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Revealing Students' Environment Care Attitudes Viewed by Different Gender and Departments

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Abstract. An attitude of caring for the environment is needed to preserve the environment. This study aims to reveal students' environmental care attitudes of different genders and departments. This research is descriptive involving 594 students from 52 schools in West Nusa Tenggara Province, Indonesia. The instrument uses an environmental care attitude questionnaire using a Likert scale of 1 to 4. This study measures five aspects of caring for the environment, aspects A1 = knowing the importance of the potential of the surrounding environment, A2 = maintaining cleanliness and beauty of the environment, A3 = realizing the benefits of protecting the environment, A4 = paying attention to environmental balance, and A5 = environmental improvement efforts. Data were analyzed using descriptive statistics and continued with one-way ANOVA analysis. The results showed that; (1) of the five aspects of environmental care, female students have a better environmental care attitude than boys ($p < .05$), (2) students in the science department have a better environmental care attitude than male students in five aspects of environmental care were observed ($p < .05$), and (3) female students in the science department had the highest mean value for environmental care, followed by male students in the science department, female students in the social department, and lastly male students in the social department.

Keywords: Gender · department · environmental care attitude

1 Introduction

Attitude combines emotional, perceptual, and cognitive processes related to environmental aspects [1]. Caring for the environment is part of the psychology expressed through expressions of liking or disliking the environment [2]. Environmental attitudes and behaviors are the roots of a sustainable future [3]. Environmental attitudes represent people's beliefs about the interconnection between humans and the environment; thus, having a positive environmental attitude enables people to identify the negative consequences of behavior on the environment [4]. Environmental care is one of the essential factors in environmental conservation [5]. Attitudes towards the environment significantly positively affect environmental, behavioral intentions, and pro-environmental behavior [6, 7].

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Most environmental problems are caused by human behavior; thus, it is crucial to understand the environmental attitudes that underlie individual behavior towards the environment [8]. Environmental care attitudes can be influenced by several factors such as environmental knowledge [9], personality [10], and demographic factors [11]. Previous studies have revealed the influence of demographic factors such as gender and majors on students' environmental care attitudes. The results of research by Gökmen [12] and Alp et al. [13] show that gender affects attitudes towards the environment, but this result contradicts the findings of Tuncer et al. [14]. Likewise, research examining departments' influence on environmental care attitudes shows that these results are mutually supportive and contradictory to one another [9]. The difference in the results of this study may be caused by the socio-cultural background of each country [9].

In Indonesia, environmental damage continues to occur while environmental awareness and behavior are still very low [15]. Not much literature examines the effects of demographics such as gender and majors on environmental care attitudes, especially in Indonesia. One of the studies that examined the role of gender on environmental care attitudes was conducted by Suhardin [16] who found that female students had a more significant concern for the environment than boys. The results of this study need to be strengthened by further research. Research that reveals the attitude of caring for the student's environment and the factors that influence it needs to be done. This study aims to reveal students' environmental care attitudes of different genders and department.

2 Method

This research is descriptive [17]. This research describes the environmental care attitude of students of different genders and departments. The study population was 594 high school students consisting of 239 male students and 355 female students with two different departments, namely the science department, with as many as 299 students, and the social department, with as many as 295 students. Students came from 52 randomly selected schools from three regions, namely the islands of Lombok, Sumbawa, and Bima, West Nusa Tenggara.

The research instrument used a student environmental care attitude questionnaire consisting of 23 statements with five indicators or aspects. The questionnaire consists of four answer choices, namely 4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree. The questionnaire has met the criteria of good validity and reliability [18]. There are five indicators or aspects of environmental care that are measured in this study, namely aspects A1 = knowing the importance of the potential of the surrounding environment, A2 = maintaining cleanliness and beauty of the environment, A3 = realizing the benefits of protecting the environment, A4 = paying attention to environmental balance, and A5 = environmental improvement efforts. The data in the form of scores are then transformed into percentages [19] and then analyzed descriptively [20] to find N, the average value, and the total. Finally, the data were analyzed using one-way ANOVA [21] to determine the differences in students' environmental care attitudes in different genders and departments. The whole process of data analysis was assisted using SPSS for windows software [22].

3 Result and Discussion

3.1 The Student's Environment Care Attitude of Different Genders

The profiles of five aspects of students' environmental care attitudes of different genders are shown in Table 1.

Table 1 shows that female students have a better environmental care attitude than male students for all aspects of environmental care ($p < .05$), namely in aspects A1 (knowing the importance of the potential of the surrounding environment), A2 (maintaining cleanliness and beauty of the environment), A3 (realizing the benefits of protecting the

Table 1. The results of measuring five aspects of students' environmental care attitudes

Aspects	Gender	N	Mean	ANOVA					
					Sum of Squares	df	Mean Square	F	Sig.
A1	Male	239	84.7699	Between Groups	2555.914	1	2555.914	40.207	.000
	Female	355	89.0000	Within Groups	37632.343	592	63.568		
	Total	594	87.2980	Total	40188.258	593			
A2	Male	239	85.7741	Between Groups	2902.262	1	2902.262	36.793	.000
	Female	355	90.2817	Within Groups	46697.380	592	78.881		
	Total	594	88.4680	Total	49599.642	593			
A3	Male	239	86.7155	Between Groups	3574.959	1	3574.959	41.827	.000
	Female	355	91.7183	Within Groups	50598.484	592	85.470		
	Total	594	89.7054	Total	54173.443	593			
A4	Male	239	77.7981	Between Groups	4147.401	1	4147.401	38.443	.000
	Female	355	83.1866	Within Groups	63867.646	592	107.885		
	Total	594	81.0185	Total	68015.046	593			
A5	Male	239	81.2762	Between Groups	4429.776	1	4429.776	54.236	.000
	Female	355	86.8451	Within Groups	48352.253	592	81.676		
	Total	594	84.6044	Total	52782.029	593			

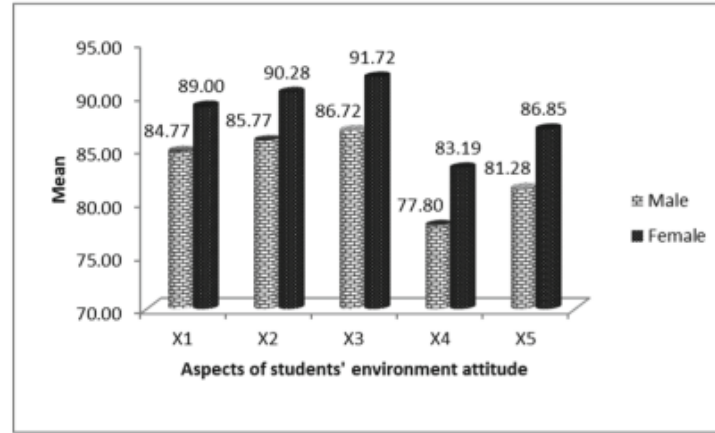


Fig. 1. Comparison of female and male students' environmental care attitudes on five aspects

environment), A4 (paying attention to environmental balance), and A5 (environmental improvement efforts). These results strengthen the findings of Sukri et al. [9], which revealed that women have higher environmental knowledge than men. Table 1 and Fig. 1 also indicate that female students' environmental care attitudes in two aspects, A2 and A3, show the highest scores compared to the other aspects, with scores of 90.28 and 91.72, respectively. Aspects A2 and A3 relate to maintaining the cleanliness and beauty of the environment. These results indicate that female student are more concerned about cleanliness than boys. According to Sarkawi et al. [23]; this is probably due to the concept of cleanliness as a woman's responsibility which is instilled since childhood, which causes women to like cleanliness compared to men. This can also be seen in the A4 aspect (paying attention to the balance of the environment) with the gap in grades between male and female students, which is quite far. The results of this study are also reinforced by the findings of Dhenge [24], who revealed that women have a better attitude toward environmental protection than men.

3.2 The Student's Environment Care Attitude of Different Department

The results of ANOVA differences in students' environmental care attitudes in five aspects of observation are shown in Table 2.

The results in Table 2 show differences in students' environmental care attitudes for the five aspects of environmental care attitudes in the science and social department. These results reveal that students in the science department have a better environmental care attitude than students in the social department. This result is also reinforced by Fig. 2, which shows that the average value of environmental care attitudes of students majoring in science in four aspects, namely A1, A2, A3, and A5, is very high compared to other aspects namely the A4 aspect. The results of this study are also supported by Sukri et al. [9], who found that students in the science major have higher knowledge than the social department.

The high environmental care attitude of students in the science department may be caused by several things, namely (1) students in the science department have an initial understanding of the importance of protecting the environment through the insights provided by the teacher at the school. Simbolon [25] reinforces this assumption, revealing

Table 2. ANOVA differences in students' environmental care attitudes

Aspect	Department	N	Mean	Anova					
					Sum of Squares	df	Mean Square	F	Sig.
X1	Science	299	93.2441	Between Groups	21286.775	1	21286.775	666.708	.000
	Social	295	81.2712	Within Groups	18901.482	592	31.928		
	Total	594	87.2980	Total	40188.258	593			
X2	Science	299	95.2341	Between Groups	27562.111	1	27562.111	740.408	.000
	Social	295	81.6102	Within Groups	22037.532	592	37.226		
	Total	594	88.4680	Total	49599.642	593			
X3	Science	299	97.3077	Between Groups	34795.750	1	34795.750	1063.031	.000
	Social	295	82.0000	Within Groups	19377.692	592	32.733		
	Total	594	89.7054	Total	54173.443	593			
X4	Science	299	85.0962	Between Groups	10010.422	1	10010.422	102.167	.000
	Social	295	76.8856	Within Groups	58004.624	592	97.981		
	Total	594	81.0185	Total	68015.046	593			
X5	Science	299	90.3846	Between Groups	20115.327	1	20115.327	364.539	.000
	Social	295	78.7458	Within Groups	32666.701	592	55.180		
	Total	594	84.6044	Total	52782.029	593			

that the school environment affects students' environmental care attitudes. In addition, Yusup [26] and Melaville et al. [27] state that education plays an essential role in increasing students' environmental knowledge, and (2) students in the science department are familiar with activities that are in direct contact with the environment [28]. According to Erdogan et al. [29], students who have activities directly related to the environment have better environmental knowledge than those who do not.

A descriptive analysis was carried out to find out students' environmental care attitudes seen from the interaction between gender and department, which is shown in Fig. 3. Figure 3 reveals a trend in students' environmental care attitudes in different genders and majors. The results showed that female students in the science department had the highest average environmental care attitude value, 93.78. Furthermore, male students in

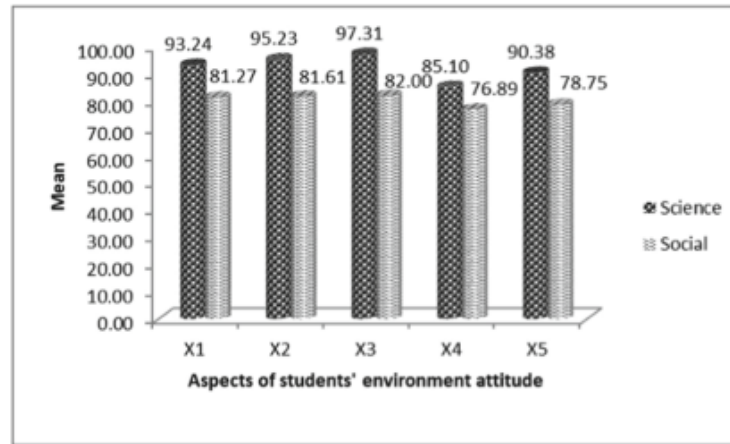


Fig. 2. Comparison of students' environmental care attitudes in a different department

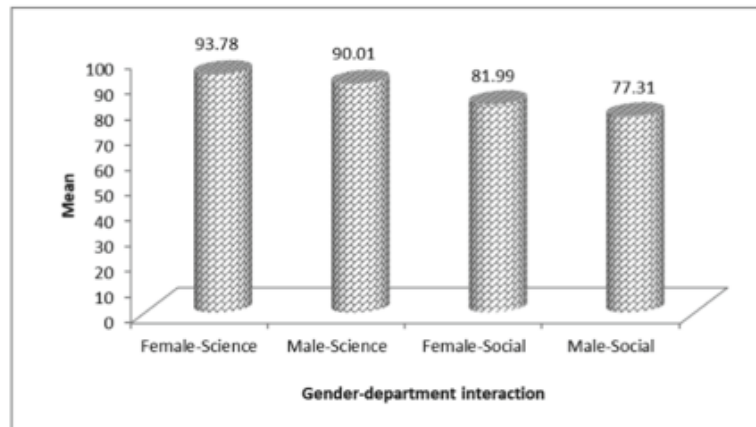


Fig. 3. The average value of students' environmental care attitudes in different genders and department

the science department took the second position with a score of 90.01, the third position was female students in the social department with a score of 81.99, and finally, male students in the social department with a score of 77.31. These results further reinforce that there are differences in environmental literacy [30], environmental care attitudes [31], and environmental behavior [7, 32] between female and male students. In addition, this research is evidence that majors influence students' environmental care attitudes [9].

4 Conclusion

The results showed that female students had a better environmental care attitude than males in terms of five aspects of environmental care attitude ($p < .05$). In addition, female students in the science department had a better environmental care attitude than male students based on five aspects of environmental care ($p < .05$). Female students in the science department had the highest average value of environmental care attitudes, followed by male students in the science department, female students in the social department and finally the male students in the social department. The results of this study have

implications for the importance of instilling an attitude of caring for the environment in schools, both in the science department and the social department.

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