

## **Environmental Awareness in University Students According to Gender and Age**

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*Received September 06, 2021; Accepted December 07, 2021*

*ISSN: 1735-188X*

*DOI: 10.14704/WEB/V19I1/WEB19129*

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### **Abstract**

Environmental awareness is the constant articulation that exists between man and his environment. For this, the human being relies on his experiences, wisdom and praxis. The objective was to describe the levels of environmental awareness of students of the health career. The approach was quantitative, of a substantive type and a non-experimental, transactional

design. For this study, the sample consisted of 500 students drawn through probability sampling. The technique used was the survey and the instruments were the questionnaire on a Likert scale, Cronbach's alpha. Regarding the conclusion, it was found that 45.8% of all students presented unacceptable levels of environmental awareness. Of 20 years, 42% of the female gender presented an unacceptable level of environmental awareness, while men, 28.2% of unacceptable level of environmental awareness. From 21 to 23 years old, 11.4% presented an unacceptable level. Regarding students over 24 years of age, 6.2% presented an unacceptable level.

### **Keywords**

Environmental Awareness, Gender, Age, College Students.

### **Introduction**

The following work will address the issue of environmental awareness that Tonello & Valladares (2015) define as "a multidimensional concept that constitutes the attitudinal dimension of pro-environmental behavior". The environment is an important, and even fashionable, topic on how the natural resources of our planet, including air, water, land, flora and fauna, must be preserved for the benefit of present generations and future through careful planning and sustainable development. Furthermore, Cayón & Penalete (2011) state that environmental problems occur in all spaces and can affect from the entire planet to small populations, and even the most immediate environments, namely: our home and school.

Environmental education is a fundamental task of the teachers who teach it, developing both students and the general public a greater environmental awareness, which, through optimal means of dissemination, can finally achieve its objective. Likewise, the objective is to consider the psychosocial impact of environmental awareness in Peru. In order to better understand it, it is appropriate to define the term psychosocial as "something beyond a dimension of human behavior, [which] implies an intention to position itself in relation to professional work and establish an ethical horizon" (Quintana-Abello et al., 2018). The latter with respect to the already existing duality of the interaction between the behavior of the individual in the social environment. Secondly, It can be defined as the understanding that people have of the impact of people on the environment, how actions can influence the environment and how this can affect the future. Therefore, environmental awareness is defined as the knowledge that human beings have about the environment that surrounds them. Likewise, to make people aware of the environmental problems that exist, the interaction of people with the environment must be encouraged.

From the gender perspective, it refers to the study of the construction of male and female subjectivities and the relationships between them, within a patriarchal social order supported by a political and legal model that prioritizes power relations based on gender (Salazar, 2017). The conceptualization and measurement of environmental awareness is a topic that has been addressed in numerous investigations, but it has not always been studied in university settings and from a gender perspective, but the information that this perspective uses regarding environmental awareness is scarce. Therefore, this work can provide a different look at an issue that it is necessary to continue investigating due to the importance of the environmental crisis that we are going through, in caring for the environment and sustainability.

### **Environmental Psychology**

Environmental psychology or also called environmental psychology has been developed effectively in recent years, so that it has integrated approaches and concepts from various disciplines and approaches. These have allowed him to obtain different views of his development, in turn involving new sustenance for human behavior. In the present case, it will be approached from an interactionist approach.

The psychology of the environment is conceptualized by Puertas & Aguilar (2007) as the field of study in charge of analyzing the interaction between person and environment. On the other hand, Cornejo (2005) agrees that this is a discipline aimed at imparting the understanding of human-environmental behaviors and that, in turn, is defined as a field of psychology that fulfills the fundamental role of prevent and transform adverse conditions that may develop in the previously mentioned human-environmental interaction. However, Steg et al. (2013) define this field of psychology as the discipline in charge of studying the interrelation given between the natural and built field and individuals, seeking to analyze and evaluate the level of influence of the environment on man's experience.

In short, as Meira et al. (2018), environmental psychology, seen and exposed from various concepts, is capable of contributing to the broadening of the perspective of the field of study by making relevant contributions not only at the urban level, but also at the climatic, social and interactive level.

### **Sustainable Development Goals**

According to Gómez (2018), the Sustainable Development Goals (SDGs) are common goals that aim to counteract extreme poverty, but also unify and balance fundamental aspects for the development of the population, such as the economic, environmental and

social factor. In addition, they provide an articulated basis for establishing and promoting global policies in favor of communities.

According to Artaraz (2002), the expression sustainable development was used for the first time in the Brundtland Report, in the World Commission on Environment and Development in 1987, where points of the future of the planet are seen, in terms of its development and environment, which sought to satisfy the needs of the present without damaging the ability to satisfy the future generation, that is, to preserve natural resources for a future generation. For example, if we want to satisfy the need for water, we cannot exploit this resource in its entirety and negligently because we would leave the future generation without this resource.

### **Theories of Sustainable Development Goals**

*Sustainable theory.* This considers it necessary to meet the basic needs of the human being in the conceptual and graphic. This includes survival, the well-being of opportunities, technological development as well as education, democratic organizational systems and access to information. On the other hand, this theory is based on a development model capable of relating the responses to their basic needs, affection, care, participation, freedom, identity, among others (Gutiérrez and Pozo, 2006).

*Cosmopolitan theory.* According to Fernández (2021), the cosmopolitan feeling (the feeling of the population) is directed to the common welfare. However, the State—which is the main entity— fails to embrace this sentiment or work for it; Therefore, this feeling of the population needs to become a legal cosmopolitanism. In other words, it is demanded that these ideals become rights. The SDGs enter and fit into this cosmopolitan vision of law, since their objectives are consistent with the importance of the global well-being of society.

*Theory related to environmental awareness.* According to Viniegra (2014), the reductionist approach explains the phenomena of study in an isolated way; that is, it excludes the elements or components in simpler parts, from the general to the particular. In all events, he supports his research on living beings with their chemical and physical interrelationship in order to explain in his analysis of studies. In this way, it limits itself to raising some constructs of excessive phenomena or difficulties of humanity, which we will name as studies of Earth sciences, the differences, problems and the successive exclusion of majority sectors of the population and the deterioration of the ecosystems. Likewise, Viniegra (2014) presents the holistic approach as one that analyzes the units from a whole or as a whole and their links between their parts.

## **Education for Sustainable Development**

Unesco (2014) defines education for sustainable development (ESD) as a lifelong learning process, in order to provide quality education and, therefore, reinforce the cognitive, social, emotional and social dimensions. behavioral learning. In addition, ESD encompasses content and learning outcomes, pedagogy and the learning environment.

According to Bybee (1991), we are in a planetary emergency, so it is necessary to face education in the 21st century from different angles. In this sense, Unesco (2018) proposes new competences, attitudes and behaviors that promote more sustainable societies, establishing as a priority for the coming years the training of teachers in accordance with the active principles of ESD, and, in this way, ensure that all students acquire the theoretical and practical knowledge necessary to promote sustainable development.

## **Environmental Awareness**

The definition of environmental awareness, over time, has been conceptualized without taking into account its degree of complexity and implication, being this, in turn, the subject of debate in areas as important as environmental psychology and sociology (Bueno, 2014). Thus, a general conception (Corraliza et al., 2006; Jiménez & Lafuente, 2005) indicates that environmental awareness can be understood as the set of knowledge, beliefs, perceptions, norms, attitudes, values and opinions that one has about the environment; as well as collective and individual actions in the care and improvement of the problems related to this. On the other hand, Corraliza et al. (2006) also define it as a group of representations and images that one has of the environment, taking into account concerns such as the scarcity and decline of natural resources and species; as well as environmental quality. On the other hand, this awareness offers the possibility of developing, regenerating and preserving the environment (Quinto, 2015).

Complementarily, Gomera (2008) mentions that environmental awareness is a value as equal as respect, honesty, and prudence, among others. In the same way, it considers that this is related to education in values and that, by promoting it, it will be achieved that we respect the environment in which we live. According to Jiménez & Lafuente (2006), in the Andalusia Ecobarometer (EBA), environmental awareness (environmentalism or, in the English literature, environmental concern) refers to certain processes associated with the actions of people who try to reduce the impact negative in the environment. Within this broad framework of what we understand by environmentalism, a great variety of psychological constructs are also included that include beliefs, opinions, values, attitudes, intentions, behaviors, cultures, etc. Furthermore, Valencia et al. (2010) mention that there

is no sustainable society without ecological citizens. For his part, Febles (2004) defines environmental awareness as a system of experiences, knowledge and experiences that the individual actively uses in their relationship with the environment, inferring from this the presence of subjectivity in the process of interrelation with the environment. According to Bravo (2004), environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological. Febles (2004) defines environmental awareness as a system of experiences, knowledge and experiences that the individual actively uses in their relationship with the environment, inferring from this the presence of subjectivity in the process of interrelation with the environment. According to Bravo (2004), environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological. Febles (2004) defines environmental awareness as a system of experiences, knowledge and experiences that the individual actively uses in their relationship with the environment, inferring from this the presence of subjectivity in the process of interrelation with the environment. According to Bravo (2004), environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological. Environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological. Environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological. Environmental awareness is a position in which people become aware of the problems that involve the environment. Therefore, it highlights that it is important to promote environmental awareness so that development takes place in different areas such as social and technological.

### **Dimensions of Environmental Awareness**

According to Corraliza et al. (2004), we can distinguish four dimensions for environmental awareness that allow us a better interpretation of the concept: cognitive dimension, affective dimension, conative dimension and active dimension.

*Cognitive dimension.* It refers to the level of knowledge and information that one has about the different environmental problems; as well as the interest in those responsible and the

probable solutions to these problems (Chuliá, 1995; Jiménez and Lafuente, 2005). For this reason, the current dimension focuses on ideas (Gomera, 2008).

*Affective dimension.* In this dimension, the feelings and emotions that one has for the maintenance, conservation and protection of the environment take more importance. Likewise, the cultural values aimed at protecting it, as well as the habits of spending more time in it, generate a greater degree of union and concern (Chuliá, 1995). Thus, this dimension focuses on emotions, although there may be a prevalence of the concept of environmental farsightedness on occasions (Gomera, 2008).

*Conative dimension.* On the conative dimension, there is a certain particular interest, since the values that are assigned are particularly those of the same society that has reached a permanent level of economic boom and material security. The perception or assessment of certain actions as desirable is also included. On the other hand, Jiménez & Lafuente (2006), in the Andalusia Ecobarometer (EBA), define the conative dimension as the set of attitudes towards carrying out pro-environmental behaviors, as well as assuming the personal costs derived from environmental policy measures.

*Active dimension.* According to Carrasco (2013), this dimension refers to the performance of ecologically responsible behaviors, either individually or collectively. In the individual part, it refers to behaviors of a private nature, such as the use of products without damaging the environment, saving energy and scarce natural resources, among others. For his part, Sauve (2003) includes the characteristic of learning to live and work collectively, which allows us to discuss, listen, negotiate, convince to achieve a better understanding and more effective environmental intervention.

### **Factors that Determine Environmental Awareness**

According to Villadiego (2015), environmental awareness factors are those that are related to the measurement of behaviors and attitudes with a specific level of similarity that are oriented towards the environment.

*Contextual.* It refers to the length of time between the measurement of behavior and attitude, the importance, the relationship of the advantages and disadvantages caused by the behavior, the influence of the media, etc.

*Psychosocial.* Related to the behaviors of each person, which may be responsible for caring for the environment, indifferent to protecting it, or destructive when they damage it. These behaviors allow us to predict environmental attitude.

*Sociodemographic.* Variables that influence environmental care behaviors are found, such as degree of education, socioeconomic status, creed, place of residence, political ideology; however, research on its influence is inconclusive.

*Cognitive.* It is all information that is had about the environment; However, carrying this type of knowledge does not ensure that people carry out behaviors to preserve the environment.

At present, environmental awareness is one of the important and also most forgotten pillars that we have in Peru, it is a current problem that afflicts and commits each and every one of the members of this country and this world, since if We see it from a more global perspective, other countries are being affected in the same negative way in their ecosystems.

Being aware of how rich and diverse our country is in its flora, fauna and natural resources, the negative impact on the environment caused by global warming, excessive deforestation, overfishing and lack of awareness not only brings negative effects to short term, but the future of our country is severely damaged. Over the years, the economic areas, the quality of life that each person manages and the impact on ecological diversity could lead to damaging other areas necessary for the progress of the country Environmental awareness is not only a problem for the authorities, but it is also a responsibility that commits each citizen in the actions they carry out in their daily lives, genuinely allowing a change in the high levels of environmental pollution in the country.

State policies seek the well-being of people and achieve sustainable development in a long-term goal. The State policy that is immersed in the central issue is number 19, which mentions that development focuses on people, among them we find the environment as part of human development adhering to the ecosystem and the environment, and is superimposes on the most vulnerable populations of the country. According to Ceplan (2002), we have objectives within this policy, among them the most outstanding are:

- a) Strengthen the institutional framework of environmental management, optimizing the coordination between civil society, the national environmental authority, the sectoral authorities and the various levels of decentralized management, in order to articulate the environmental policies and programs of the productive and social sectors.
- b) Institutionalize public and private environmental management to protect biological diversity, facilitate the sustainable use of natural resources, ensure environmental protection and promote sustainable towns and cities; which will help improve the

- quality of life, especially for the country's most vulnerable population.
- c) Promote territorial ordering, the management of watersheds, forests and coastal marine areas, as well as the recovery of degraded environments, considering the vulnerability of the territory.
  - d) Promote the application of environmental management instruments, giving priority to those of prevention and clean production.
  - e) Incorporate in the national accounts the valuation of the supply of natural and environmental resources, environmental degradation and the internalization of environmental costs.
  - f) Encourage environmental investment and technology transfer for the generation of cleaner and more competitive industrial, mining, transport, sanitation and energy activities, as well as the sustainable use of forest resources, biotechnology, biotrade and sightseeing.
  - g) Promote and permanently evaluate the efficient use, preservation and conservation of soil, subsoil, water and air, avoiding negative environmental externalities.

## **Methodology**

A positivist paradigm was used, a non-experimental transactional design quantitative approach, a descriptive-level substantive type of study with a probabilistic sample, which was made up of 500 university students from the fourth and fifth cycles of the faculty of health sciences of a Private university.

The instrument used in the present investigation was that of Gomera (2008). It is characterized by four dimensions: cognitive, affective, conative and active. The measurement is determined through the ordinal scale with a polytomous score made up of five responses that allow evaluating the environmental awareness of the students with seventeen items, applying Cronbach's alpha with high reliability results: 0.975.

## **Results**

**Table 1 Distribution of levels of environmental awareness and their dimensions**

Levels	Environmental awareness		Cognitive awareness		Affective awareness		Conative consciousness		Active consciousness	
	F	%	F	%	F	%	F	%	F	%
Unacceptable	229	45.8	232	46.4	239	47.8	219	43.8	239	47.8
Average	145	29.0	165	33.0	157	31.4	150	30.0	129	25.8
Acceptable	126	25.2	103	20.6	104	20.8	131	26.2	132	26.4
Total	500	100.0	500	100.0	500	100.0	500	100.0	500	100.0

In table 1 it was found that 45.8% presented unacceptable levels; 29%, on average, and 25.2%, acceptable for environmental awareness. Likewise, it was found that 46.4% presented unacceptable levels; 33% presented average levels, and 20.6% presented an acceptable level of cognitive awareness. In addition, it was found that 47.8% presented unacceptable levels; 31.4% presented average levels, and 20.8% presented an acceptable level of consciousnessaffective. Regarding conative awareness, it was found that 43.8% presented unacceptable levels; 30% presented average levels, and 26.2% presented an acceptable level. Finally, it was found that 47.8% presented unacceptable levels; 25.8% presented average levels, and 26.4% presented an acceptable level of active awareness.

**Table 2 Distribution of levels of the environmental awareness by gender**

		Sex		Total
		Feminine	Male	
Environmental awareness	Unacceptable	210	19	229
		42.0%	3.8%	45.8%
	Average	Four. Five	100	145
		9.0%	20.0%	29.0%
	Acceptable	3	123	126
		0.6%	24.6%	25.2%
Total		258	242	500
		51.6%	48.4%	100.0%

In table 2, female students obtained a 42% unacceptable level of environmental awareness; 9% presented an average level and 0.6% an acceptable level and in male students; 3.8% acceptable level; 20% average level, and 24.6% acceptable level.

**Table 3 Distribution of levels of environmental awareness according to age**

		Age			Total
		Under 20	From 21 to 23	Over 24	
Environmental awareness	Unacceptable	141	57	31	229
		28.2%	11.4%	6.2%	45.8%
	Average	25	97	2. 3	145
		5.0%	19.4%	4.6%	29.0%
	Acceptable	3	105	18	126
		0.6%	21.0%	3.6%	25.2%
Total		169	259	72	500
		33.8%	51.8%	14.4%	100.0%

In table 3, of the students under 20 years of age, 28.2% obtained an unacceptable level of environmental awareness; 5% presented an average level, and 0.6% an acceptable level. In students aged 21 to 23, 11.4% presented an unacceptable level; 19.4% presented an average

level and 21%, an acceptable level. Regarding students over 24 years of age, 6.2% presented an unacceptable level; 4.6% average level, and 3.6% acceptable level.

## **Discussion**

According to the results of the environmental awareness variable, the levels were unacceptable by the university students in this regard. Gomera (2008) indicates that environmental awareness is the constant articulation that exists between man and his environment; For this, the human being relies on his experiences, wisdom and praxis. Oláquez et al. (2017), in their research on ascending awareness, regarding the appreciation of environmental training, whose objective was to study the appreciation of the university students of the Polytechnic study house of the Évora Valley, they came to the conclusion that It is important to insert the theme of environmental training into the curriculum of the aforementioned house of study in Mexico, through a transversal perspective.

Female students obtained a 42% unacceptable level of environmental awareness for male students; 24.6%, an acceptable level. The results disagree with the study by Hammami et al. (2017), who had concluded that the majority of male students showed positive attitudes towards the environment and its crisis. Programs organized by elementary schools have also contributed to increasing students' environmental awareness. However, such programs are identified as inappropriate for influencing the environment of student adoption of behavior. Male students have actively participated in recycling activities organized through the green program, but they have shown a lack of interest in proposing their points of view to minimize the severity of environmental crisis conditions worldwide. On the other hand, Gamero (2014) states that gender equality is not an end in itself, but rather a means to achieve all development objectives, such as eradicating extreme poverty and hunger, reducing infant mortality, guaranteeing the environmental sustainability, among others

Along the same lines, Kodama (2017) indicated that male students are more concerned about the environment. These students believe that it is essential to overcome environmental issues in order to maintain a healthy lifestyle and, therefore, reduce the morbidity rate in the country. Consequently, Mediavilla (2017) indicated that women are the most concerned about ecology as a current issue with respect to men's opinion, whether in the first, second or third place, given that a greater number of women have chosen it as one of the the most worrying current issues. On the other hand, Gamero (2014) concludes that men are rational beings and women emotional, considering men hunters and women caretakers who wait with their children to arrive from the provider.

Regarding students under 20 years of age, they obtained 28.2% of unacceptable level of environmental awareness, and students over 24 years of age, 6.2% presented unacceptable level, 4.6% of average level and the 3.6% acceptable level. In this regard, Mwendwa (2017) concluded that students lack knowledge and awareness about ecological problems and are unable to propose ideas that can help minimize some important environmental problems. This is because teachers, schools face challenges in teaching environmental education due to inadequate resources, the number of students and time. Nevertheless, It is important that the primary school authorities take into consideration the importance of environmental education and take active participation in the organization of sessions in schools to influence students to behave in favor of the environment. Likewise, Gomera (2008) indicates that environmental awareness is the constant articulation that exists between man and his environment, for which the human being relies on his experiences, wisdom and praxis. On the other hand, Oláquez (2017) states that the taking of environmental awareness is necessary to work from the university, regarding the appreciation of environmental training, inserting the theme of environmental training in the curriculum of university students, through a transversal perspective.

## **Conclusion**

Sustainable development has had a great impact on the world; This seeks that people can live in a suitable environment and at the same time wants this environment that surrounds us to be in an optimal form. For this, in the 1980s, this concept was created by the UN. Over time these goals and objectives remain fixed; however, nowadays they are much more important, since the levels of damage to the environment have been increasing due to the industries.

Environmental awareness as a philosophy of life seeks to promote the care and prevention of any current problem in the future that the environment presents, all with the purpose of preserving the resources that the Earth offers us for as long as possible. However, paradoxically, man is the being that causes the most damage. For this reason, the State and civil society are in charge of carrying out different activities with the main objective of preventing and eliminating pollution in the environment, namely: wastewater management, waste management, protection and soil rehabilitation, etc.

Environmental issues are part of our lives, on the other hand, the environmental crisis is not just a matter of investigation, it is now a potential reality, where it will have psychosocial impacts of social and even personal attention. In this sense, it is necessary for many people to learn environmental education and acquire environmental awareness. The awareness

process is very difficult, because everyone is independent of what they do, rather, everyone must be aware of it. However, awareness can be promoted and fostered. People can acquire attitudes and knowledge to form a position on environmental issues, which will help to take active action. In short, faced with this panorama.

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