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SCHOOL ENVIRONMENT AND ITS INFLUENCE ON STUDENT ENVIRONMENTAL ATTITUDES

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ABSTRACT

Environmental issues are a major concern in today's society, and students, as future leaders, have the potential to drive positive environmental change. However, observations at SMA Negeri 13 Maros. revealed that students' attitudes towards environmental concern have not fully developed. This research explores how the school environment influences students' environmental awareness and ability to engage in environmentally conscious behavior. The approach used was quantitative descriptive involving 78 samples with purposive sampling techniques. The results showed that the physical environment of the school had a positive and significant effect on the attitude of the students' environment with a coefficient of B = 0.238, β = 0.330, t = 2.823, and p = 0.006 (< 0.05). Meanwhile, the school's social environment showed that it had a positive but insignificant effect, with values of B = 0.179, β = 0.204, t = 1.747, and p = 0.085 (>0.05). This shows that the physical environment of the school has a stronger influence than the social environment. These findings imply that schools should prioritize the development and improvement of the physical environment by creating more green space and building sustainable infrastructure to effectively foster students' environmentally-caring attitudes

Kata Kunci: *Altitudes, Enviromental, Influence, School*

INTRODUCTION

Environmental issues have become one of the most pressing challenges for humanity in recent decades. Climate change, pollution, biodiversity loss, and unsustainable use of resources threaten the ecological balance of the planet as well as human health and well-being (Zeng et al., 2020; Malik et al., 2023). As the next generation of leaders and decision-makers, students play a critical role in overcoming these challenges. Their attitudes towards the environment will significantly shape society's future response to environmental crises (Ali et al., 2022).

The formation of attitudes does not occur instantaneously, but is influenced by several factors including the physical and social environment. The physical and social environment have a great influence on the formation of a person's and students' attitudes. This is because the environment, both physical and social, has a great influence because they

both shape experiences, perceptions, and values that are the basis for the formation of attitudes (Vladova, 2023).

This is also supported by research that states that there is a positive relationship with increased concern for nature with the experience of time spent by a person in his or her environment (DeVille et al., 2021). Thus, fostering an attitude of environmental concern among students is essential for sustainable development (Aslam et al., 2022).

In this context, the front line as an effort to foster environmental awareness is educational institutions, which function as a critical environment to foster awareness and responsibility for the environment. School can influence students' perceptions and behaviors regarding environmental issues (Mohammadi et al., 2023). However, despite the recognized importance of environmental education, research shows that many students show limited environmental knowledge and concern. This is especially evident in Indonesia, where rapid urbanization and industrialization have intensified environmental degradation (Ali et al., 2023).

Previous studies have often focused on the general impact of education on environmental attitudes but have not explicitly examined the role that different aspects of the school environment play in shaping these attitudes among students. Research in Indonesia has largely concentrated on theoretical frameworks and policy analysis, with less emphasis on empirical investigations that explore the direct influence of the school's physical and social environment on students' environmental caring attitudes. Additionally, while many studies highlight the importance of environmental education programs, they often ignore contextual factors within the school environment that can increase or hinder student engagement with environmental issues.

This study overcomes this gap by investigating how the physical and social environment of SMA Negeri (SMAN) 13 Maros, South Sulawesi affects students' attitudes towards environmental concerns. By understanding these dynamics, education stakeholders can develop more effective strategies to promote environmental awareness among students.

The main purpose of this study is to examine the impact of the school environment on the attitude of environmental care of students at SMAN 13 Maros. Specifically, this study aims to assess the current level of environmental knowledge among students, investigate the influence of the school's physical environment, such as green spaces, facilities, and infrastructure, in fostering positive environmental attitudes, evaluate the role of the school's social environment, including peer interaction and teacher influence, in shaping students' attitudes towards environmental care, and identify effective strategies to improve the physical and social environment school to promote greater environmental awareness and responsibility among students. Addressing this goal, this study seeks to provide valuable insights into how the educational environment can be optimized to nurture a generation of environmentally conscious individuals.

RESEARCH METHODS

This study uses a descriptive quantitative approach to examine the role of the school environment in fostering students' environmental care attitudes at SMAN 13 Maros, South Sulawesi. The study was conducted between September and October 2023, targeting students from grades X to XII, with a total population of 362 students. The random sampling method (Hillary et al., 2023) was used to select 78 students, with the sample size calculated using the Slovin formula (Sasea et al., 2023).

Data was collected through a variety of methods, including observation, in-depth interviews, documentation, and questionnaire dissemination. During observation, researchers engaged in participant observation during school activities, documenting the physical and social environment associated with students' environmental behavior. Semi-structured interviews are conducted with principals, teachers, and staff to gather insights into school policies and practices regarding environmental care. In addition, photographic evidence and interview recordings enrich existing data and documents related to the school's environmental program.

A structured Likert scale questionnaire (Del Rey et al., 2022) was administered to assess students' environmental attitudes, which consisted of 15 statements categorized by level of agreement. Ethical behavior is a priority in this study; Informed consent is obtained from

participants, ensuring confidentiality and the right to withdraw from the study at any time. Ethical approval is sought from the relevant authorities before starting the research.

The data was analyzed using descriptive statistics to summarize responses and identify trends. The results of the questionnaire are expressed in percentages, and validity checks are carried out on the questionnaire items. Furthermore, multiple regression analysis (Atik et al., 2022) was applied to assess the influence of the environmental environment on students' attitudes of environmental concern.

RESEARCH RESULTS

The Role of the Physical Environment

The distribution of respondents' answers consisted of several questions related to the role of the school's physical environment for students which showed Table 1.

Table 1. The role of the school's physical environment for students

The role of the school's physical environment for students																	
Answer categories	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Total	%
SD	1	3	1			2	4	2	3	12		1			5	34	2.9
D	1	9	7		5	5	5	3	14	18	1	4		4	11	87	7.4
N	11	21	13	1	19	20	28	14	33	29	3	25	9	18	29	273	23.3
A	37	31	39	22	34	37	34	35	18	14	27	33	45	37	25	468	40.0
SA	28	14	18	55	20	14	7	24	10	5	47	15	24	19	8	308	26.3
Total	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	1170	100.0

SD: Strongly disagree. D: Disagree. N: Neutral. A: Agree. SA: Strongly agree. Q: question

Based on the results of data processing in Table 1, it is known that students who answered yes and strongly agreed were more dominant than students who answered disagree and strongly disagreed. While the students who answered hesitantly were almost balanced with the students who answered very agreed, the reason was because the role of the school's physical environment in fostering an attitude of caring for the environment of students in terms of facilities, facilities and infrastructure was still in the process of being worked on or built so that it did not look perfect for students.

The Role of the Social Environment

The distribution of respondents' answers consisted of several questions related to the role of the school social environment for students which showed Table 2.

Table 2. The role of the school's social environment for students

The role of the school's physical environment for students																	
Answer categories	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**	**Total**	**%**
SD			1		1		1	1	4							8	0.7
D	1		1	1	1	5	3	8	7	2	3	1	4	3	2	42	3.6
N	3	6	9	4	17	29	24	23	14	6	6	13	13	16	12	195	16.7
A	30	31	34	29	40	28	33	32	30	41	42	41	40	40	35	526	45.0
SA	44	41	33	44	19	16	17	14	23	29	27	23	21	19	29	399	34.1
Total	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**78**	**1170**	**100.0**

SD: Strongly disagree. D: Disagree. N: Neutral. A: Agree. SA: Strongly agree. Q: question

Based on the results of data processing in Table 2, it is known that students who answered yes and strongly agreed were more dominant than students who answered hesitantly, disagreed, and strongly disagreed. This is because the school's social environment has played a good role in fostering students' environmental care attitudes. The social environment that plays a role in this is the principal, vice president of curriculum, teachers and also school staff. They have shown an example that is worthy of being a role model for students regarding the importance of maintaining the school environment so that the role of the social environment has a role in fostering students' environmental care attitudes.

Students' Environmental Care Attitude

The distribution of respondents' answers consisted of several questions related to the attitude of environmental care of students which showed Table 3.

Table 3. Distribution of Environmental Care Attitude Scores

Students' caring attitude towards the environment																	
Answer categories	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**	**Total**	**%**
SD				1	2	1				2		1	2	1	1	11	0.9
D		3		2	12	7	2	5	2	9	9	8	1	5	7	72	6.2
N	1	5	2	5	25	7	2	28	3	28	30	10	2	15	7	170	14.5
A	22	28	35	28	33	20	39	39	42	32	32	31	22	36	38	477	40.8
SA	55	42	41	42	6	43	35	6	31	7	7	28	51	21	25	440	37.6
Total	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	1170	100.0

SD: Strongly disagree. D: Disagree. N: Neutral. A: Agree. SA: Strongly agree. Q: question

Based on the results of data processing in Table 3, it is known that most students are more dominant in answering statements of agreement and strongly agree compared to students who answer disagree and strongly disagree. This can be seen in the table that has a very different comparison, therefore it can be interpreted that the attitude of caring for the environment of students and its application to the school environment is good, this has been reflected in the daily lives of students, although there are still some students who still do not care about the environment around their school.

Classic Assumption Test

Normality test

The normality test is carried out to determine whether or not the distribution of a data is normal The normality test is carried out with the analysis of Kolmogorov Smirnov. The test results are presented as follows Table 4.

Table 4. Results of the Normality Test Statistical Data Analysis through the SPSS Program 24

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			78
Normal Parameters[a,b]		Mean	.0000000
		Std. Deviation	4.90658574
Most Extreme Differences		Absolute	.098
		Positive	.052
		Negative	-.098
Test Statistic			.098
Asymp. Sig. (2-tailed)			.059[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: Results of Statistical Data Analysis through the SPSS.24 Program (2024)

Based on the analysis of the data normality test in Table 4 above, it is known that the significance value of Asiymp.Sig (2-tailed) of 0.059 is greater than 0.05. Therefore, in accordance with the basis for decision-making in the normality test of the kolmogorov-smirnov data above, it can be concluded that the variables of the role of the physical environment of the school (X1), the role of the school social environment (X2), and the attitude of caring for the environment of students (Y) are declared to contribute normally because they have met the requirements of the normal test. Thus, the assumption or normality requirement in the regression model has been met.

Multicollinearity Test

The Multicollinearity test aims to test whether the regression model determines the existence of a correlation (strong relationship) between independent variables or independent variables. The test results are presented as follows Table 5.

Based on Table 5 above in the "Collinearity Statistics" section, it is known that the tolerance value for the variables of the role of the physical environment of the school (X1) and the role of the social environment of the school (X2) is 0.766 greater than 0.10. while the VIF value is 1.306 indicating that the VIF value is less than 10.00.

Table 5. Multicollinearity Test Results through the SPSS 24 program

Coefficients[a]

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.000		
	School Physical Environment	.006	.766	1.306
	School Social Environment	.085	.766	1.306

a. Dependent Variable: Attitude of caring for the environment of students

Source: Results of Statistical Data Analysis through the SPSS Program.24

Therefore, referring to the basis of decision-making in the multicollinearity test, it can be concluded that there are no symptoms of multicollinearity in the regression model.

Heteroscodosticity test

The Heteroscedasticity test aims to test whether in the regression model there is a variance of variance from the residual value of one observation to another. The test results are presented as follows Table 6.

Tabel 6. Heteroscedasticity Test Results through the SPSS Program 24

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	T
1	(Constant)	.968	3.195		.303
	School Physical Environment	-.022	.046	-.061	-.465
	School Social Environment	.071	.057	.164	1.255

Model		Sig.
1	(Constant)	.763
	School Physical Environment	.643
	School Social Environment	.213

Source: Results of Statistical Data Analysis through the SPSS Program.24

Based on the analysis of the heteroscodosticity test in Table 6 above, it is known that the sig result of the School Physical Environment (X1) variable is 0.643 greater than 0.05 and the sig result of the School Social Environment (X2) variable is 0.213 greater than 0.05, so it can be concluded that Variables X1 and X2 are declared not heteroscodostious.

Autocorrelation test

The Autocorrelation test aims to test whether in the linear regression model there is a correlation between the disruptive error in the period t and the disruptive error in the period r-1 (previously). If there is a correlation, then there is an autocorrelation problem. The test results are presented as follows Table 7. Based on the results of Table 7, it is known that the Durbin-Watson value (d) is 1.689. Furthermore, the value that will be a comparison is found in the Durbin Watson table at a significance of 5%, then the value on the durbin watson table dL is 1.5801 and dU is 1.6851. The Durbin-Watson value (d) of 1.689 is greater than the upper limit (dU) which is 1.6851 and less than (4- dU) 4-1.6851= 2.3149. Therefore, as the basis for decision-making in the Durbin Watson test above, it can be concluded that there are no problems or symptoms of autocorrelation.

Tabel 7. Autocorrelation Test Results through SPSS 24

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.464[a]	.216	.195	5.012	1.689

a. Predictors: (Constant), School Social Environment, School Physical Environment

b. Dependent Variable: Attitude of caring for the environment of students

Source: Results of Statistical Data Analysis through the SPSS Program.24

Multiple Linear Regression Analysis

The purpose of using multiple linear analysis is to find out how much influence the variable (X) variable (Y) has. The results of multiple linear regression are as follows Table 8.

Tabel 8. Multiple linear analysis results through the SPSS program24

Coefficients	Unstandardized Coefficients	Standardized Coefficients		T	Sig.
	B	Std. Error	Beta		
(Constant)	36.707	5.789		6.341	.000
Physical environment of the school	.238	.084	.330	2.823	.006
The social environment of the school	.179	.102	.204	1.747	.085

Source: Results of Statistical Data Analysis through SPSS.24

Based on the data seen in Table 8, it can be seen that the value of the multiple linear regression constant is 36.707 with the value of the regression coefficient of the role variable of the school physical environment 0.238 and the value of the role coefficient of the school social environment 0.179. So by referring to the formula of the multiple linear regression equation Y = a + b1X1 + c2X2, the multiple linear regression equation can be formed as follows:

Y = 36.707 + 0.238.X1 + 0.179.X2

So from this equation it can be translated that the constant of 36,707 states that if there is no value of the role of the physical environment and the social environment for students, then the value of the attitude of caring for the environment of students is 36,707. Regression coefficient (X1) The role of the physical environment for students is 0.238 stating that every addition of 1 value of the role of the school physical environment (X1) then the value in fostering the attitude of caring for the environment of students is 0.238. The regression coefficient (X2) of the role of the social environment for students was 0.179. states that every addition to the value of the role of the school social environment (X2) will be 0.179 in fostering the attitude of caring for the environment of students.

Referring to Table 10 above, it can be seen that the value of Std. Residual (standardized residual) is the residual value that has been standardized. This research has an STD value. The residual for the role of the physical environment is 0.330 and the role of the social environment is 0.204. Thus, it is in accordance with the theory that if the value of std. The closer the residual is to 0, the better the regression model is in making predictions, and conversely, the farther away from 0 or more than 1 or -1, the worse the regression model is in making predictions, so it can be concluded that the regression model plays the role of the school environment as a source of geography learning in fostering an attitude of caring for the environment of SMA Negeri 13 Maros students is good at making predictions.

Hypothesis

Partial (T-test)

The t-test aims to find out whether or not there is a persial influence given by variable (x) on variable (Y). Based on the data seen in Table 9 which displays t-test data which aims to find out whether there is a real (significant) influence of each variable. Where the Sig. value of the role variable of the school physical environment for Students (X1) is 0.006.

Tabel 9. Results of the t-test through the SPSS program 24

Coefficients[a]

Model		Unstandardized Coefficients	Standardized Coefficients		
		Std. Error	Beta	T	Sig.
1	(Constant)	6.707	5.789	6.341	.000
	School Physical Environment	.238	.084	.330	2.823	.006
	School Social Environment	.179	.102	.204	1.747	.085

Source: Results of Statistical Data Analysis through the SPSS program.24

Because the Sig. value of 0.006 < a probability of 0.05, it can be concluded that H1 or the first hypothesis is accepted, which means that there is an influence on the role of the school's physical environment (X1) on fostering the attitude of caring for the environment of students (Y). As for the Sig. value, the role variable of the school social environment is 0.085. Because the value of Sig. is 0.085> probability is 0.05, it can be concluded that H2 or the second hypothesis is not accepted, which means that there is no influence of the school social environment (X2) on fostering the attitude of caring for the environment of students at SMAN 13 Maros.

Simultaneous (f-test)

The F test aims to find out whether there is a simultaneous influence (together) given by variable (X) on variable (Y).

Tabel 10. Results of the F Test through the SPSS.24 program

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	518.071	2	259.036	10.312	.000[b]
	Residual	1884.044	75	25.121		
	Total	2402.115	77			

Source: Results of statistical data analysis through the SPSS 24 program

Based on Table 10, it is known that the Sig. value is 0.000. Because the Sig. value is 0.000 < 0.05, then in accordance with the basis of decision-making in the F test, it can be concluded that H1 is accepted, or in other words the physical environment of the School (X1) and the social environment of the School (X2) simultaneously have the influence of the variable of the attitude of caring for the environment of the student (Y). Based on the decision-making guidelines, it can be seen that the value of F calculation is 10, 312 and F of table (2; 75) is 3.12. Because the value of F is calculated as 10.312 is greater than the F of table 3.12, it is the basis for decision-making that H0 is accepted, or in other words the physical environment of the school (X1) and the social environment of the school (X2) simultaneously lead to the attitude of caring for the environment of the students (Y).

Determinate (R2)

The determination coefficient aims to find out what percentage of the influence of the variable (X) is given to the variable (Y). The following is the output of the determination coefficient Table 11.

Referring to Table 11, it can explain the magnitude of the regression value or influence (R) which is 0.464 and the value of the determination coefficient (R2) of R Square is 0.216. Therefore, the multiple determination coefficient test was obtained from the calculation of multiple linear regression, so the determination coefficient of 0.216 or R2 × 100% was 21.6%, which contains the understanding that the influence of the variables of the school physical environment (X1) and the school social environment (X2) together affected the variables of waste management behavior by 21.6%, and the remaining 78.4% was influenced by other variables that were not included in this study.

Tabel 11. Determination Test Results through the SPSS program.24

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.464[a]	.216	.195	5.01204	1.689

a. Predictors: (Constant), School Social Environment, School Physical Environment
b. Dependent Variable: Attitude of caring for the environment of students

Source: Results of statistical data analysis through the SPSS 24 program

DISCUSSIONS

Students' Environmental Care Attitude

Broadly speaking, from the results of the research obtained, it is known that students already understand the principles of environmental insight, how to protect the environment so that the quality of the environment is maintained and how to make good use of the environment. However, there are also students who do not understand that humans have an important role in creating environmental sustainability and negative actions that can affect the environment.

Although the school has set a good example and given an understanding of the importance of maintaining the cleanliness of the environment, there are still many students who do not apply what they understand and there are still many who are ignorant. This is important to follow up by providing a special approach to students who always violate school rules and providing affirmation in the form of consequences so that school rules can be obeyed. This is supported by the data from the results of an interview with the Vice President of Curriculum of SMA Negeri 13 Maros which stated that there are still some students who are found not to comply with school rules and do not care about the importance of maintaining the cleanliness of the school environment, this is reflected in the activities of students who still throw garbage carelessly and are unable to take good care of the plants in the school and do not maintain the cleanliness of the facilities and infrastructure that have been prepared by the school. This is because there are still students who are not given special learning about the environment, namely students who do not learn geography subjects, therefore, every teaching staff is expected to be able to mention the application of environmental cleanliness considering that schools have a vision and mission leading to the environment, including in keeping the environment clean, safe and peaceful.

The school is still trying to ensure that the rules regarding school cleanliness are always applied, this can be seen from the school's business that has established clean living habits by implementing the clean Friday program. As well as providing adequate facilities to support the implementation of environmental care for students. The formation of an attitude of caring for the environment of students does not only arise from the results of learning within the scope of the school but can be formed from outside the school, namely based on the daily life experiences of students outside the school such as the family environment and also the community environment where they live. So that as a teacher, he can easily direct students who are used to the attitude and good character that he has that he has brought to his family environment.

Based on the results of the research obtained, a good attitude of caring for the environment can be influenced by the level of education. As high school students, most of the respondents have understood that the environment needs concern from everyone so that the existing environment can be maintained and not damaged. One of the factors that affect a person's attitude and behavior is education. So that the level of education affects a person's knowledge, where the higher the level of education, the better the knowledge a person has. A person who has a good level of education, has a good possibility of knowledge so that he can show better behavior towards the surrounding environment compared to someone with low education.

Respondents with a high school education level tend to give an idea that respondents have enough ability to preserve the environment, including the school environment. This condition is supported by the theory of Notoatmodjo (2010) which says

that education level one of the factors that affects it is behavior. This is also in line with research conducted by Masruri (2014) which states that the behavior of less concern for the environment is more caused by a lack of knowledge about the impact of these behaviors on the environment.

Meanwhile, the respondents' behavior in showing concern for the social environment is also included in the good category because based on the results of the processing and analysis of the data obtained, most students are more dominant in answering yes and strongly agreeing compared to those who answer hesitantly, disagreeing and strongly disagreeing. In addition, the behavior of respondents in the social environment that the researcher observed during the implementation of PPL 2 and research at the school tended to have good relationships with friends at school and teachers. School friends are a social environment that must be maintained and appreciated so that harmony is created in the social environment. The social environment such as friends plays a role in the formation of the character of the attitude of caring for the environment of students, even gives the highest role in the formation of the character of the attitude of caring for the environment of students, because students get more or spend more time by interacting with their social environment, for example most students after returning from school they are used to not going home directly to their respective homes. rather, they often gather with their friends first, so that in the formation of the character of environmental care attitudes, these students are formed in a social group, both outside school hours and during school hours.

Based on the results of the study, it can be seen that the implementation related to students' environmental care attitude has been implemented by getting used to maintaining the cleanliness and sustainability of the school environment and implementing the clean Friday program. However, related to education in general in the scope of schools does not exist. And only certain classes learn about environmental conservation in geography subjects, namely social studies classes. Therefore, school policies, teachers' creativity and geography learning materials have an influence on the aspect of knowledge related to the importance of protecting the environment for students.

The Influence of the School Environment in Fostering a Caring Attitude of Pesert Didik

The results of the study showed that most students were more dominant in choosing to agree and strongly agree compared to students who were hesitant, disagreed, and strongly disagreed. Based on the behavior criteria table, if the interval (%) is at 41%-60%, it is included in the medium category, where the respondent's answer tends to be positive which leads to that he tries to maintain the cleanliness of the school environment by not littering and trying to maintain the cleanliness of the school sewers periodically, if students see garbage on the street he will pick it up and throw it in the trash can and not let the grass grow wild in the school yard.

This data is supported by the results of a joint interview with the Vice President of Curriculum, from the results of the interview it is known that the attitude and behavior of students in maintaining the cleanliness of the environment has been seen when given a good example and motivation by the teacher. Not only that, providing facilities and infrastructure also supports the creation of good attitudes and behaviors for the school environment, and it has all been done by the school. In addition, the role of teachers in terms of forming attitudes is relatively high, this is also strengthened by the role of teachers as school citizens who interact with students the most. These results show that direct interaction has a strong relationship as teachers become motivators and parents for students at school to be able to provide direction where the formation of a good attitude towards the environment can be through direction, motivation, and inspiration. These directives are always obeyed well when running the clean Friday program at school.

The results of the study illustrate that the activity of habituating exemplary is upheld by school principals and educators. Principals and teachers are people who often interact at school, try to be role models for their students and be good examples in schools, especially educators who interact more often with students. Students are shown a good example every day by the principal and also educators, for example in the use of clean and neat school clothes in accordance with the applicable rules, and

smoking is prohibited in the school environment. In addition, the examples given also include inviting students to always carry out the clean Friday program implemented by the school, participate in cleaning the room, dispose of garbage in its place, and take care of and plant plants in pots or in school gardens. They can mirror and do it. This adjustment cannot be separated from the arrangement of adequate scope in schools to form the character of students. They can imitate and do these habits if they are inseparable from the provision of adequate facilities and infrastructure in schools to form an attitude of caring for the environment of students.

This is also supported by the results of research (Masruri, 2014), which states that in fostering a sense of love for school residents with their environment, including in fostering attitudes and behaviors that care about the environment, the attitude that must be formed is through the stages of knowing, acting, and also habits. Thus, in order to maintain the cleanliness of the school environment, SMAN 13 Maros held a Clean Friday by mobilizing all school residents, both students, teachers and school employees. This activity is carried out every week, each class is given the task of cleaning the mosque, cleaning the school field, park, disposing of garbage, and tidying up the plants in the school.

The physical environment has an important role in environmental concern. This is because the physical environment has a significant effect on students' environmental care attitudes which are in line with the concept of environmental psychology theory which emphasizes that physical space can affect individual behavior, perception and value towards the environment. In this study, the physical environment such as green spaces, school cleanliness plays a role as an environmental stimulus. This is also supported by research conducted by Liu & Green (2024), which revealed that children if they have massive contact with the environment have a higher tendency to be pro-environment. This can be caused by time when a person is in the environment, it will affect experiences, perceptions and values which are factors that shape attitudes.

The results of this study also highlight the social environment towards environmental concern. Inversely proportional to the physical environment, the influence of the social environment turned out to be insignificant, showing that interpersonal relationships in schools were not strong enough to form norms of behavior of caring for the environment collectively. From the perspective of social psychology, this can be explained through *social learning theory* (Fazli & Nirwana, 2025), that environmental concern behavior will only emerge when there is a consistent social model or example, such as teachers or peers who demonstrate real practices of environmental concern. Inconsistencies in the application of environmental social norms in schools can lead to weak internalization of environmental care values among students (Fazli & Nirwana, 2025).

The results of the study also show that there is a significant influence between one of the variables, namely the role of the school's physical environment in fostering students' environmental care attitudes. However, for the variable role of the school social environment, there was no significant influence on the attitude of caring for the environment of students. However, if viewed together between the two variables, namely the role of the physical environment and the social environment simultaneously leading to the attitude of caring for the environment of students, the results of the analysis also say that there are variables that are not intended in this study that affect the attitude of caring for the environment of students. As for looking at the variables that affect students' attitudes in their behavior from factors that affect them, not only from the knowledge factor but also from other factors such as family environment, personal experience, influence of others, or culture in the environment (Azwar in Fuadi, 2016), so that overall it can be concluded that there are other factors that affect students' attitudes in fostering an attitude of caring for the environment, namely facilities, facilities and infrastructure, special rules, influence of others, supportive environment, and habits.

CONCLUSIONS

The results showed that the physical environment of the school had a positive and significant effect on the attitude of caring for the students' environment, with a cophysition value of B = 0.238, β = 0.330, t = 2.823, and p = 0.006 (< 0.05). Meanwhile, the school's social

environment had a positive but not significant effect, with a score of B = 0.179, β = 0.204, t = 1.747, and p = 0.085 (> 0.05). This shows that the physical environment of the school has a stronger influence than the social environment in shaping the attitude of caring for the environment of students at SMA Negeri 13 Maros. Thus, improving the quality, sustainability, and physical application of schools such as the provision of green spaces, hygiene management, and the implementation of environmentally friendly facilities so that they can potentially strengthen students' attitudes and behaviors of caring for the environment.

RECOMMENDATIONS

For further research, it is recommended to expand other variables such as the role of teachers, curriculum, and extracurricular activities, culture, special rules, parents, habits so that a more comprehensive picture can be obtained about the factors that affect students' environmental care attitudes. In addition, the use of research designs using longitudinal or quasi-experimental approaches is also recommended to see changes in students' attitudes and behaviors over time. Further research is also needed to explore the long-term impact of the school environment on student behavior, especially outside of the school setting.

These findings emphasize the need to create an educational environment that integrates physical and social elements to promote environmental learning. Schools must improve their infrastructure to embody sustainability principles and foster a collaborative atmosphere to discuss environmental issues. By implementing these strategies, schools can play an important role in fostering environmentally responsible citizens who are ready to tackle future sustainability challenges.

REFERENCES

Acosta Castellanos, P. M., & Queiruga-Dios, A. 2022. From environmental education to education for sustainable development in higher education: a systematic review. *International Journal of Sustainability in Higher Education*, *23*(3), 622–644. https://doi.org/10.1108/IJSHE-04-2021-0167

Ali, A., Xinagyu, G., & Radulescu, M. 2023. Nonlinear effects of urbanization routes (proportion of small cities, and proportion of large cities) on environmental degradation, evidence from China, India, Indonesia, the United States, and Brazil. *Energy & Environment*, *34*(8), 3391–3416. https://doi.org/10.1177/0958305X231186843

Ali, M. I., Malik, A., & Rahim, A. 2022. Environmental Knowledge and Attitude of Coastal Community in Decision Making to Participate in Mangrove Rehabilitation in Sinjai District South Sulawesi Indonesia. *International Journal of Sustainable Development and Planning*, *17*(8), 2579–2584. https://doi.org/10.18280/ijsdp.170826

Aslam, S., Parveen, K., Alghamdi, A. A., Abbas, S., Shah, A. H., & Elumalai, K. V. 2022. Hopes for the Future: Capturing the Perspectives of Students on Higher Education and Sustainable Development in the Post-Pandemic Era. *Sustainability*, *14*(19), 12531. https://doi.org/10.3390/su141912531

Atik, A. D., Işıldar, G. Y., & Erkoç, F. 2022. Prediction of secondary school students' environmental attitudes by a logistic regression model. *Environment, Development and Sustainability*, *24*(3), 4355–4370. https://doi.org/10.1007/s10668-021-01618-3

Bagoly-Simó, P. 2023. Geography's unkept promises of education for sustainable development (ESD) on geography's wasted potential to educate for a more sustainable future. *International Research in Geographical and Environmental Education*, *32*(1), 53–68. https://doi.org/10.1080/10382046.2023.2158631

Boeve-de Pauw, J., & Van Petegem, P. 2018. Eco-school evaluation beyond labels: the impact of environmental policy, didactics and nature at school on student outcomes. *Environmental Education Research*, *24*(9), 1250–1267. https://doi.org/10.1080/13504622.2017.1307327

Buckley, P., & Lee, P. 2021. The impact of extra-curricular activity on the student experience. *Active Learning in Higher Education*, *22*(1), 37–48. https://doi.org/10.1177/1469787418808988

Del Rey, R., Ojeda, M., Mora-Merchán, J. A., Nieves Sánchez-Díaz, M., Morgado, B., & Lasaga, M. J. 2022. Environmental education: effects on knowledge, attitudes and perceptions, and gender differences. *International Research in Geographical and Environmental Education*, *31*(4), 282–303. https://doi.org/10.1080/10382046.2021.1977004

DeVille, N. V., Tomasso, L. P., Stoddard, O. P., Wilt, G. E., Horton, T. H., Wolf, K. L., ... & James, P. 2021. Time spent in nature is associated with increased pro-environmental attitudes and behaviors. *International journal of environmental research and public health*, *18*(14), 7498. https://doi.org/10.3390/ijerph18147498

Elegbede, I., Matti-Sanni, R., Moriam, O., & Emily Osa, I. 2023. Sustainability Education and Environmental Awareness. In *Encyclopedia of Sustainable Management* (pp. 1–9). Springer International Publishing. https://doi.org/10.1007/978-3-030-02006-4_128-1

Fazli, M., & Nirwana, H. 2025. Membangun Disiplin Siswa Melalui Keteladanan dan Pembelajaran Sosial: Pendekatan Teori Sosial Kognitif di Sekolah. *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, *2*(12). https://doi.org/10.5281/zenodo.15642552

Fuadi, F.I. 2016. Hubungan antara Pengetahuan dengan Sika Masyarakat Dalam Mencegah Leptospiratoris di Desa Pabelan Kecamatan Kartasura Kabupaten Sukoherjo. *Publikasi Ilmiah*. Universitas Muhammadiyah Surakarta.

Garg, A. B., & Agarwal, M. 2024. *Sustainable Innovations for Lifestyle, SDGs, and Greening Education* (pp. 359–366). https://doi.org/10.1007/978-3-031-61688-4_35

Hillary, G., Djulia, E., & Hasibuan, R. H. 2023. Analysis Critical Thinking Ability and Environmental Care Attitude of Junior High School Students on Global Warming Material. *Jurnal Penelitian Pendidikan IPA*, *9*(5), 2383–2390. https://doi.org/10.29303/jppipa.v9i5.2603

Hnatyuk, V., Pshenychna, N., Kara, S., Kolodii, V., & Yaroshchuk, L. 2024. Education's role in fostering environmental awareness and advancing sustainable development within a holistic framework. *Multidisciplinary Reviews*, *7*, 2024spe012. https://doi.org/10.31893/multirev.2024spe012

Hossain, S. F. A., Xi, Z., Nurunnabi, M., & Anwar, B. 2022. Sustainable academic performance in higher education: a mixed method approach. *Interactive Learning Environments*, *30*(4), 707–720. https://doi.org/10.1080/10494820.2019.1680392

Liu, J., & Green, R. J. 2024. Children's pro-environmental behaviour: A systematic review of the literature. *Resources, Conservation and Recycling*, *205*, 107524. https://doi.org/10.1016/j.jenvp.2022.101799

Ma, L., Shahbaz, P., Haq, S. ul, & Boz, I. 2022. Exploring the Moderating Role of Environmental Education in Promoting a Clean Environment. *Sustainability*, *15*(10), 8127. https://doi.org/10.3390/su15108127

Malik, A., Rahim, A., Jalil, A. R., Amir, M. F., Arif, D. S., Rizal, M., Husain, J., William, D., & Jihad, N. 2023. Mangrove blue carbon stocks estimation in South Sulawesi Indonesia. *Continental Shelf Research*, *269*, 105139. https://doi.org/10.1016/j.csr.2023.105139

Masruri. 2014. Pengaruh Pendidikan Kependudukan dan Lingkungan Hidup terhadap Perilaku Peduli Lingkungan. SOCIA Vol. 11 No. 1 Mei 2014: 16-32. Fakultas Ilmu Sosial, Universitas Negeri Yogyakarta

Mohammadi, Y., Monavvarifard, F., Salehi, L.,

Movahedi, R., Karimi, S., & Liobikienė, G. 2023. Explaining the Sustainability of Universities through the Contribution of Students' Pro-Environmental Behavior and the Management System. *Sustainability*, *15*(2), 1562. https://doi.org/10.3390/su15021562

Notoatmodjo, Soekidjo. 2010. *Pendidikan & Perilaku Kesehatan*. Rineka Cipta: Yogyakarta

Novarita A, Sugandhi D, Pasya GK. 2015. Peranan pembelajaran geografi dalam pembentukan sikap peserta didik terhadap mitigasi bencana gempa bumi dan longsor di Kota Padang. *Jurnal Pendidikan Geografi.* 15(1): 57.

Petkou, D., Andrea, V., & Anthrakopoulou, K. 2021. The Impact of Training Environmental Educators: Environmental Perceptions and Attitudes of Pre-Primary and Primary School Teachers in Greece. *Education Sciences*, *11*(6), 274. https://doi.org/10.3390/educsci11060274

Pirchio, S., Passiatore, Y., Panno, A., Cipparone, M., & Carrus, G. 2021. The Effects of Contact With Nature During Outdoor Environmental Education on Students' Well-being, Connectedness to Nature and Pro-sociality. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.648458

Sasea, L. I., Ibrohim, I., & Sueb, S. 2023. The relationship of environmental knowledge and environmental care attitude of students. *Inornatus: Biology Education Journal*, *3*(2), 85–91. https://doi.org/10.30862/inornatus.v3i2.426

Sunarto, S. 2023. Environmental Literacy and Care Behavior Through Adiwiyata Program at Elementary School. *AL-ISHLAH: Jurnal Pendidikan*, *15*(3), 3040–3050. https://doi.org/10.35445/alishlah.v15i3.3887

Suryani, A., Soedarso, S., Saifulloh, M., Muhibbin, Z., Wahyuddin, W., Hanoraga, T., Nurif, M., Trisyanti, U., Rahadiantino, L., & Rahmawati, D. 2019. Education for Environmental Sustainability: A Green School Development. *IPTEK Journal of Proceedings Series*, *0*(6), 65. https://doi.org/10.12962/j23546026.y2019i6.6347

Syamsul, K. 2013. *Pendidikan Karakter Konsepsi & Implementasinya Secara Terpadu Di Lingkungan Keluarga, Sekolah, Perguruan Tinggi, & Masyarakat*. Yogyakarta: Ar Ruzz Media

Vladova, I. 2023. Towards a more sustainable future: The importance of environmental education in developing attitudes towards environmental protection. In *SHS web of conferences* (Vol. 176, p. 01009). EDP Sciences. https://doi.org/10.1051/shsconf/202317601009.

Zeng, Y., Maxwell, S., Runting, R. K., Venter, O., Watson, J. E. M., & Carrasco, L. R. 2020. Environmental destruction not avoided with the Sustainable Development Goals. *Nature Sustainability*, *3*(10), 795–798. https://doi.org/10.1038/s41893-020-0555-0