

Study on Self-efficacy and Pro-Environmental Behavior among School Students

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ABSTRACT

Humans depend on various resources from the environment for survival. In recent times humans have maximized their use of these natural resources by exploitation of the environment which has resulted in the exhaustion of these valuable resources. Therefore, it is the need of the hour to inculcate pro-environmental behavior among individuals such that it results in the sustainable development of the environment. Pro-environmental behavior refers to the behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built world (Kollmuss, Agyeman, 2002). To be successful in exhibiting pro-environmental behavior, an individual must have a belief in oneself that their conscious behavior towards the environment can bring a significant positive impact. Therefore, it is important to study the level of self-efficacy among individuals to promote pro-environmental behavior. Self-efficacy refers to an individual's belief in one's capacity to execute behaviors necessary to produce a specific performance (Bandura, 1977). This study examines the relationship between self-efficacy and pro-environmental behavior. A sample of adolescents (N=80) ranging from 14-17 years was chosen for the study. The adolescent's self-efficacy was measured using the Self-efficacy Scale and Pro-environmental behavior was measured using the Pro-environmental Behavior Scale. Data collected were analyzed through mean analysis, Pearson's correlation and test of significance. The results show that there is a positive relationship between self-efficacy and pro-environmental behavior. There is no gender difference in the level of pro-environmental behavior. There is a gender difference in the level of self-efficacy.

Keywords: Pro-environmental behavior, Self-efficacy, Adolescents.

Environment plays an important role in every living organism's life, especially in human life. The environment is everything that is around us, the living and the non-living things. Environment plays an important role in the healthy living of human beings. Humanities entire life support system depends on the well-being of all the environmental factors. There is an increase in the climate change that we can observe in the environment that has been taking various forms of unpredictable and destructive

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Received: May 29, 2021; Revision Received: June 17, 2021; Accepted: June 30, 2021

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consequences such as flood, drought, tsunami, earthquake etc. In a way these changes are due to the manipulation of the environment by humans to obtain various resources for their survival, humans have begun to manipulate or exploit the environmental surroundings around them to obtain resources for personal needs and growth of the country, by not keeping in mind the adverse effects that are created by these manipulations or exploitation. This is evident as Scientists of the international body of atmosphere called the Intergovernmental Panel on Climate Change (IPCC) concluded back in 1996 that “the balance of evidence suggests that there is a discernible human influence on global warming.” (IPCC, 1996,).

The question of how to encourage people to behave in environmentally sustainable ways has caught the attention of researchers within various disciplines. Changing an individual’s behavior or actions towards preserving his/her environmental surrounding can reduce environmental degradation to a large extent. One such way to encourage people to behave environmentally sustainable is by inducing Pro-environmental behaviors. Pro-environmental behaviors as defined by Kollmuss & Agyeman (2002) as “behavior that consciously seeks to minimize the negative impact of one’s actions on the natural and built world”. A study on organizational employees by Ture & Ganesh (2014) revealed that individual characteristics such as values and environmental belief, and organizational environmentalism will influence the employees’ pro-environmental behaviors through the personal and social norm, respectively. A human must act environmentally conscious as it is believed that the environment is a key for human survival. We are born in this environment and we will die in this environment. It is our duty to keep our environment clean. For the healthiness of humans and every living creature, it is important to protect nature. An Indian study has also highlighted the importance of willingness to pay for green products by predicting two variables namely the pro-environmental behavior and locus of control in which the results suggested that willingness to pay to differ significantly with the level of intensity in Pro-environmental behavior and locus of control among Indian consumer (Trivedi et al, (2015). A notable study by Gustin and Weaver (1996) evaluated a consumer's intention to stay in a hotel based on the environmental strategies used by that hotel. Consumer's intention was measured using an adapted version of Hines' model of environmental behavior. Knowledge, attitudes and perceived self-efficacy were the variables used to predict consumers' intentions to purchase a night's stay in a hotel. The results of the study showed that self-efficacy, together with knowledge about environmental issues and attitudes towards environmental strategies, was positively related to people’s intentions to stay in a hotel that applies environmental strategies.

Olson, Iyer and Zacher, (2012) researched to find the Relationships between daily effect and pro-environmental behaviors as well as daily task-related pro-environmental behavior and daily proactive pro-environmental behavior. Fifty-six employees working in small businesses completed a baseline survey and two daily surveys over ten workdays at work and the findings suggest that fostering pro-environmental attitudes and, to some extent, positive effect among employees could help organizations to promote pro-environmental behavior in the workplace.

Another study conducted by Payne (2013) studied the effects of self-efficacy on pro-environmental intentions among Thirty-five individuals, each participant was required to watch a fear-inducing global warming video and complete three separate questionnaires to monitor their emotional response, felt the responsibility, and level of pro-environmental intention. The participants were divided into two groups, the experimental group and the

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control group. The control group was directly asked to fill questionnaire whereas the experimental group was given a motivational speech. The study concluded that the experimental group showed increased self-efficacy and pro-environmental intentions. The findings of the study revealed that the lack of self-efficacy decreased their lasting pro-environmental intentions.

Huang (2016) researched Media use, environmental beliefs, self-efficacy, and pro-environmental behavior. The results from a national survey in Taiwan demonstrated that individuals rely on the media (television, newspapers and the Internet) to acquire information about global warming. Individuals' exposure and attention to global warming media coverage have positive direct effects on three types of pro-environmental behavior, including accommodating, promotional and proactive behavior. Environmental beliefs and self-efficacy also have indirect effects on all types of environmental behavior through media use and the results concluded that Environmental beliefs and self-efficacy also have indirect effects on all types of environmental behavior through media use. These findings reveal the vital function of global warming media use on people's environmental behavior.

Doran, Hanss and Larsenn, (2016) researched Attitudes, Efficacy Beliefs, and willingness to pay for environmental protection when travelling. The researcher in the study focused on the attitudes, social comparison, self-efficacy beliefs and collective efficacy beliefs. Whether or not individual tourists are willing to contribute their share may thus depend not only on the degree to which they think that environmental sustainability is important (attitudes), the degree to which they think that other tourists hold similar attitudes (social comparison), beliefs that one's own behaviour can make a difference (self-efficacy beliefs) and that tourists as a group together can make a difference (collective efficacy beliefs) of the tourists. The results of this research concluded that Attitudes, Self-Efficacy and Collective Efficacy accounted for 30% of the variance in willingness to pay for environmental. Another study by (Hanss, Bohm et al.,2016) investigated self-efficacy concerning people's perceived direct impact on sustainable development (i.e. through their own actions) and people's perceived indirect impact on sustainable development (i.e. through encouraging others to contribute to sustainable development) findings in these studies is that a stronger sense of self-efficacy is associated with a greater tendency to engage in behaviours that foster sustainable development (e.g. purchasing eco-friendly consumption products).

Need for study

Every human must understand the importance and the need to act environmentally conscious which can help in conserving resources. Humans are responsible for taking care of the environment. Not only protecting the environment benefits people in the current generation; it will also benefit people in many generations to come. This planet is our legacy to future generations. Pro-environmental behavior is a way to give back the environment for the benefits and resources that we obtain from it. Even if People tend to believe that environmental preservation is important, they also tend to believe that their personal behavior alone has little impact on the environment, this lack of belief that an individual has no capacity or ability to bring about certain changes or outcomes in the environment eventually leads to negligence in preserving one's own environment and surroundings. By studying the level of self-efficacy of an individual towards pro-environmental belief can help educational institutions and other organizations to conduct various activities and campaign that focuses on increasing the efficacy beliefs rather than just promoting conservation of environment. Hence, it's important to study the self-efficacy beliefs of a person to promote pro-environmental behavior.

METHODOLOGY

Research problem

Is there a relationship between self-efficacy and Pro-environmental behavior?

Aim

To study the relationship between self-efficacy and pro-environmental behavior among school students.

Objectives

1. To study the relationship between self-efficacy and pro-environmental behavior.
2. To determine the gender difference in the level of self-efficacy and pro-environmental behavior.

Hypothesis

H₀: There would be no significant relationship between self-efficacy and Pro-environmental behavior.

H₀: There would be no gender difference in the level of self-efficacy.

H₀: There would be no gender difference in the level of pro-environmental behavior

Research design

An ex-post facto research design was adopted to conduct the study in which a survey questionnaire was administered to the targeted sample and the responses obtained from the survey was statistically analyzed.

Participants

A sample of 80 participants (N=80), 40 boys and 40 girls who are pursuing their school education, between the age group 14-17-year-old were included for the study. The participants were obtained from different schools across Chennai district, Tamil Nadu, India.

Inclusion criteria:

- School students between the age group 14-17-year-old were included in the study.
- The Participants were from Chennai district, Tamil Nadu, India.

Exclusion criteria

- Participants who are not a school student and does not fall between the age group of 14-17 year were not included for the study.
- The Participants outside Chennai district, Tamil Nadu, India was not included.

Variables

Independent variable: Self-efficacy

Self-efficacy refers to an individual's belief in one's capacity to execute behaviors necessary to produce a specific performance (Bandura, 1977).

Dependent variable: Pro-environmental behavior

Pro-environmental behavior refers to the behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built world (Kollmuss, Agyeman, 2002).

Instruments

Two measures were used in this study,

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- 1. Self-efficacy Scale:** The level of self-efficacy was measured using the Self-efficacy Scale (SES) developed by Dr Arun Kumar Singh. The self-efficacy scale comprises 20 items. The reliability of the self-efficacy scale was found to be 0.74 for the split-half reliability and 0.82 for the test re-test reliability and all reliability coefficient were significant at 0.1 level. The validity of the SES was found to be 0.92 which was significant.
- 2. Pro-environmental Behavior Scale:** The level of pro-environmental behavior was measured using the Pro-environmental behavior scale (PEBS) developed by Dr Anjali Suhane. The reliability of PEBS was found to be 0.76 by using the Spearman-Brown prophecy formula. The test-retest reliability was established by administering the scale on a sample of 50 students.

Procedure

The sampling method used was purposive sampling. The participants were instructed to read each statement carefully and to put a tick mark against the alternative which was appropriate to them. Only one response is to be ticked for each statement there was no specified time limit allotted to finish the questionnaire. The participants were assured that the responses will be kept confidential and anonymity will be maintained. All samples were included.

Data analysis

The results of the collected data were analyzed and interpreted by descriptive statistics such as mean analysis, Pearson's product-moment method (correlation coefficient) and, the test of significance (t-test).

RESULTS AND DISCUSSION

Table No. 1 Overall mean scores and interpretation for self-efficacy and Pro-environmental behaviors scale among both male and female adolescents.

Variables	Mean scores	Interpretation
Self-efficacy	78.0375	Average self-efficacy
Pro-environmental behavior	59.1625	Above average favorable

From table 1 it can be inferred that the mean score for self-efficacy of the overall sample of middle adolescents (14-17 years) is interpreted as average this indicates that they exhibit a moderate level of self-efficacy. People with high self-efficacy choose to perform a more challenging and difficult task and approach life with a can-do attitude that allows them to see challenges as problems to be solved instead of threats that must be avoided whereas people with a low level of self-efficacy typically view difficult task through the lens of fear and their lack of faith in ability produces lack of action which can result in self-doubt. (Singh & Udainiya,2009). In the case of an average level of self-efficacy, an individual may exhibit high levels of self-efficacy in a certain situation and a low level of self-efficacy in particular situations.

Similarly, it can also be inferred from the table that the mean score for Pro-environmental behavior for the overall sample of the middle adolescent is interpreted as above-average favorable. Pro-environmental behavior becomes very important, especially among adolescents because adolescents are the future assets of the nation, who might become the policymakers about the sustainable development of environment. Therefore, Adolescence is a good representative for the change of behavior, especially pro-environmental behavior.

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(Savitri,2015). Parents, teachers and other role models who show an interest in nature, influences youth to take an interest in nature themselves and later work for its protection. (Chawla & Cushing, 2007). Especially in school students, educational programs regarding nature protection, active participation in school environmental clubs and monthly clean-up programs organized by the school can increase an adolescent's Pro-environmental behavior.

Table No. 2 Values of coefficient of correlation

Variable 1	Variable 2	Correlation(r)	P value
Self-efficacy	Pro-environmental behavior	0.26	.0195**

***Significant at P<0.01*

Table 2 indicates that there exists a significant positive correlation between self-efficacy and Pro-environmental behavior. This implies that with an increase in self-efficacy, the presence of Pro-environmental behavior among the middle adolescent also increases and vice-versa. Doran, Hanss and Larsenn, (2016) suggested that self-efficacy is positively associated with willingness to pay for environmental protection which is considered as a pro-environmental behavior. Decisions to pay for environmental protection can be regarded as a large-scale social dilemma. In these situations, people may have stronger doubts regarding their personal ability to make a difference (Kerr, 1989). One way of strengthening perceptions of efficacy could be to reduce the perceived size of the social dilemma through informational campaigns (Hanss, 2012).

Table No. 3 p-value for self-efficacy between both female and male.

Variables	t-value	p-value	Significance level
Self-efficacy	2.90026	0.004842**	**Significant at 0.01
Pro-environmental behavior	0.18724	0.851959	Not significant at 0.01

From table 3 it can be inferred that there exists a significant difference in the level of self-efficacy among male and female, this indicates that there is a gender difference in the level of self-efficacy. The means score for the level of self-efficacy among male and female is consistent with the p-value indicating that there exists a significant gender difference in the levels of self-efficacy. This finding is supported by a study by Kumar & Lal, (2006) who stated the reason for this could be social norms and family restrictions, females are not much exposed to the outside environment and they do not direct their feelings and devote maximum time to indoor activities. This could also be due to reduced opportunities that females are given in school or work setting due to which they exhibit low levels of self-efficacy than men. Henceforth hypothesis (H2) is rejected.

Similarly, it can be observed that there exists no significant difference in the level of Pro-environmental behavior. This indicates that there is no gender difference among male and female in pro-environmental behavior. It can be inferred that the mean scores for the level of pro-environmental behavior among male and female are consistent with the p-value indicating that there exists no significant gender difference in pro-environmental behavior. This could be because anyone can participate and engage in pro-environmental behavior regardless of their age and gender. Research studies have indicated that female engage in pro-environmental behavior largely at home whereas males engage in pro-environmental behavior at the workplace. Henceforth hypothesis (H3) was accepted.

CONCLUSION

School Students have an average self-efficacy level, they also have an above-average favorable pro-environmental behavior. There exists a positive correlation between self-efficacy and Pro-environmental behavior, this indicates that with an increase in self-efficacy, pro-environmental behavior increases. There is no gender difference in the level of pro-environmental behavior. Male have higher levels of self-efficacy than female.

Implications and limitations

By determining the relationship between self-efficacy and pro-environmental behavior, it is possible to increase the level of self-efficacy to inculcate pro-environmental behavior in school students. This is possible by Bandura's sources of self-efficacy model which emphasizes mastery experiences, vicarious modelling, verbal persuasion and arousal. Schools can emphasize providing the sources of self-efficacy followed by awareness programs and cleaning campaigns in schools and cities to increase pro-environmental behavior.

This research was restricted to the middle adolescents (14-17 years) school students excluding the other age groups in the developmental stages. The sample was limited to schools from Chennai district, Tamil Nadu. Since the sample size is small, the results cannot be generalized.

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Acknowledgement

The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: B. Krishna Priya & S. Thenmozhi (2021). Study on Self-efficacy And Pro-Environmental Behavior among School Students. *International Journal of Indian Psychology*, 9(2), 1851-1858. DIP:18.01.184.20210902, DOI:10.25215/0902.184