

# Gender Dynamics in Environmental Literacy of East Java Millennials

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## Abstract

Environmental literacy is one of the most effective ways to get a grasp of a society's understanding of climate change and other related environmental issues. To understand the learning and behaviour changing process, this research looked at gender dynamics that differentiate men and women when perceiving environmental problems. The environmental literacy of East Java Millennials was grouped into nominal, functional, dan operational categories. The result showed that around half of the respondents (both genders) were in the intermediate level. The main difference was that more than a quarter of the women were in the highest literacy level, twice higher than the men's percentage. It showed that in general women are more knowledgeable and willing to change their behaviour for saving the environment.

## Keywords

Environmental literacy, environmental communication, gender dynamics, millennials, Indonesia

## 1. Introduction

As humanity develops advanced technology and expands industries through various means, environmental literacy has become more important than ever. Awareness about climate change and sustainability are very vital because fundamentally, all sectors rely on the stability of our environment. Furthermore, humans are the main culprit of climate change. Based on the Intergovernmental Panel on Climate Change (IPCC) report, the global warming that is happening today is increasing at a very alarming rate that is unprecedented in at least the last 2000 years (Masson-Delmotte, V., P. Zhai, A. Pirani et al.). In developing countries such as Indonesia, many people still think that the centre of the environmental problem is merely about waste management. This perspective is inherently false because environmental issues are very complex, it consists of various matters such as green energy, sustainability, pollution, carbon emission, biodiversity, and many more. When people around the globe already talk about how to leave fossil fuels and shift to green energy, Indonesians still struggle to educate the citizens about the importance of putting litter in the bin.

One of the first steps to increase people's awareness about environmental issues is by creating campaigns and spreading information through social media and mass media. In this digital era, more and more people get information from electronic media and social media. Thus, all kinds of news, information, and content on those platforms are getting more powerful than ever. This media consumption pattern change is recognized by the government, NGOs, and other private companies. Nowadays almost all huge organizations have social media account, including those which profoundly talk about environmental campaigns such as Greenpeace, WWF, Ministry of Environment and Forestry, and many more. From a communication science perspective, it is crucial to understand our audience for

crafting the most suitable content (Wollert Hickman). Thus, understanding the level of environmental literacy between millennials becomes very important if we want to have citizens with better knowledge about environmental issues.

Millennials are the productive generation that holds important roles in various organizations, institutions, and governments, many experts agree that millennials are the most productive generation (“5 Ways Millennials Are Revolutionizing the Workplace”). Therefore, finding out their environmental literacy level could be very beneficial in determining the main key points for campaigning sustainability. By influencing this generation, we could expect a significant change of rules, regulations, and decisions in various sectors.

In addition, other factors should be considered in exploring the level of environmental literacy, it's gender differences. Most of the time women get better scores in the awareness level and environmental issue understanding compared to men (Pearson et al.). Females also have more positive attitudes and more environmental action regarding the environment than their male counterparts (Öztürk et al.). Comparing environmental literacy among gender can help us to understand the attitude, concern, and behaviour components of environmental literacy. In the current era of information technology, these components of environmental literacy can be obtained through interactions on social media. For Indonesian millennials, the most preferable platform to learn about climate change issues is social media because 81% of them agreed that social media is their top internet usage (Indonesia Millennial Report 2020).

This is very understandable because in this modern era most people prefer to look for information with their smartphone. Instead of watching television or reading news portals, Millennials prefer to read news and other information from Instagram, Twitter, and other social media. There is no difference between men and women in terms of information consumption. However, the average environmental literacy level and willingness to play an active role in saving the environment is different.

### **1.1 Objectives**

The objective of this research is to understand the gender dynamics in environmental literacy of East Java Millennials.

## **2. Literature Review**

### **2.1. Environmental literacy**

Environmental literacy is generally defined as a way of people talking about the environment. Since the 1970s, environmental literacy has been considered as a basic concern regarding overcoming environmental issues. At first, the term literacy was used to explain reading and writing ability. However, in recent years literacy is used in various fields to describe the ability to comprehend some issues. According to Roth, environmental literacy is the capacity of doing the right action for the sustainability of our environment (Roth). People who consistently educate and evaluate themselves regarding their habits that affect the environment can be categorized as highly literate in environmental issues. In this research, environmental literacy is categorized into 3 different groups; nominal (very basic knowledge about environmental issues and little or no real action towards saving the environment), functional (better knowledge about human and environmental relationships, willingness to act about some environmental problems), and operational (wide and deep knowledge about sustainability, routine evaluation of the effects of human activities for environment, strong responsibility towards the environment) (Roth).

### **2.2. Gender and Environmental issues**

Socially, the roles of men and women in social life are constructed differently. In traditional society, there are different expectations and norms attached to each gender, no wonder in general there are some variations between men and women's environmental literacy. Many previous studies concluded that women have better environmental literacy compared to men. A study on 2,160 graduate students showed that in 10 out of 14 countries, women had stronger environmental attitudes and concerns compared to men (Schultz and Zelezny). Another study showed a similar pattern, female students exhibited more positive attitudes, concern, and responsibility compared to males (Alp et al.). As mentioned in a thorough report in 2017, numerous literature and research concluded that albeit small, there is a persistent gender gap in environmental concern; women typically express greater levels of concerns than men (Pearson et al.).

One of the arguments why women have better environmental concerns is because the social norms applied in many civilizations teach women to be more nurturing, cooperative, and compassionate than men (Zelezny et al.).

Furthermore, because women tend to be more economically disadvantaged compared to men, women are more vulnerable to a various range of environmental hazards (Finucane et al.). Culture and different ways of raising males and females led to this difference in environmental literacy. This research result will also enrich the gender dynamics of environmental literacy, especially in millennials of East Java, Indonesia. Researchers specifically chose East Java millennials because this province has the largest labour force in Indonesia (Pohan), therefore, it is the most relevant place to conduct the research.

### 3. Methods

With a descriptive approach and quantitative methodology, researchers gather primary data with electronic surveys. The questionnaire consisted of 40 questions about respondents' knowledge and behaviour towards environmentalism. After 100 surveys were all completed, researchers analyzed respondents' answers and grouped them into 3 categories. The questionnaire consisted of 40 questions about knowledge, behaviour. These categories represent respondents' environmental literacy level. By categorizing them, researchers could analyze the gender dynamics in millennials' environmental literacy. The questions in the surveys were selectively made based on the environmental literacy category by Jurin (Jurin et al.). Secondary data were also gathered to analyze the findings. Researchers gathered the data from previous studies, journals, books, and scientific papers. All respondents have these criteria; (1) Millennials born between 1982 – 2005 (based on millennials category by Cooper (Cooper)), (2) Currently residing or at least have lived in Surabaya or Malang for 1 year, (3) Have access to mass media and social media.

### 4. Data Collection

Data collection phase was conducted with Google form. The questionnaire link was shared between selected respondents and all questions were compulsory. Those categories cover knowledge, awareness, and behavioural matters related to environment. All respondents were Millennials living in Malang and Surabaya.

## 5. Results and Discussion

### 5.1 Numerical Results

Based on the 100 surveys given to millennials of Surabaya and Malang, researchers categorized them into nominal, functional, and operational groups. The majority of them (49%) were in the functional category; those with an intermediate understanding of environmental issues and basic habits towards sustaining the environment. More than a quarter (30%) were in the nominal category; they have the least knowledge about the environment, just very basic understanding and little or no sustainable behaviour at all. The operational category has the least respondents (21%); this is the highest level of environmental literacy, people in this category know environmental issues well and commit to environmentally friendly behaviour daily. (Table 1)

From this data, researchers conclude that most millennials in East Java have an intermediate understanding of climate change and other environmental issues, however, most of them do not seek environmental issues regularly. Most respondents claimed that they only read the information when they accidentally see it on their social media or mass media. Only respondents from the operational category actively seek updates about environmental issues. Although the information is readily available in today's digital culture, millennials still do not have the urge to learn and understand more about climate change and sustainability.

Table 1 respondent category

Category	Percentage
Nominal	30%
Functional	49%
Operational	21%

## 5.2 Graphical Results

Respondents from the nominal category could only explain that climate change is the same as weather change. When being asked about what things they could do to prevent climate change, they had similar answers, throwing waste into the bin. That oversimplification of environmental issues showed that these respondents did not have good knowledge about environmental change. They only know that the environmental problem is about the waste issue. Although it is not wrong, people with better environmental literacy would have explained with more elaboration. (Figure 1)

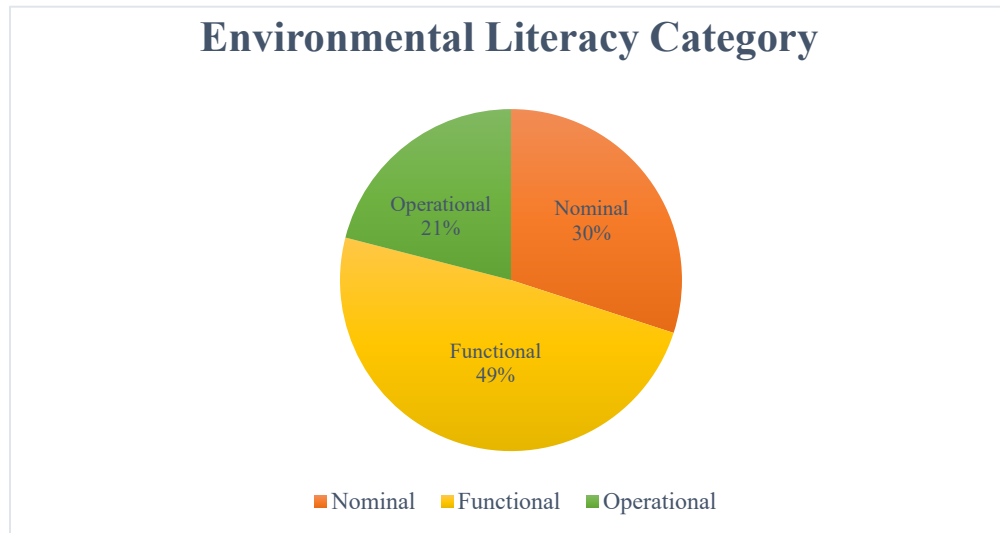


Figure 1 The Environmental Literacy Category

Those in the functional category had better knowledge and habit towards preserving the environment. They already have eco-friendly behaviour such as dining in instead of ordering food with single-use cutlery, using less plastic cutlery and bringing their metal fork and spoon, also having more awareness of environmental problems in their neighbourhood (such as waste problem). However, those habits are not done entirely based on environmental awareness, some of them do it because of other reasons. That is why they are not included in the operational category.

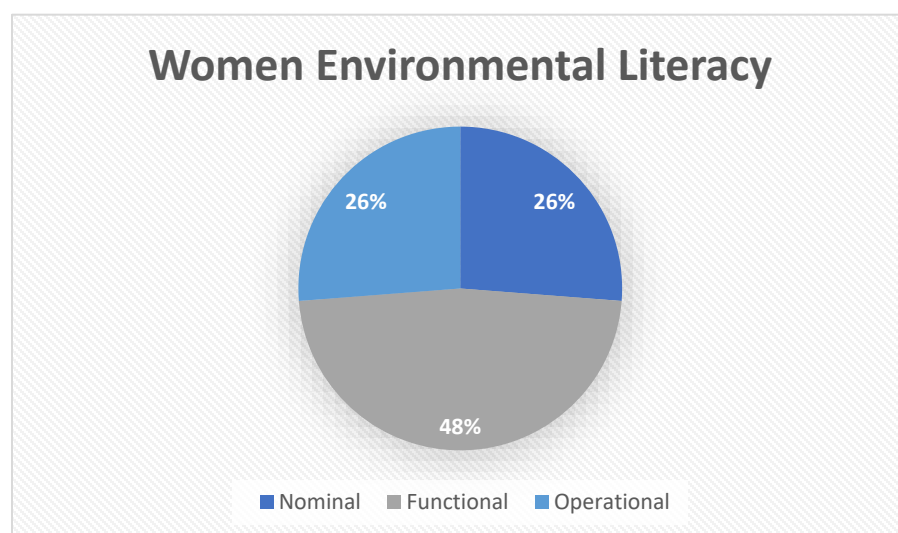


Figure 2 Women Environmental Literacy

People who were categorized into the operational group are very aware of environmental problems. They could explain very clearly about climate change, actively doing green behavior, evaluating their choices that may affect the environment, and promoting others around them (family and friends) to do so. They also understand many environmental terms such as anthropocentrism and ecocentrism. All respondents in this category are doing the right choice regularly.

Based on the gender-wise data, 44% of women were in the functional category, both nominal and operational categories have the percentage of 26%. This data spread showed that almost half of the women are in the intermediate environmental literacy level. Around a quarter were in the nominal and the other quarter was in the operational category. Compared to the men's result, 51% were in the functional category, 36% were in the nominal category, and 13% were in the operational category. This comparison showed that the majority of Millennials (around 50% for both men and women) have intermediate environmental literacy levels, they were in the functional category. However, the data spread showed that women with the highest environmental literacy level - operational category are twice as much as men (26% compared to 13%). (Figure 2)

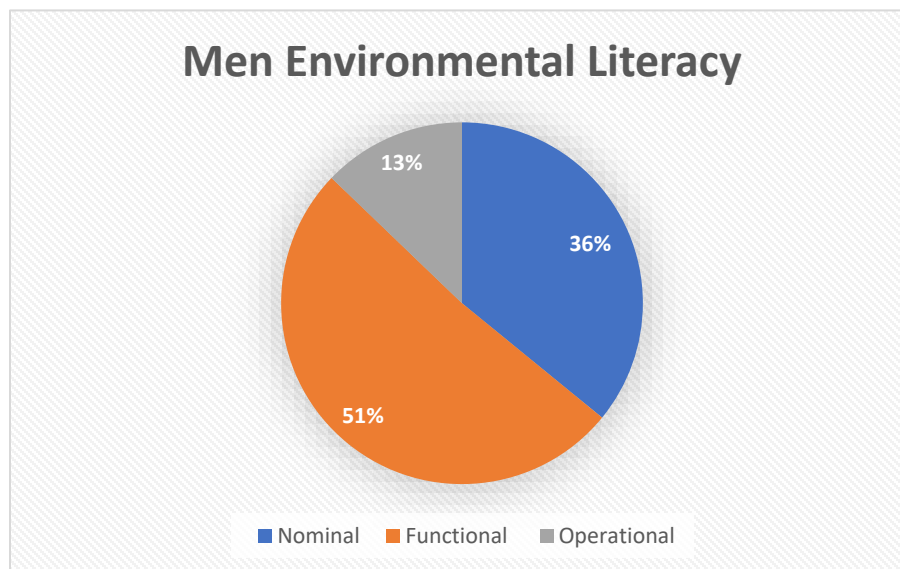


Figure 3 Men Environmental Literacy

The difference in gender roles exists in all societies, this affects how men and women think and behave differently in various aspects of life, including decisions about environment-related issues. Much other research showed the same result, women tend to have better environmental literacy. This finding strengthens that tendency, the proportion between nominal and operational category in the two genders are quite significant. In the men's data, only 13% were in the operational category, almost 3 times more were in the nominal category. This showed the disparity between the very literate and the least literate. (Figure 3). On the other side, in the women's data, the spread is more even. In both operational and nominal categories, there were 26% respondents. In conclusion, there were more women with higher environmental literacy compared to men.

Although women tend to be more literate than men, it is still possible to increase men's environmental literacy in various ways. Previous research found that East Java millennials from both genders agreed that the most effective environmental campaigns are from social media in the form of visual and audiovisual content [15]. With these two findings, the government, NGO, and other private sectors could create a better strategy in making environmental campaigns targeting the millennials. From the content perspective, we could specifically target the majority of millennials in the functional category. Instead of merely trying to increase their knowledge, the emphasis should be on behavioural change.

### 5.3 Proposed Improvements

This research could be improved with more respondents from more cities. It is still limited to 100 respondents from East Java, further research could have respondents from several cities in Indonesia with more than 300 respondents.

### 5.4 Validation

Respondents' answers were validated with further interview. Some with unique answers were contacted to be interviewed. By doing this interview, researchers could validate their answers and get deeper knowledge about their intentions and daily habit related to environmental literacy.

## 6. Conclusion

The majority of millennials in East Java have a moderate literacy level, almost 50% were included in the functional category. In line with other previous research, gender played a role in East Java Millennials' environmental literacy. While the functional category is almost the same between both genders (48% for women and 51% for men), the operational category is very different. Only 13% of men were in the category while there were 26% of women. This result reflects Millennial's condition in East Java, while the majority is quite familiar with environmental problems, many still do not have a good understanding of this issue (particularly for men millennials). This research result could be used as guidance in crafting environmental campaigns. As for further research, it is essentials to create an effective environmental communication model which could encourage the millennials to take real actions towards saving the environment.

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## Biography

**Lila Nathania** joined Bina Nusantara University in November 2019 as a Lecturer Specialist of Communication Department. She is responsible for all student affairs and served as an Enrichment Program Coordinator. Some of her main duties are lecturing, supervising student activities, researching, and doing administrative work for Communication Department. Lila has done various research in environmental communication and held community development projects in East Java communities.

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