, understood. After counseling, another questionnaire was given with the same question to 50 people, or 100% who understood, meaning that there was an increase in understanding of 86% related. Consequences of using non-standard exhaust

Fourth, related to the length of imprisonment, any person who drives a motorcycle on a road that does not meet technical requirements and roadworthiness can be sentenced to imprisonment for a maximum of 1 month. A total of 9 people, or 18% of the counseling participants, understood. After counseling, another questionnaire was given with the same question to 49 people, or 98%, who understood, meaning that there was an increase in understanding of 88% related to the length of imprisonment.

Fifth, related to the amount of fines, every person who drives a motorcycle on the road that does not meet the technical requirements and roadworthiness can be fined a maximum of Rp250,000. A total of 7 people, or 14% of the counseling participants, understood. After counseling, another questionnaire was given with the same question to 48 people, or 96%, who understood, meaning that there was an increase in understanding of 94% related to the maximum amount of fines that could be imposed.

Sixth, related to actions that can be taken by students in an effort to overcome the noise pollution of motor vehicle exhaust, is to understand and comply with the regulations, be an example for peers, and report violations to the authorities. A total of 7 people, or 14% of the counseling participants, understood. After counseling, another questionnaire was given with the same question to 49 people, or 98%, who understood, meaning that there was an increase in understanding of 84% related to the action that students can do in an effort to overcome vehicle exhaust noise pollution.

The following is an increase in student understanding presented in graphical form.



**FIGURE 5.** Increased understanding

Soerjono Soekanto's (2002) opinion regarding the four dimensions of legal awareness—knowledge, understanding, attitudes, and behaviors—is very relevant to explain the effectiveness of legal counseling on the use of motor vehicle exhaust among high school students. After the counseling is carried out, students not only gain knowledge (law awareness) about the legal basis, such as Law No. 22 of 2009 Article 285, which regulates the prohibition of the use of non-standard exhaust, but also experience increased legal acquaintance with the technical and social reasons behind the regulation, including its impact on public order and environmental health. This increase then encourages the formation of a positive attitude (legal attitude) towards the importance of legal compliance, where students begin to see the exhaust rules as not just an obligation, but part of transportation ethics.

In the end, counseling also affects students' legal behavior, which is shown through the tendency to choose standard exhaust, avoid violations, and even educate peers. Thus, the findings of increasing understanding after counseling prove that internalizing legal values is much more effective than a sanction-based approach alone, as it results in long-term and sustainable legal awareness.

The increase in student knowledge after legal counseling activities regarding the rules for the use of

motor vehicle exhaust shows that educational interventions have significant effectiveness as an instrument for forming legal awareness. This is in line with the theory of preventive legal education put forward by Kurniawati (2021), that legal counseling is a means that is able to strengthen students' understanding of legal norms through the process of internalizing values and information.

**Knowledge of the Laws Governing Motor Vehicle Exhaust.** The increase in students' comprehension scores on the material of Law No. 22 of 2009 concerning Road Traffic and Transportation, especially Article 285, shows that counseling has succeeded in providing clarification of the legal basis that is often unknown to students. The low legal awareness of adolescents is one of the reasons for the lack of exposure to technical regulations (Hidayat et al., 2023). Thus, the improvement in this aspect reflects the progress of the legal awareness development process, which is the shift from legal ignorance to legal understanding.

**Knowledge of Standard Exhaust.** Students often do not understand the technical difference between standard exhaust and modified exhaust that causes noise (Wulandari & Rahmat, 2020). The increase in post-counseling knowledge shows that students have been able to identify the characteristics of standard exhaust, such as noise level limits according to the Minister of Environment Regulation No. 7 of 2009, and its role in reducing noise pollution. Theoretically, this shows the success of the transfer of regulatory knowledge that is the basis for law-abiding behavior.

**Consequences of Using Non-Standard Exhaust** After counseling, students better understand the social and environmental impacts of noisy exhaust, such as noise pollution, health problems, and public inconvenience (Suryani et al., 2022; Fauzan, 2023). According to the theory of risk perception in legal education, understanding the real consequences can increase the likelihood of compliant behavior. Therefore, an increased understanding of the consequences of using non-standard exhaust is a positive indicator that students are beginning to understand the ecological and social dimensions of the violation.

Modifying mufflers without sound absorbers has been shown to significantly increase noise levels (Lumbanbatu, 2020). In addition, traffic noise can interfere with concentration and reduce student learning outcomes, especially in schools located near busy traffic routes (Siregar & Rahmawati, 2023).

**Understanding of Criminal Sanctions, Confinement and Fines.** After counseling, students can explain the criminal sanctions of confinement and fines as stated in Article 285 of the LLAJ Law. This increase is in line with the findings of Kurniawati (2021) that direct exposure to rules and sanctions can increase deterrence awareness. In legal compliance theory, understanding sanctions is one of the important elements that influence attitudes and behaviors (general deterrence theory). Thus, counseling has been proven to strengthen sanction-based awareness.

**Knowledge of Measures to Overcome Air Pollution.** Literature review shows that students are often unaware of mitigating measures that can be taken to reduce air pollution due to exhaust (Santoso & Widodo, 2022). After counseling, an increase was seen in students' knowledge about: the use of standard exhausts, vehicle maintenance, reporting of violations, and their role as youth environmental citizenship agents. Theoretically, this shows that counseling is able to strengthen the civic responsibility aspect of students, as discussed by Putri & Hartono (2021).

The results of the pre-test and post-test show that legal counseling not only improves students' cognitive knowledge but also affects their perception, attitude, and understanding of its social and legal impacts. These improvements can be categorized as:

- Increased legal awareness
- Strengthening the understanding of risk and social impact (risk perception theory)

- Strengthening the prevention of violations through sanction knowledge (deterrence theory)
- Increased ecological and social responsibility (environmental citizenship theory)

Thus, legal counseling has proven to be effective in forming law-abiding behavior and responsiveness to environmental issues, especially related to the use of motor vehicle exhaust that meets standards.

Following the counseling, improvements were seen in students' knowledge regarding the use of standard exhaust pipes, vehicle maintenance, reporting violations, and their understanding of their role as agents of environmental change (youth environmental citizenship). Theoretically, this suggests that counseling can strengthen students' civic responsibility, as proposed by Putri & Hartono (2021). However, learning outcomes did not improve evenly across all aspects, necessitating a critical analysis of differential learning outcomes. Data show that cognitive understanding—such as identifying standard exhaust pipes and basic legal knowledge—improved more rapidly than affective and conative aspects, including willingness to report violations and consistent vehicle maintenance. This disparity aligns with the findings of other legal education studies, which suggest that behavioral change requires a longer internalization process than increased knowledge.

The findings also revealed a knowledge-behavior gap, a situation in which students are aware of the correct norms but have not yet fully implemented them in their daily practice. For example, some students stated that they understand that using a non-standard exhaust system violates Article 285 of the Traffic and Road Traffic Law, but remain hesitant to reprimand their peers or are not yet disciplined in checking their vehicles' condition. This gap indicates that increasing legal literacy does not automatically result in stable legal behavior, so further strategies are needed to strengthen the transition from understanding to action.

To address these challenges, recommendations for strengthening program scalability need to be considered. First, the outreach model can be expanded with experiential learning approaches, such as vehicle inspection simulations, noise workshops, or sound level measurement practices, to further engage the psychomotor and affective domains. Second, ongoing follow-up mentoring programs supported by guidance counselors or school organizations can help minimize the gap between knowledge and behavior. Third, collaboration with the police, environmental agencies, and automotive communities can expand the program's reach and ensure its sustainability in other schools. Thus, scalability efforts not only increase the target audience but also deepen the internalization of legal values, thereby fostering consistent, law-abiding behavior.

## CONCLUSION

Based on the results of the initial and final evaluations, it was found that there was a significant increase in understanding after the implementation of counseling. This shows that legal counseling regarding the rules for the use of motor vehicle exhaust is an effective method in increasing students' knowledge and awareness of environmental issues. This increase in understanding is expected to be able to foster students' concern for the importance of legal awareness of high school students towards motor vehicle exhaust rules. Legal counseling is an effective preventive medium to build law-abiding character. Through this activity, students not only understand norms and sanctions, but are also moved to become agents of change in realizing a culture of orderly traffic and a more comfortable environment

Legal counseling regarding the rules for the use of motor vehicle exhaust to high school students is a strategic and urgent step in building legal awareness of the younger generation. The increase in violations of the use of non-standard exhaust that causes excessive noise shows that there is still a low

understanding of the law among students. In fact, this behavior has a direct impact on the quality of the environment, public health, and public order in urban areas.

Through the process of education and habituation of environmentally friendly behavior, it is hoped that school students will not only apply knowledge about the rules for the use of motor vehicle exhaust, which they have acquired in their daily lives, but also be able to transfer it to their families and the surrounding environment. For the development of similar activities in the future, it is suggested that there be collaboration with the police and the environmental service to hold legal counseling periodically, with interactive methods such as discussions, legal simulations, or creative competitions with the theme of traffic order, as an effort to increase legal awareness of school students, regarding the rules for the use of motor vehicle exhausts.

## ACKNOWLEDGEMENTS

The Author Would Like to Express His Gratitude and Appreciation To:

- The YARSI Foundation has facilitated this activity in the form of funding.
- The rectorate and faculty of law, YARSI University, have fully supported this activity by providing PKM information in the form of seminars on PKM and selection activities for counseling proposals, correspondence needed in the implementation of this legal counseling activity.
- Principal, vice principal, teachers, and students of SMAN 40 Jakarta, who have welcomed us well and enthusiastically in organizing this activity.

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