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RELATIONSHIP AMONG ENVIRONMENTAL AWARENESS, ATTITUDE AND BEHAVIOUR OF HIGHER SECONDARY STUDENTS

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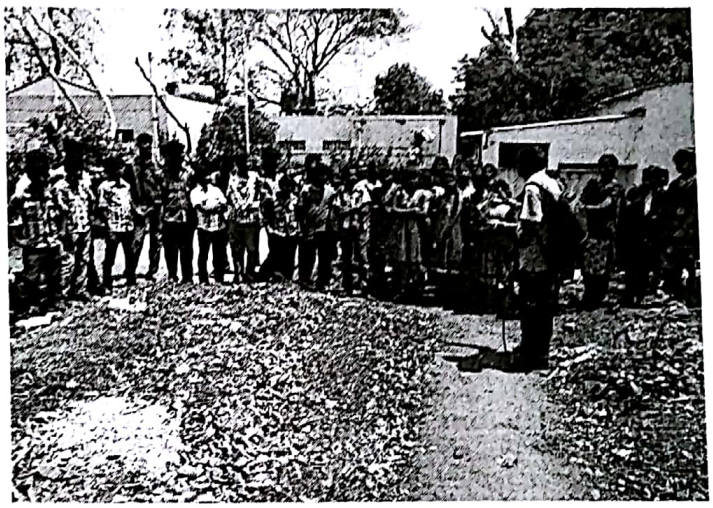
ABSTRACT



The present study was carried out on students of the standard XI pursuing different disciplines of education in schools of Jabalpur city affiliated to Central and Madhya Pradesh Boards of Secondary Education. The sample comprised of 663 and 722 students, respectively, belonging to Central and M.P. boards. The standardized tests were used to measure environmental awareness, attitude and behaviour of students. The students of the Central board recorded more positive environmental awareness than that of the M.P. Board ($p = <0.001$), but environmental behaviour was better among students of M.P. Board compared with that of Central Board ($p = <0.001$). Environmental attitude did not differ between students of both the boards ($p = >0.05$). A significant linear positive correlation between awareness and attitude, awareness and behaviour and attitude and behaviour was recorded among the students of Central as well as M.P. Boards ($p = <0.05$). But coefficient of determination of relation among different variables ranged only between 0.05 and 0.29 that clearly denotes that environmental awareness and attitude can only partly but not fully explain variability in environmental behaviour of students.

KEYWORDS :environmental awareness ,behaviour of higher secondary students, attitude and behaviour of students.

INTRODUCTION:

The rich variety of genes, species and ecosystems, which has been the foundation for the social, economical and cultural diversity on this planet for past billion years, has now itself become an issue of serious concern. The industrial revolution has permanently changed the ways human beings utilize natural resources and the ways they live on the Earth. It not only modernized the society but has also caused an explosion in population growth, which is likely to reach 9 billion over the next 50 years up from 6.8 billion today. The ensuing industrialization and urbanization have triggered much faster degradation of natural habitats, intensive exploitation of fossil fuel and its combustion, widespread incidence of rampant pollution, resulting in complex problems of global warming and ozone holes threatening the very existence of life on this planet, if not controlled in time.

A high level of awareness in combination with positive attitude and sound environmental

behaviour among the students may facilitate rationale uses of resources and minimal generation of wastes by them, thereby saving extinction of life from our planet. The perception of individuals and communities may determine their love for beauty of surrounding nature as well as concern about local environmental problems. This may change the attitude of the learners and motivate them to willfully act and change their behaviour for conservation and preservation of environmental quality. It becomes, therefore, necessary to study not only the level of environmental awareness and attitude towards environment but also to see if there is any impact of these variables on environmental behaviour, since action is more important than the theoretical concept and knowledge alone. The present study was, therefore, planned to measure interrelationships among environmental awareness, attitude and behaviour of higher secondary students.

RESEARCH METHODOLOGY

The study was performed on standard XI students studying in higher secondary schools of Jabalpur city, Jabalpur district, Madhya Pradesh. The schools affiliated to the Central and Madhya Pradesh Board of Secondary Education were selected from the list provided by the District Education Officer to include representation of major disciplines of study, namely humanities, commerce, science and biology. The male and female students from each school were randomly selected and tested for levels of environmental awareness, attitude and behaviour with the help of standard tests. Each student was first tested for environmental awareness, then for environmental attitude and finally for environmental behaviour.

Environmental awareness was measured by the "Environmental Awareness Ability Measure" devised by Praveen Kumar Jha. The test comprised of 51 statements, each with only two alternatives – agree and disagree. The students' responses were scored strictly according to the prescribed procedure and categorized on a 3-point scale: High awareness – 37 to 51, Average awareness – 16 to 36, and Low awareness – 0 to 15. Environmental attitude was measured by the "Environmental Attitude Scale" devised by N.N. Shrivastava and S.P. Dubey. The test comprised of 40 items, each with three alternatives – agree, undecided and disagree. The students' responses were scored strictly according to the prescribed procedure and categorized on a 3-point scale: Favourable attitude – 49 to 80, Intermediary attitude – 42 to 48, and Unfavourable attitude – 0 to 41. Environmental behaviour was measured by the "Environmental Behaviour Scale" devised by A. Singhal, U. Verma and P.K. Singhal. The test comprised of 60 items, each with two alternatives – yes and no. The students' responses were scored strictly according to the prescribed procedure and categorized on a 3-point scale: Positive behaviour – 48 to 60, Average behaviour – 37 to 47, and Negative behaviour – 0 to 36.

The sample comprised a total of 1385 students with 722 from 6 schools of M.P. Board and 663 from 7 schools of Central Board. The scores obtained by students in different tests were summarized by obtaining the arithmetic mean and standard deviation. The Student's t test was applied to compare two independent means and the product-moment correlation analysis was used to test relationship between any two variables.

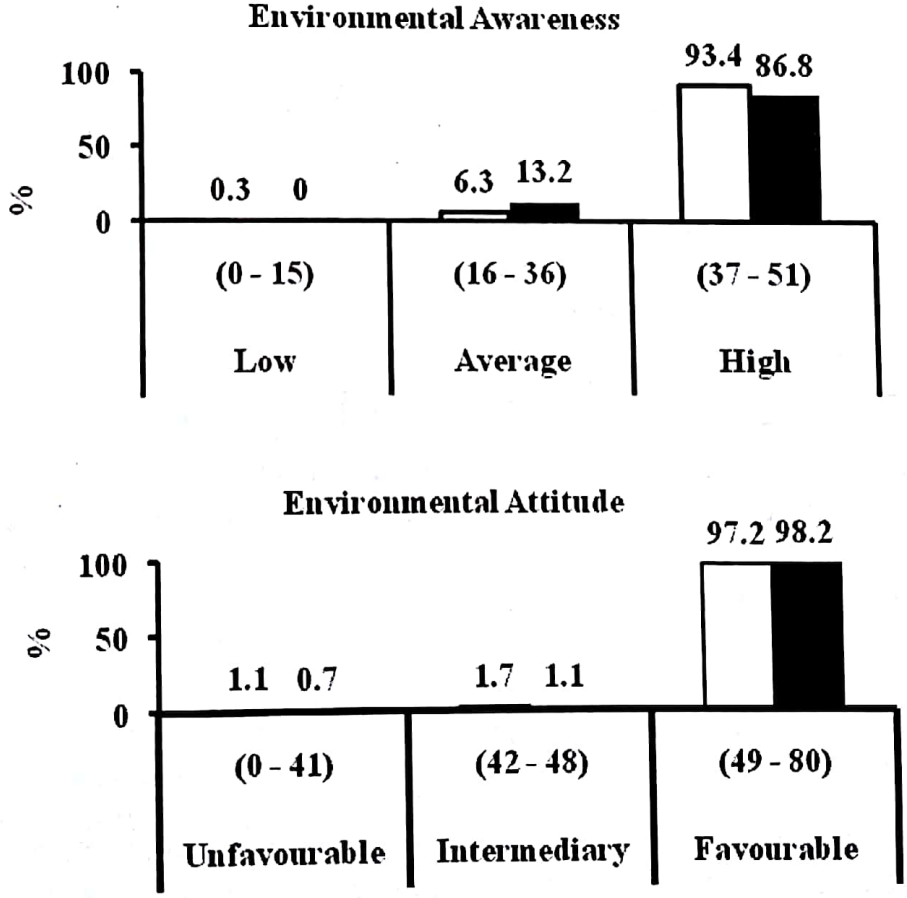
RESULT

Environmental awareness ranged from 9 to 51 and 19 to 51, respectively, among students of Central and M.P. Board. The maximum proportion of students of both the boards (i.e. 87 to 93%) showed high levels of awareness (i.e. 37 to 51), and the minimum proportion (i.e. 0 to 0.3%) exhibited low levels of awareness (i.e. 0 to 15, Fig. 1). The mean environmental awareness of students of the Central board (i.e. 43.30) was significantly higher than that of M.P. board (i.e. 41.31, $t = 7.92$, $p =$

<0.001). Environmental attitude ranged from 21 to 80 and 39 to 80, respectively, among students of Central and M.P. Board. The maximum proportion of students of both the boards (i.e. 97 to 98%) recorded favourable attitude (i.e. 49 to 80) while the minimum recorded intermediary to unfavourable attitude (Fig. 1). Mean environmental attitude did not differ significantly between students of Central (i.e. 67.19) and M.P. (i.e. 67.51) boards (t = 0.73, p = >0.05). Environmental behaviour ranged from 12 to 59 and 17 to 60, respectively, among students of Central and M.P. Board. The maximum proportion of students of both the boards (i.e. 49 to 57%) showed positive behaviour (i.e. 48 to 60), followed by 36 to 38% with average (i.e. 37 to 47) and 6 to 13% with negative behaviour (i.e. 0 to 36, Fig. 1). The mean environmental behaviour of students of the Central board (i.e. 46.03) was significantly lower than that of M.P. board (i.e. 47.45, t = 3.87, p = <0.001).

There was a significant positive linear correlation between environmental awareness and attitude of the students belonging to the Central (r = 0.437, t = 12.49, p = <0.001) and the M.P. board (r = 0.538, t = 17.13, p = <0.001, Fig. 2). The coefficient of determination (R2) was 0.191 and 0.289, respectively, for Central and M.P. boards. This implied that environmental awareness could explain only 19 to 29% of the variance in environmental attitude of the students.

There was a significant positive linear correlation between environmental awareness and behaviour of the students belonging to the Central (r = 0.334, t = 9.11, p = <0.001) and the M.P. board (r = 0.346, t = 9.85, p = <0.001, Fig. 3). The coefficient of determination (R2) was 0.112 and 0.12, respectively, for Central and M.P. boards. This implied that environmental awareness could explain only 11 to 12% of the variance in environmental behaviour of the students.



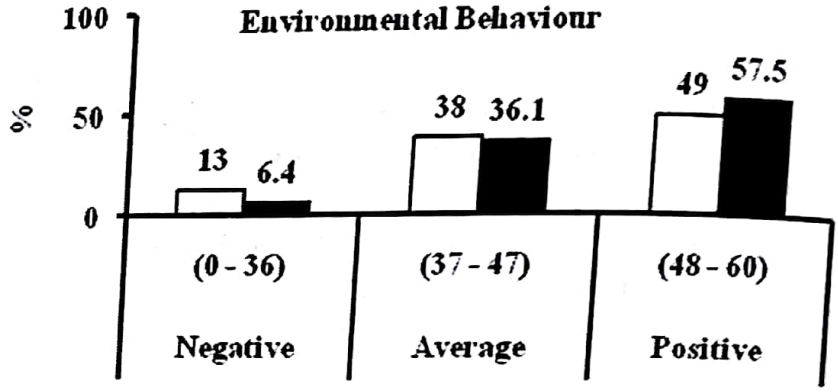


Fig. 1: Distribution of students belonging Central (Blank Bars) and Madhya Pradesh (Black Ba Boards of Secondary Education in different categories of environmental awareness, attitude a behaviour.

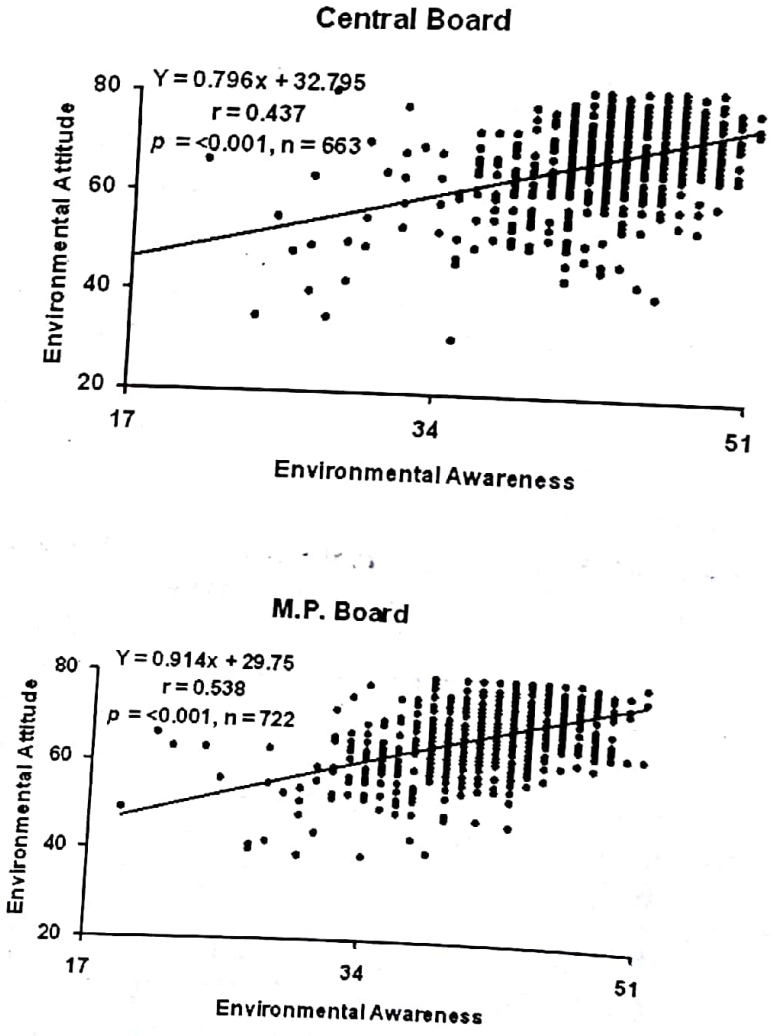


Fig. 2: Relationship between environmental attitude and awareness of students belonging to Central and Madhya Pradesh Board of Secondary Education (r = Correlation Coefficient, p = Significance Level of r, n = Number of Observations).

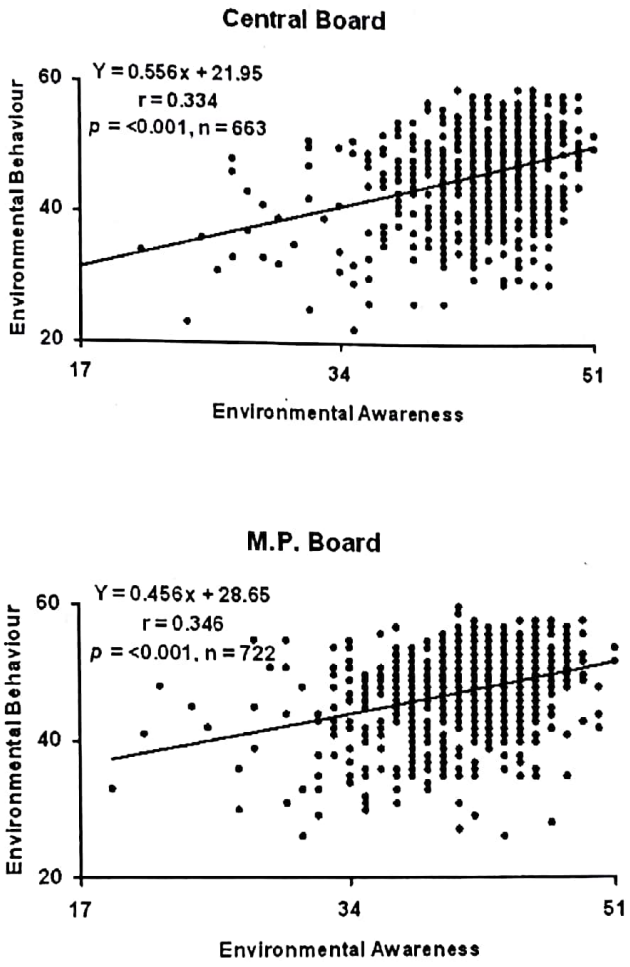


Fig. 3: Relationship between environmental behaviour and awareness of students belonging to Central and Madhya Pradesh Board of Secondary Education (r = Correlation Coefficient, p = Significance Level of r, n = Number of Observations).

There was a significant positive linear correlation between environmental attitude and behaviour of the students belonging to the Central ($r = 0.31$, $t = 8.38$, $p = <0.001$) and the M.P. board ($r = 0.234$, $t = 6.46$, $p = <0.001$, Fig. 4). The coefficient of determination ($R2$) was 0.096 and 0.055, respectively, for Central and M.P. boards. This implied that environmental attitude could explain only 6 to 10% of the variance in environmental behaviour of the students.

DISCUSSION

The Central board appears to have a better designed and comprehensive syllabus of environmental education relative to that of the M.P. board, since their students showed a significantly higher level of environmental awareness than that of their counterparts. Another plausible reason for such differences between the two boards may be the levels of subject's well being, income inequality and competence of the concerned parents. However, environmental attitude did not differ between the two boards, and environmental behaviour of students of M.P. board was better than that of the Central board. Such results suggest that environmental knowledge, family background or/ and well-

being of the students may not have any direct impact on their environmental behaviour. Duroy (2005) showed that economic affluence had no direct impact on environmental behaviour, but education, population pressure and happiness are significantly correlated with environmental behaviour.

The average correlation between environmental awareness and attitude in the present study was far better than reported for student – teachers from Kerala by Ushadevi and Dhanya (2009). In contrast, Kumari et al. (2006) reported no correlation between environmental awareness and attitude of higher secondary students from Uttar Pradesh. Despite a highly significant correlation, environmental awareness could explain only 19 to 29% of the variability in environmental attitude, signifying the role of other regulatory variables in formation and prediction of environmental attitude. This indicates that

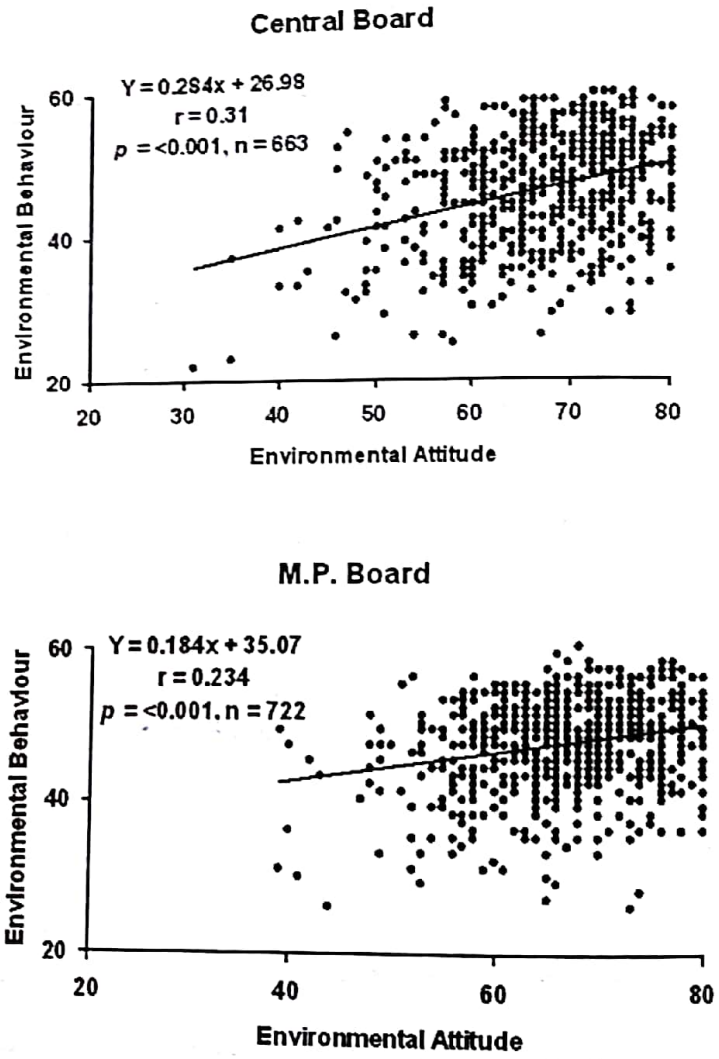


Fig. 4: Relationship between environmental behaviour and attitude of students belonging to Central and Madhya Pradesh Board of Secondary Education (r = Correlation Coefficient, p = Significance Level of r, n = Number of Observations).

environmental knowledge and values may not be only factors that shape one's attitude towards environment. The cultural affinity, commitment towards environmental conservation and life's priorities may play a pivotal role in evolution of individuals' attitude towards environment. Individual

commitment of the population to improve their environment in developing countries appears to lag far behind than their counterparts living in developed nations (Ziadat, 2010).

A significant positive correlation between environmental awareness and behaviour indicated a link stronger than chance between the two variables. But a weak coefficient of determination denotes that environmental awareness cannot be a useful predictor of environmental behaviour. Many other studies have also not reported a significant correlation between the two variables (Kumari et al., 2006; Kalantari et al., 2007). This is in contrast to widely-held belief that environmental awareness plays a significant role in strengthening the sustainable development of any country (The Brundtland Report, 1987). A positive correlation between environmental attitude and behaviour observed in this research is consistent with the widely held notion that environmental attitude is a powerful predictor of environmental behaviour (Kaiser et al., 1999; Clark et al., 2003; Tonglet et al., 2004; Kumari et al., 2006; Kalantari et al., 2007). However, a very weak coefficient of determination may imply that environmental attitude may not be a useful predictor of environmental behaviour, especially for the Indian youth. Attitude theory suggests that attitudes that are specifically related to a particular behaviour should be better predictors of that behaviour than general attitudes (Ajzen and Fishbein, 1980). However, the overall predictive power of the specific attitudes may not be better than that achieved using general attitudes to predict behaviour.

The present study unambiguously proves that introduction of environmental education at primary and secondary levels of education have considerably improved environmental awareness and attitude of the Indian youth. But this in turn has not improved their environmental behaviour. The widely popular 'Theory of Planned Behaviour' seems to be more relevant for social behaviour rather than environmental behaviour. Environmental behaviour is a complex phenomenon that involves not only the knowledge, attitude and behaviour intention but also the firm commitment and moral norms about the preservation of environmental quality. Situational factors coupled with the earlier experiences, sense of environmental stress and likely outcomes of the sustainable environmental actions are the strong motivators for a favourable environmental behaviour. Our adolescent as well as young students should be made direct stakeholders in environmental improvement exercises in order to make them empowered environment-conscious citizens. Such an environment responsible society may be the appropriate custodian of our rich biodiversity and heritage.

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