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Article

A Model of Critical Consideration of Environmental Education: Concepts, Contexts, and Competencies

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Abstract

Recently, environmental education is the essential element to avoid environmental degradation around the globe that needs new articles and policymakers' emphasis. Hence, the present article examines the impact of environmental education on environmental knowledge, environmental behavior, and environmental attitude in Indonesia. The present research also investigated the moderating role of government support among environmental education, environmental knowledge, environmental behavior, and environmental attitude in Indonesia. A questionnaire was used as the primary data collection method. The smart-PLS was utilized to test the association among variables and the hypotheses of the study. The results revealed that environmental education had a significant and positive linkage with environmental knowledge, environmental behavior, and environmental attitude in Indonesia. The findings also exposed that government support significantly moderated among environmental education, environmental knowledge, and environmental behavior in Indonesia. The findings of this research would provide help to the policymakers in establishing the policies related to environmental education and reduce environmental degradation.

Keywords

Environmental education, environmental knowledge, environmental behavior, environmental attitude, government support

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One of the most serious issues faced globally by nations is the ecological issue, majorly caused by global warming. Recently, several studies have paid attention to this issue (Islami et al., 2018; Zidny & Eilks, 2018). These environmental issues cause multiple negative effects on a nation's financial, social, and health conditions. Initially, only the developed countries expressed their concern towards this issue but with the passage of time and with the horrible consequences of environmental issues, even the developing countries have started raising concerns.

The seriousness of the issue is seen in the fact that the earth temperature increased from 0.94 to 1.21 (in degrees Celsius) during 2000 to 2010 (Jorgenson et al., 2019). There are a number of reasons that stand behind this increase like reduction in glaciers, increased energy usage, increased transportation, usage of non-renewable energy etc. The Paris conference in 2015 attempted to monitor the issue through the Paris Agreement or the Paris Climate Accord, which is an international treaty on climate change. The treaty had bound 195 signatories to climate change mitigation, adaptation, and finance. This Paris Accord proved only a world level commitment of the countries to make efforts to overcome these environmental issues. However, countries need to take similar initiatives at their respective national levels, where there are fewer environment-related policies formulation as well as implementation (Mullenbach & Green, 2018; Rachmatullah et al., 2018; Rosa & Collado, 2019).

A major reason behind the laxity is the lack of resources. The developed countries possess strong economies and abundance of resources, which help them to minimize the environmental issues. The developing countries being stuck in the vicious financial circle have fewer chances and resources to pay attention as well as do something practically to overcome this issue (Jorgenson et al., 2019). Thus the easiest and most affordable method for both the developed and developing countries to overcome this issue is to educate their society and ensure making grass-root level efforts to overcome this issue. The countries must ensure the addition of environmental-related education in their curriculum and ensure its deliverance at all levels of education, most specifically at the school level (dos Santos & Gould, 2018; Genovaitė Liobikienė & Mykolas Simas Poškus, 2019).

Indonesia is a developing Islamic country. The government of Indonesia is exerting maximum efforts vide development and implementation of world level strong and updated policies to boost the education quality of the country. The temperature in Indonesia too decreased to 26.41 Celsius in December 2015, from 26.55 Celsius a month ago (Nurwanti et al., 2022; Prastiwi et al., 2019). There is a dire need to investigate this environmental issue. At the government level, the efforts include the enactment of the Article 65, paragraph 2 of Indonesia's Environmental Protection and Management Act, which has clearly stated that environmental education is a community right (2009). In 2006, Indonesia's Ministry of Environment and Forestry, Ministry of National Education, and Ministry of Religion started working together on environmental education and signed an Environmental Education Memorandum of Understanding (MOU) (Indrajaya et al., 2022; Tacconi et al., 2019).

The Indonesian education system is based on a 4-tier education system comprising primary (level 1 to 6), junior secondary (level 7 to 9), senior secondary (level 10 to 12) and higher education. There is a core need to ensure the addition of environmental education at all levels of the curriculum but most importantly in primary and higher education (Safitri et al., 2020; Yanti et al., 2020). In the case of primary education, the children should understand and get determined to fight and overcome this issue at early stages. In the case of higher education, the students can help the government as well as the private sector to overcome this issue.

The people's views regarding environmental education also gives a reflection of its significance. The people's rating regarding importance of environment in Indonesia (as checked in 2019) is presented in Figure 1.

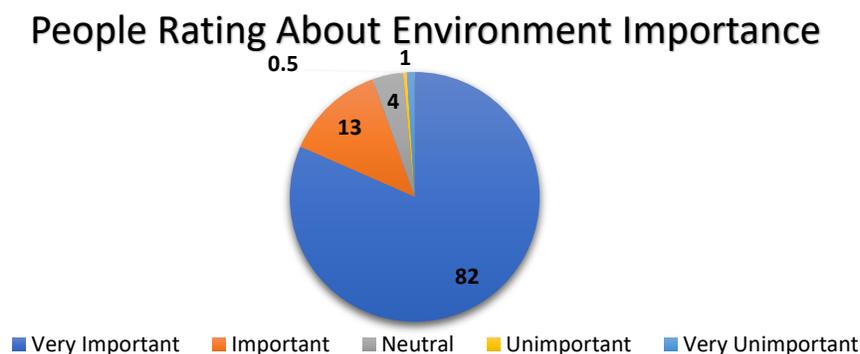


Figure 1: People rating environment importance in Indonesia

Environmental education has also become an essential element to prevent environmental degradation. To raise the awareness, there is a need to carry out empirical studies to draw the attention of policymakers and environmental governance officials. Hence, the present study aimed to examine the impact of environmental education on environmental knowledge, environmental behavior, and environmental attitude and also investigate the moderating role of government support among environmental education, environmental knowledge, environmental behavior, and environmental attitude in Indonesia.

The present study addressed some research gaps that existed in the previous literature. For instance, the global warming issue has reached adverse heights and yet not much attention has been paid to this issue, and this study aimed to fill this gap from the Indonesia perspective. Secondly, research studies do exist on environmental education (Nicole M. Ardoin et al., 2020), but no study has investigated the environmental education with environmental knowledge, environmental behavior, environmental attitude and government support as variables in the Indonesian perspective. Jorgenson et al. (2019) investigated the environmental education with energy variables whereas the present study examined it with the moderation effect of government support in Indonesia with fresh data sample. Likewise, Edsand and Broich (2020) investigated the relationship between environmental education, energy and technology in Colombia, on the contrary, the present study model consists of factors like environmental education, environmental knowledge, environmental behavior, environmental attitude and government support, which have not been tested before in the Indonesian context. In another study, Tagulao et al. (2022) investigated the environmental education at the school level education in China whereas the present study added the variables like environmental knowledge, behavior and attitude from Indonesia perspective. Last, but not the least, a study by Surata and Vipriyanti (2018) investigated the environmental education and teachers in general perspective, but the present study worked on the same subject by adding the moderation variable i.e. government support and used the fresh data sample from Indonesia.

The significance of the study lies in its role in highlighting the importance of environment education and the need to create awareness in the society for betterment of environment in Indonesia. Secondly, there is core need to develop fresh and better policies to bring balance in the environment. The present study will help the environment professionals to revamp their policies for betterment of the environment with the aim to improvise the world temperature. This study will also help future researchers to identify more aspects of the environment which can impact the global as well as Indonesia environment.

The study is structured into five parts. The first part presents the introduction; the second puts the previous literature as evidence of environmental education, environmental knowledge, environmental behavior, environmental attitude and government support. The third part discusses the methodology employed for this study, sharing the data collection methods on environmental education, environmental knowledge, environmental behavior, environmental attitude and government support along with the validity analysis. In the fourth part, the results of the study are presented and discussed in the light of evidence from previous literature. In the last part, the study implications along with the conclusion and future recommendations are presented.

Literature Review

Education is the key to the betterment of society. A proper education system changes the thoughts, beliefs etc. of the society regarding any specific issue or topic. In the current context, the issues pertaining to the environment have become worse and creating more worries to the world. The only way to tackle this issue is to educate society regarding the environment and minimize its worse effect. In this context: Cioruța et al. (2022), investigated the importance of environmental education and its need within the information and knowledge society in Romania. The results of the study proposed that although there is much time needed to reach environmental education at its peak, there are a number of projects all around the globe which have resulted in creating awareness of the environmental issues with the help of proposed education in the information and knowledge-oriented society.

It is pertinent that different levels of education witness different types of effects, for instance, the effect of the basic education is different in comparison with that of the primary or secondary level of education. The primary level education results in the creation of a strong root for the students. Ibodillayevna (2022) investigated ecological education at the elementary school level. The results of the study proposed that the proper deliverance of ecological education at the elementary level strongly influences the individual point of view regarding

environmental knowledge. Further, the study suggested that there was a core need to educate our society for environmental issues and to force them to think about the solution to these raised issues. The method of education is also a strong tool which decides the proper deliverance of knowledge to the learners. These methods vary according to the student's level or age. The teaching method for children is entirely different from adults.

Turabovna (2022) has investigated the deliverance of environment-related knowledge to preschool children with the help of fairy tales. The results of the study proposed that the education method i.e. education through fairy tales strongly influences the students learning capacity. This proves that there is better knowledge reported in preschool children as a result of this method. This affects the children's environment learning abilities in a long run. The students prefer this environment education as the basis of their educational career. Thus the hypothesis derived from the above discussion is here as under:

H1: *Environmental education and environmental knowledge are positively associated.*

The environmental issues due to their dire effects have multiple consequences on environment, society and the economy. There are a number of ways to address these environment-related issues at social level. Society is the key element to address as well as minimize the major issues faced by any country. Every individual in society has his or her own perception, view and beliefs regarding any aspect. The awareness of such issues in society is created with the help of proper education (Clayton et al., 2019), therefore, people have their own views regarding environmental issues. In order to change the society's point of view regarding environmental issues, there is a need to educate the society and to adopt the required environment attitude and achieve betterment of the environment. Such a process to adapt environmental attitudes is narrated as environmental behavior (Lange & Dewitte, 2019).

It is considered one of the toughest tasks to change the individual's attitude towards any concept, which also applies to environment-related perceptions and beliefs. People need to adapt to the concept of green environment with the intention to respond to the adverse effect of the environment. There is core need to enforce the society to adopt different environment controlling concepts. In this context: Varela-Candamio et al. (2018) investigated environmental education in the adoption of green environments. The results of the study proposed that the environment is confirmed as one of the strong tools to change the individual's perception regarding the adoption of the environment changing tools like green behavior etc. Promotion of pro-environment behavior is one of the best strategies among a number of strategies which are floating in the market. In a similar way: Genovaitė Liobikienė and Mykolas S. Poškus (2019), investigated whether environmental knowledge effect the environment behavior. The results of the study proposed that the environmental knowledge is one of major cause to change the public as well as private sphere behavior regarding environment. Thus the hypothesis derived from the above debate is as under:

H2: *Environmental education has a positive and significant impact on environmental behavior.*

There are a number of factors which affect the government's environment-related policies like the environmental attitude (Probandari et al., 2020; Ulhasanah & Goto, 2018). The environmental attitude is about an individual's beliefs regarding environmental issues or problems. Usually, governments have beliefs and concerns regarding the environment which are transformed as policies but, likewise, individuals also have their own beliefs regarding environmental issues. This change in individuals' beliefs usually gets affected by proper environmental education. Braun et al. (2018) have tested whether there is an association between environmental education and attitude and proposed that environmental education causes a change in an individual's beliefs regarding environment. Education is thus one of the core factors which causes to affect an individual's beliefs about environment.

Rosa and Collado (2019) proposed that the association between environment and attitude is a bit complex and it is tough to provide specific guidelines regarding individuals' contact with the environment. In totality, there is a positive relationship between ecological education and attitude. The proper awareness created through logical ecological education is a strong cause to change the individual's beliefs regarding environmental behavior or attitude. On the other side, weak education system often misleads the individual by highlighting the association between ecological effects on ecological attitudes. Ramadhan et al. (2019), too, have investigated whether the proper ecological education results in mitigating the ecological disaster with the help of students' language learning skills. The results of the study proposed that there is a core need to enhance the student's skills to pertain

to environment which results in development of learning skills to develop the ecological language which results in mitigating the disastrous results of ecological changes. Thus the hypothesis derived from the above debate is given below:

H3: *Environmental education has a significant and positive influence on the environmental attitude.*

Although environmental education is the need of the current era, governments all around the globe are trying to generate social support from the masses to control the rapid growth of environmental issues. The environmental condition is also determined by the nature of the land occupied by a country. For instance, in the Middle East, the temperature remains high due to the desert whereas in a country like Indonesia, if the temperature increases, it is a cause of concern. To support any issue, governments usually prefer the required educational set up. The intervention of the government is vital to educating the people of the country, since the government controls the education system of a country, whether private or public. The government support helps the educational institutions to express their message regarding environmental education in a better way.

However, with the passage of time, the governments worldwide are not able to provide a good support to the environmental education nor could make effective efforts to educate their societies. Lovakov et al. (2021) have investigated whether the government support in any country affects the education system of the country. The results of the study proposed that the government support results in the betterment of the education system as well as the educational institution. These interventions also result in helping the institutions to provide better education facilities to students. The government support thus acts as a moderator as witnessed in the study, Taofeeq et al. (2020). The study investigated to what extent the government support as a moderator could affect the relationship between clients and firms. Likewise, Holtbrügge and Berning (2018) investigated the moderating effect of government support and proposed that it acts as a significant moderator in the relationship between marketing entries and firm performance. Thus keeping in view the moderation effect of government support the present study employed it as a moderator. Therefore, the hypothesis derived from the above discussion is as under:

H4: *Government support acts as a moderator in the relationship between environmental education and environmental knowledge.*

In order to create awareness and educate the world regarding the horrible consequences of environmental issues, there is a need to educate our societies to ensure their support as well as change their values and beliefs regarding the betterment of the environment. The purpose of education is also to change the common society's perception regarding the environment. Psychological literature proposed that one of the tough tasks is to change the human psyche or the human mind (Surata & Vipriyanti, 2018). Levy et al. (2018) checked the variables that affect the adult's behavior regarding the environment and found that education quality and other related variables influence an adult's behavior towards the environment.

Educational institutions are also key players in building any sort of behavior in the society. There are a number of factors that affect the educational quality for better development of behavior in students as well as society. One of the common factors is government support. The intervention of the government plays vital role in the betterment of educational institutions. The government support has been accepted as a moderator in several past studies, for instance, Kim et al. (2018) employed government support as a moderator in examining the relationship between perceived values and adoption intentions. The results of the study proposed that government support actively acts as a moderator. Thus, the hypothesis derived from the above discussion is as under:

H5: *Government support significantly moderates the relationship between environmental education and environmental behavior.*

There are a number of issues faced by society at individual as well as at social levels; a few of more serious nature are at the country level. The nature of the consequences of the issue decides the level which it should be tackled. The issue of global warming has affected the entire globe. The world is worried about it and sharing their knowledge with each other to minimize its impact with the intention to save the future generation. Environmental knowledge has become necessary for the countries to educate their people to think and collectively respond against it. Although there are a number of factors, out of which the environmental attitude is one of the key factors that plays a vital role.

The environmental attitude is also the individual's belief regarding the environment. In this context, [Robina-Ramírez and Medina-Merodio \(2019\)](#) investigated whether environmental attitudes can be transformed at the school level. The results of the study proposed that the educational institution is the key to shaping the individual and with the help of external communities the environmental attitude of the students can be shaped. Here educational quality plays a vital role. The educational policy is the ultimate controller of the country's educational institutions. The support of the government is necessary to educate the community regarding environmental education in a better way. Thus, government support can act as a moderator. In this context, [Taofeeq et al. \(2020\)](#), investigated whether government support acts as a moderator in the relationship between clients and firms. In this study, too, government support was employed as a moderator. The hypothesis derived from the above discussion is as under:

H6: *Government support significantly moderates in the relationship between environmental education and environmental attitude.*

Research Methods

- *Research design*

This research paper examines the impact of environmental education on environmental knowledge, environmental behavior, and environmental attitude. It also investigates the moderating role of government support among environmental education, environmental knowledge, environmental behavior, and environmental attitude in Indonesia. The current study has taken only one predictor, environmental education (EED), and three predictive variables, viz., environmental knowledge (EKN), environmental behavior (EB), and environmental attitude (EA). Finally, the present research also used government support (GS) as the moderating variable. These variables are highlighted in [Figure 1](#).

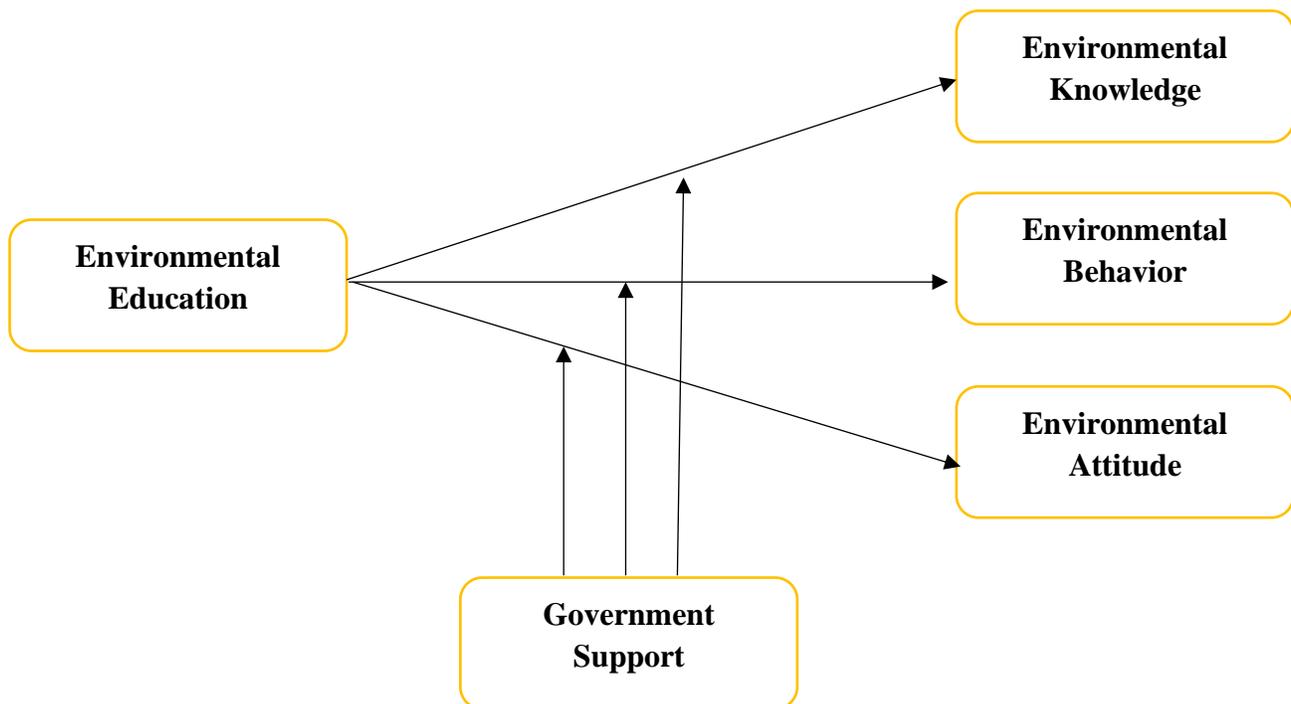


Figure 1: *Theoretical framework*

- *Research Instrument*

The authors have used questionnaires as the primary data collection method. The questionnaire was adopted from past studies such as EED borrowed five items from [Mullenbach et al. \(2019\)](#), while EA had five items extracted from [Kaiser and Lange \(2021\)](#), EB took eight items from [Kautish and Sharma \(2020\)](#), EKN had five items extracted from [P. Liu et al. \(2020\)](#) and GS had six items taken from [Nakku et al. \(2020\)](#).

- *Research sample*

Such students of universities who were pursuing environmental education in Indonesia were the respondents of the study. These respondents were selected using the purposive sampling technique. The researchers personally visited to distribute the surveys to the selected employees. A total of 526 questionnaires were forwarded but only 290 were received after one month. These surveys were used for analysis with 55.13 per cent response rate.

- *Data analysis*

The smart-PLS was used to analyze the data and the association among variables and hypotheses of the study. This is an effective primary data analysis data tool that provides effective findings even though the authors used a complex framework (Hair et al., 2019).

Research Findings

It was evident that the content validity using factor loadings, and figures exposing the values were higher than 0.50. These values revealed that the content validity was valid. In addition, the article also showed the reliability analysis using Alpha and composite reliability (CR), and the figures exposed the values higher than 0.70. These values revealed that the reliability was significant. It was also evident that the convergent validity using average variance extracted (AVE), and the figures exposed the values were higher than 0.50. These values revealed that the convergent validity was valid. Table 1 shows above mentioned results.

Table 1: Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Environmental Attitude	EA1	0.892	0.867	0.905	0.657
	EA2	0.710			
	EA3	0.782			
	EA4	0.761			
	EA5	0.892			
Environmental Behavior	EB1	0.931	0.975	0.979	0.871
	EB2	0.945			
	EB3	0.935			
	EB4	0.942			
	EB6	0.943			
	EB7	0.900			
	EB8	0.937			
	Environmental Education	EED1			
EED2		0.817			
EED3		0.844			
EED4		0.651			
EED5		0.705			
Environmental Knowledge	EKN1	0.861	0.899	0.929	0.766
	EKN3	0.878			
	EKN4	0.882			
	EKN5	0.880			
Government Support	GS1	0.938	0.944	0.958	0.820
	GS2	0.855			
	GS4	0.936			
	GS5	0.939			
	GS6	0.855			

The discriminant validity was measured using Fornell Larcker and the figures exposed the association among variable itself as larger than the values that exposed the linkage with other constructs. These values revealed that the discriminant validity was valid. Table 2 shows these results.

Table 2: *Fornell Larcker*

	EA	EB	EED	EKN	GS
EA	0.811				
EB	0.498	0.933			
EED	0.512	0.496	0.771		
EKN	0.425	0.411	0.381	0.875	
GS	0.326	0.500	0.497	0.380	0.906

The discriminant validity using cross-loadings, and the figures exposed the association among variable itself as larger than the values that exposed the linkage with other constructs. These values revealed that the discriminant validity was valid. [Table 3](#) shows above mentioned results.

Table 3: *Cross-loadings*

	EA	EB	EED	EKN	GS
EA1	0.892	0.450	0.449	0.352	0.732
EA2	0.710	0.317	0.391	0.329	0.540
EA3	0.782	0.398	0.380	0.349	0.670
EA4	0.761	0.382	0.406	0.333	0.661
EA5	0.892	0.455	0.450	0.360	0.726
EB1	0.456	0.931	0.446	0.380	0.467
EB2	0.477	0.945	0.467	0.400	0.461
EB3	0.477	0.935	0.448	0.408	0.453
EB4	0.462	0.942	0.458	0.375	0.475
EB6	0.472	0.943	0.468	0.396	0.466
EB7	0.452	0.900	0.495	0.354	0.473
EB8	0.455	0.937	0.457	0.375	0.471
EED1	0.460	0.397	0.819	0.327	0.491
EED2	0.453	0.426	0.817	0.359	0.449
EED3	0.445	0.398	0.844	0.320	0.388
EED4	0.308	0.354	0.651	0.185	0.285
EED5	0.262	0.329	0.705	0.241	0.248
EKN1	0.316	0.355	0.323	0.861	0.299
EKN3	0.385	0.357	0.328	0.878	0.347
EKN4	0.374	0.351	0.309	0.882	0.312
EKN5	0.405	0.375	0.368	0.880	0.365
GS1	0.763	0.457	0.454	0.322	0.938
GS2	0.727	0.442	0.450	0.373	0.855
GS4	0.755	0.460	0.455	0.325	0.936
GS5	0.770	0.461	0.443	0.324	0.939
GS6	0.724	0.444	0.446	0.374	0.855

The discriminant validity using Heterotrait Monotrait (HTMT) ratio and the figures exposed the values lower than 0.90. These values revealed that the discriminant validity was valid. [Table 4](#) shows the results.

Table 4: *Heterotrait Monotrait ratio*

	EA	EB	EED	EKN	GS
EA					
EB	0.539				
EED	0.592	0.551			
EKN	0.481	0.439	0.430		
GS	0.311	0.521	0.548	0.410	

[Figure 2](#) comprehensively presents the measurement assessment model, clearly showing the relationship among the variables of the study.

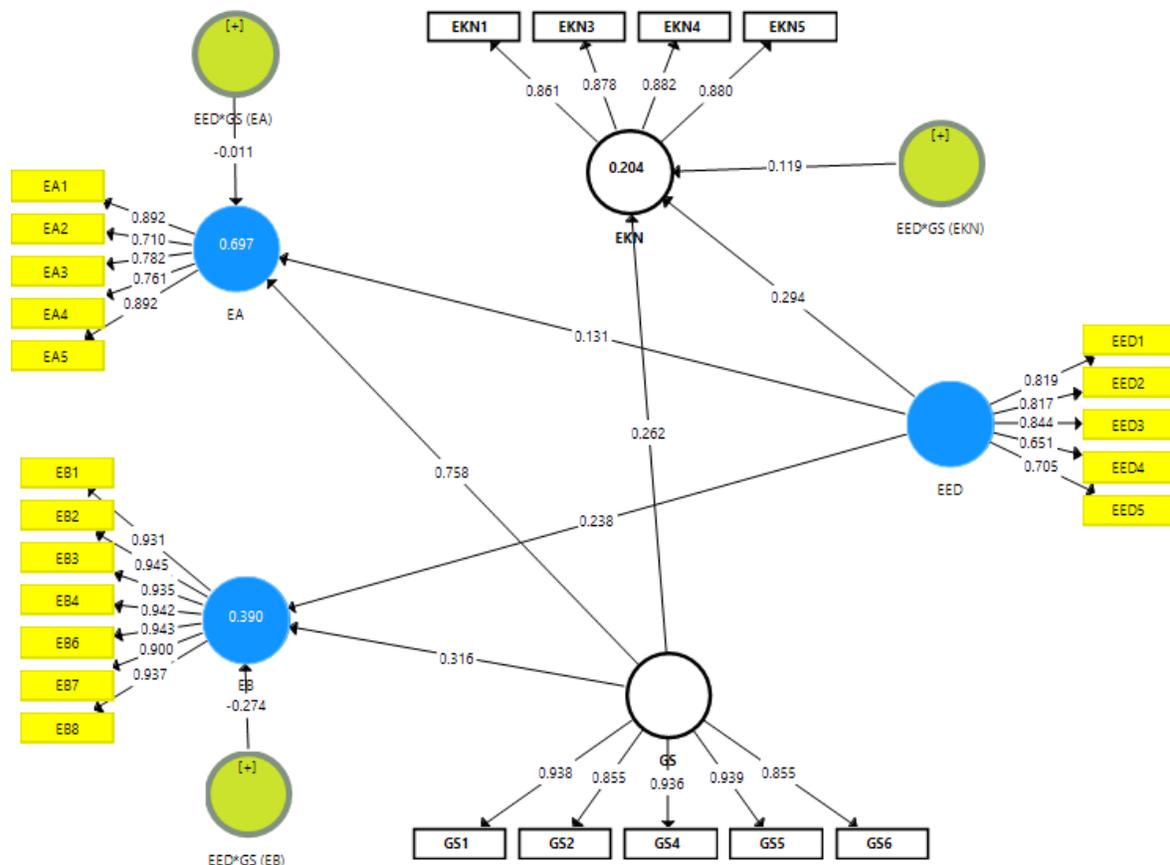


Figure 2: Measurement assessment model

The results of a path analysis (Figure 2) reveals that environmental education has a significant and positive linkage with the environmental knowledge, environmental behavior, and environmental attitude in Indonesia and hence H1, H2, and H3 are accepted. The findings also revealed that with one per cent change in EED, the EA will also change by 0.131 per cent in the same direction. Moreover, the results also exposed that with one per cent increase in EED, the EB will also increase by 0.238 per cent. Furthermore, the findings also revealed that one percent change in EED, will bring a change in EKN by 0.294 per cent in the same direction. In addition, the findings also exposed that government support significantly moderates among environmental education, environmental knowledge, and environmental behavior in Indonesia and hence H4 and H5 are accepted

The findings also exposed that government support insignificantly moderates among environmental education and environmental attitude in Indonesia and thus H6 is rejected. Table 5 shows the above-mentioned results.

Table 5: Path analysis

Relationships	Beta	Standard Deviation	T Statistics	P Values
EED -> EA	0.131	0.034	3.898	0.000
EED -> EB	0.238	0.063	3.807	0.000
EED -> EKN	0.294	0.075	3.909	0.000
EED*GS (EA) -> EA	-0.011	0.037	0.309	0.379
EED*GS (EB) -> EB	-0.274	0.056	4.906	0.000
EED*GS (EKN) -> EKN	0.119	0.066	1.810	0.037

Figure 3 exposes the structural assessment of the theoretical model of this study, showing distinctly the relationship among all variables

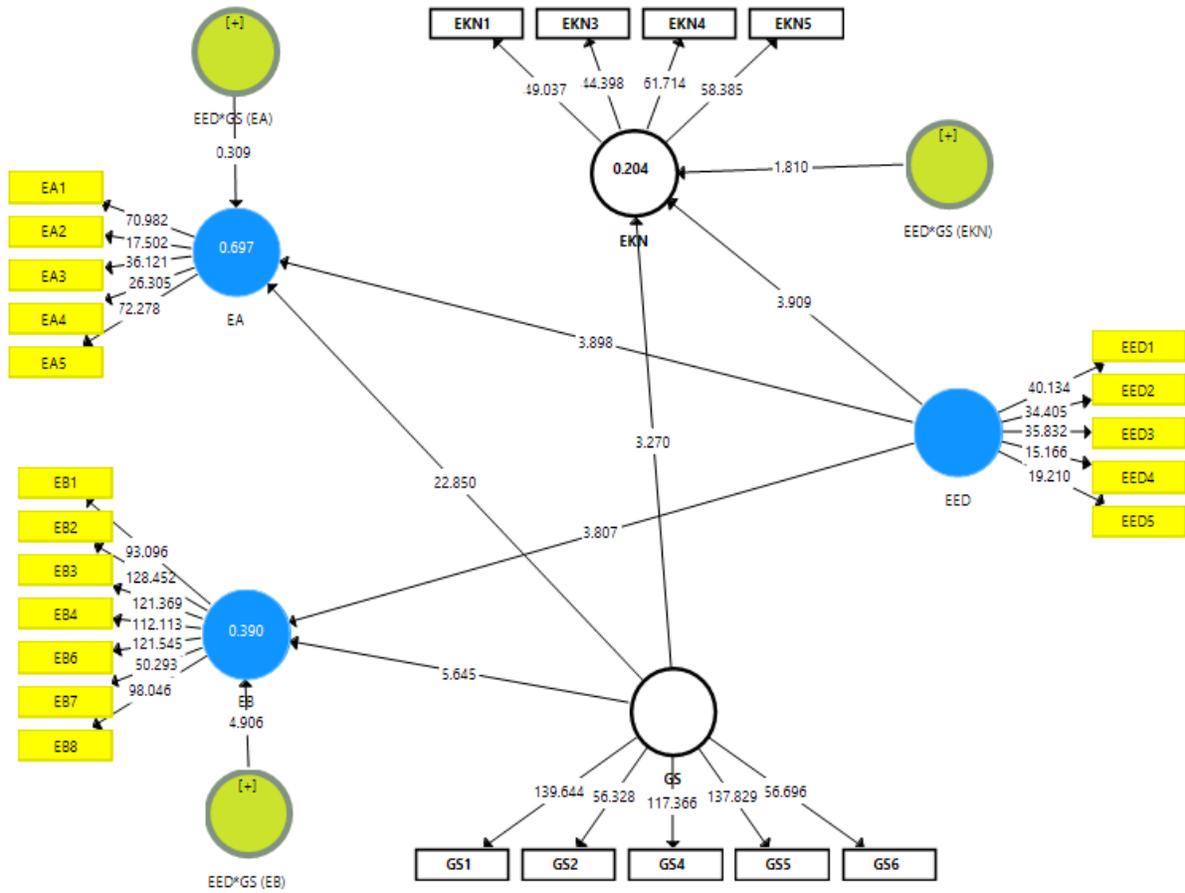


Figure 3: Structural assessment model

Figure 4, 5 and 6 are evidence of the individual variables showing their relationship with each variable.

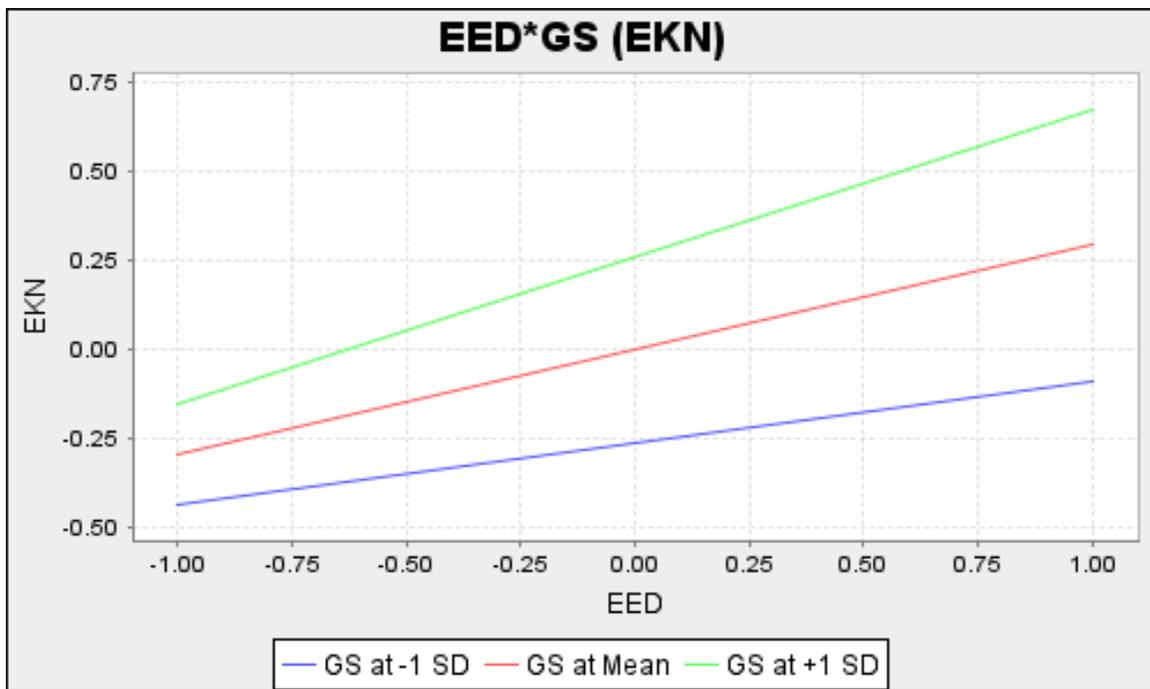


Figure 4: EED*GS (EKN)

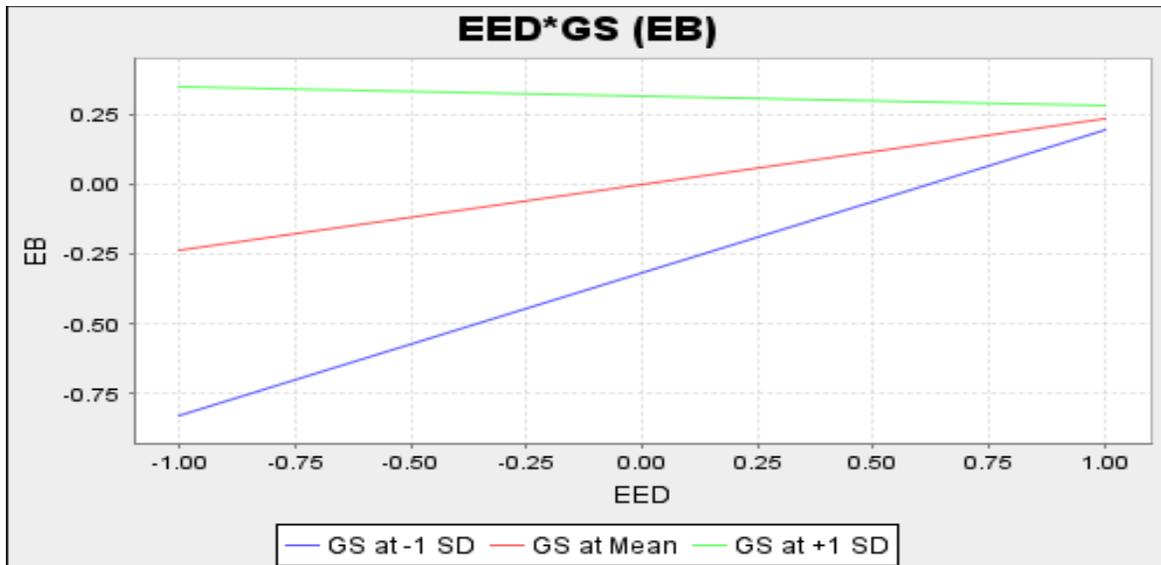


Figure 5: EED*GS (EB)

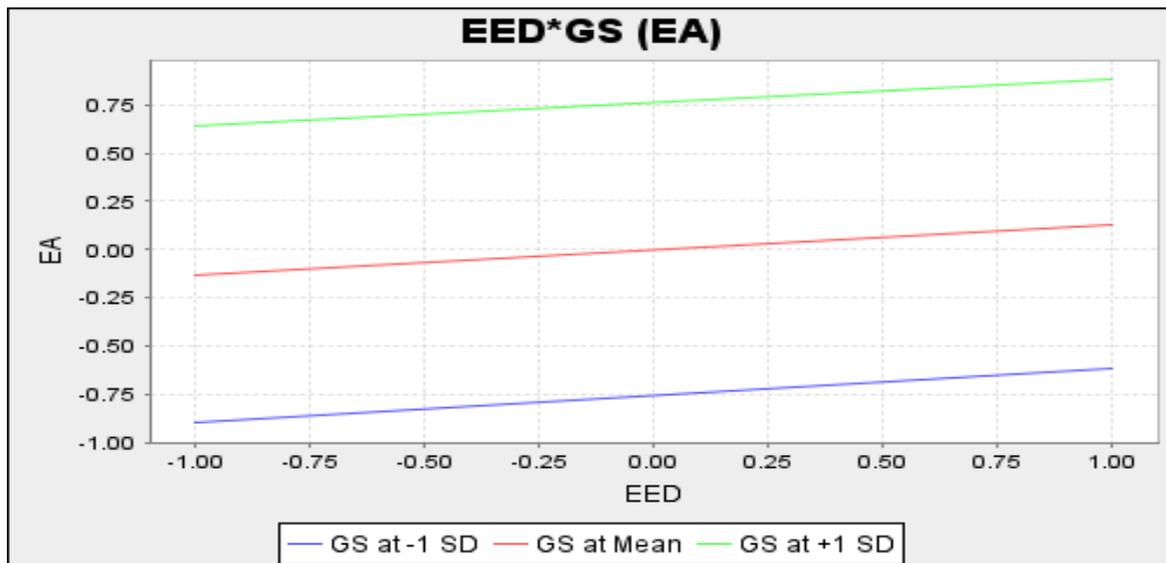


Figure 6: EED*GS (EA)

Discussion

This paper has examined the impact of environmental education on environmental knowledge, environmental behavior, and environmental attitude in Indonesia. The research also investigated the moderating role of government support among environmental education, environmental knowledge, environmental behavior, and environmental attitude in Indonesia. The results revealed that environmental education had a positive relation to environmental knowledge. These results agree with [Nicole M Ardoin et al. \(2020\)](#), a study which showed that in many educational institutions, both at a primary and higher levels, special classes are organized, and the curriculum is designed to provide environmental education, its characteristics, problems, and solutions. These educational institutions provide information to the students about the environment they live in, its quality, the problems with the environment, the impacts of human activities on the environment, the consequences of the changes in the environment, and its quality. The delivery of environmental education thus enhances the students' knowledge regarding their environment, its quality, and its problems. These results are supported by [Ardoin and Bowers \(2020\)](#), which show that the processes and resources employed for the environmental education to students play a key role in providing environmental knowledge to them.

If teachers use effective education methods such as digital education processes and innovative education resources for providing environmental education, they can effectively provide complete knowledge about the environmental concerns like environmental pollution, global warming, overpopulation, waste disposal, ocean acidification, deforestation, ozone layer depletion, their reasons, and consequences. The results revealed that environmental education has a positive relation to environmental attitude. These results agree with [Jorgenson et al. \(2019\)](#), which show that in many educational institutions, either the special environmental educational classes are conducted, or a special portion is included in the regular course of study for the environmental education. When the lectures, discussions, or dialogues effectively create awareness about the environmental concerns like global warming, climate change, damages to natural resources, and health-damaging effects. This knowledge provided to the students develops an ecological attitude in them that they must modify their ways of life in order to reduce the negative environmental impacts. These results are supported by [Quay et al. \(2020\)](#), which examine environmental education in developing environmental attitudes. The study implies that when the tutors through employing effective educational resources such as digital devices, projectors, computer internet, microscope, and electronic instruments specially designed for the inspection of environmental concerns and related causes, it improves the awareness of the students regarding their environment and develop a sentimental feeling for the environment. The scientific environmental knowledge and emotional attachment to the environment develop a sense that the students must work to reduce environmental concerns. Hence, environmental education boosts environmental attitude.

The results of the current study also revealed that environmental education has a positive relation to environmental behavior. These results agree with [Ardoin et al. \(2018\)](#), which explain that especially in the educational institutions through ecological friendly courses and debates or in business organizations through learning and training classes, the environmental education is provided to the audience. In these classes, the knowledge about the environmental problems which are the current issues of the public, they discuss in detail the natural and human sources of environmental pollution, differentiate the contribution of different practices to environmental pollution, and also train the students on how to deal with the environmental problems and overcome them. The environmental knowledge and training develop cognitive and physical abilities in the learners and thus, prepare them to adopt environmentally friendly behaviors. These results are also supported by [Dale et al. \(2020\)](#), which reveal that through the environmental education as a portion of typical or professional education, the tutor's employees written material, digital media, social media, and practical experiments creates awareness of ecologically friendly practices and promotes the ecological friendly habits in the learners. This develops motivation in the learners to adopt environmentally friendly behavior.

The results indicated that government support plays a moderating role between environmental education and environmental knowledge. These results are in line with [Q. Liu et al. \(2019\)](#), which highlight that when the government is aware of the environmental concerns and pays attention to environmental quality, it adopts a supportive behavior while forming its policies. The supportive government takes actions like running mobile or fixed campaigns to provide education to individuals at any stage of the age and in any social and economic fields. This enhances the tendency of environmental education within the country. The enhanced environmental education within or outside the educational institutions increases the environmental knowledge of the individuals, especially the children. These results are in line with [Varela-Candamio et al. \(2018\)](#), which posits that government support for educational institutions motivates them to act upon government instructions for providing environmental education. When the educational institution more effectively

The results indicate that government support plays a moderating role between environmental education and environmental behavior. These results are also supported by [Powell et al. \(2019\)](#), which proclaim that when the government of a nation shows supportive behavior towards the public and pays attention to their social needs, it is likely for them to pay attention to public environmental concerns and formulate the policies for ecological friendly education through formal or informal ways of education. When the government struggles to provide environmentally friendly education, the majority of the public becomes audience and can have awareness of environmental factors and improve their thinking accordingly. So, government support clears the way for environmental education to improve environmental attitudes. The results indicated that government support does not play a moderating role between environmental education and environmental attitude. These results are in line with [Malberg Dyg and Wistoft \(2018\)](#), which highlight that the support from government authorities sometimes does not help the business firms also in performing their official activities and also does not provide environmental education to employees, and does not mold their behavior into an ecological friendly one.

Conclusion, Implications and Limitations

The objective of this study was to check the environmental education and its results like environmental knowledge, environmental attitude, and environmental behavior. The objective was also to check the role of government support to boost environmental education and environmental knowledge, environmental attitude, and environmental behavior. A quantitative research survey was conducted on the Indonesian economy to collect information regarding environmental education and its contribution to environmental knowledge, environmental attitude, and environmental behavior. The empirical information of this research found a positive relationship between environmental education and environmental knowledge, environmental attitude, and environmental behavior. The results also stated that when environmental education is provided in education sector, the individuals can have knowledge of the environment and the related aspects like environmental issues, their reasons, and the consequence and the complete knowledge of how they can mitigate the negative environmental impacts.

The study also witnessed that environmental knowledge is provided through effective environmental education, and learners develop ecological friendly thinking that they have the responsibility towards protecting the environment. With the environmental education through effective ways enhances the environmental knowledge, the emotional attachment to the environment, and a sense of responsibility toward the environment, the learners are motivated to take action for the environmental protection. The study also suggests that in the case of government support, environmental education can better improve environmental knowledge, environmental attitude, and environmental behavior.

The study has a few theoretical and empirical implications as it greatly contributes to this domain of literature. Since the major concern of the study was environmental education, this study has examined some major outcomes of environmental education. It throws light on the impacts of environmental education on environmental knowledge, environmental attitude, and environmental behavior. In the prior studies, the contribution of environmental education to environmental knowledge was examined but little attention has been given to environmental education pertaining to environmental attitude and environmental behavior. The people of Indonesia face many environmental issues, but one can find little research on environmental education and its benefits. The present study removes this gap by examining environmental education's impacts on environmental knowledge, attitude, and behavior in Indonesia.

The present study has great significance in countries with many environmental issues like pollution, global warming, overpopulation, waste disposal, ocean acidification, deforestation, and ozone layer depletion. This study would provide a theoretical guideline to governments, individual businesses, and environmental regulators on how to control environmental issues. This research provides help to the policymakers in establishing the policies related to environmental education that reduces environmental degradation. The government must form its policies to provide support for environmental education to build up environmental knowledge, environmental attitude, and environmental behavior. The environmental regulators must encourage environmental education for environmental knowledge, environmental attitude, and environmental behavior.

The current study faced some limitations which future researches must remove by showing great intellect and extra focus. The present study dealt with only environmental education outcomes like environmental knowledge, environmental attitude, and environmental behavior. It paid no attention to factors that encourage environmental education and the contribution of environmental knowledge, attitude, and behavior to environmental quality improvement. It is expected from future authors to address these aspects of environmental education. The context of focus for the current study was the Indonesian economy. The environmental, economic, and education conditions in Indonesia are different from the rest of the world. The study in Indonesia on environmental education contribution to environmental knowledge, environmental attitude, and environmental behavior is therefore not general and applicable to all. For higher generalizability of the study, similar surveys can be collected in multiple countries.

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