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GENDER DIFFERENCES IN ENVIRONMENTAL BEHAVIOUR OF HIGHER SECONDARY STUDENTS FROM CENTRAL AND MADHYA PRADESH BOARD OF SECONDARY EDUCATION

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ABSTRACT

The present study reports gender differences in environmental behaviour of higher secondary students pursuing different disciplines of study in schools of Jabalpur affiliated to Central or Madhya Pradesh Board of Secondary Education. Majority of students recorded average to positive behaviour while minority of them reflected negative behaviour. Students of Madhya Pradesh Board have shown higher mean environmental behaviour than their counterparts of Central Board. Students of both the boards revealed diverse patterns of positive, average and negative environmental behaviour between boys and girls. The performance categorization of environmental behaviour was also different between the two genders according to discipline of study. The girls have generally performed better than boys in their mean environmental behaviour, which was much greater in commerce and science disciplines compared to that in humanities. This gender discrimination in environmental behaviour may be owing to mode of gender socialization in India where girls in comparison to boys are typically more involved in daily chores of their home and management of family affairs and socialized to be natural caretakers, thereby making them more concerned and sensitive about their environment.

KEYWORDS:*Environmental behaviour, gender discrimination, socialization, performance categorization.*

INTRODUCTION

India is experiencing rapid growth in agriculture, manufacturing, transport and urbanization sectors coupled with geometric rise in human population and degradation of natural environment. Such human pressure has already degraded more than 50% of India's land and is critically deteriorating quality of ecological services from its diverse natural habitats. Environmental problems have traditionally been considered as economic and technical in nature, but its social dimensions such as public attention and attitude have emerged as important areas of environmental psychology and sociology. The perception of individuals and communities may determine their love for beauty of surrounding nature as well as concerns about environmental issues. Such perceptions may change attitude of learners and motivate them to willfully shape their behaviour in

promotion of conservation and preservation of environmental quality. The knowledge about environmental behaviour of individuals and associated gender discrimination, if any, may be pivotal in solving unique local, regional and global environmental problems. The present paper quantifies gender differences in environmental behaviour of higher secondary students of Jabalpur city in Madhya Pradesh pursuing different disciplines of study in schools affiliated to Central and Madhya Pradesh Board of Secondary Education.

METHODS

The present study was carried out on a sample of 1,385 higher secondary students, pursuing different disciplines of study in schools of Jabalpur city affiliated to the Central and Madhya Pradesh Board of Secondary Education (Table 1). There were 722 students affiliated to the M.P. Board (i.e. 332 of science, 297 of commerce and 93 of humanities) and 663 to the Central Board (i.e. 386 of science, 247 of commerce and 30 of humanities).

Table 1: Distribution of randomly selected students from the schools affiliated to Central and Madhya Pradesh Board of Secondary Education in Jabalpur city.

S. No.	Discipline	Number of students		Total number of students
		Boys	Girls	
M.P. Board of Secondary Education (6 schools)				
1.	Commerce	106	191	297
2.	Science	119	213	332
3.	Humanities	15	78	93
Total number of MPBSE students		**240**	**482**	**722**
Central Board of Secondary Education (7 schools)				
1.	Commerce	102	145	247
2.	Science	181	205	386
3.	Humanities	18	12	30
Total number of CBSE students		**301**	**362**	**663**
Grand Total		**541**	**844**	**1385**

Each student was randomly selected from each discipline and tested for his/her environmental behaviour with a standard test "Environmental Behaviour Scale" (Singhal et al., 2010). The test comprises of 60 statements based different dimensions of environment. A total of 44 statements are positively worded – eliciting a 'yes' response, and the remaining 16 statements are negatively worded – eliciting a 'no' response from the students. For positive statements, 1 mark is to be awarded for a 'yes' response. For the negative statements, 1 mark is to be awarded for a 'no' response. The Scale has the maximum score of 60 marks and the minimum of 0 marks. The direction of scoring is such that a higher scoring in the scale shows a better environmental behaviour.

The students' responses were scored strictly following the prescribed procedure and categorized on a 3-point scale, positive environmental behaviour from 48 to 60, average environmental behaviour from 37 to 47 and negative environmental behaviour from 0 to 36. The mean environmental behaviour of boys and girls was compared with the Student's t test.

RESULTS

Among students of Madhya Pradesh Board of Secondary Education, environmental behaviour of boys ranged from 30 to 58, 30 to 57 and 26 to 58 in commerce, humanities and science disciplines, respectively. The corresponding values of girls were from 26 to 58, 31 to 55 and 27 to 60, respectively. Among students of Central Board of Secondary Education, environmental behaviour of boys ranged from 22 to 59, 30 to 53 and 25 to 57 in commerce, humanities and science disciplines, respectively. The corresponding values of girls were from 29 to 59, 26 to 56 and 26 to 59, respectively. In commerce discipline, the positive environmental behaviour was shown

by the maximum proportion of boys as well as girls, and the negative behaviour by the minimum proportion in both the boards (Fig. 1a). The proportion of boys with positive behaviour was lesser than that of girls, and that with average or negative behaviour was greater than that of girls. However, the gender differences were sharper in commerce students of M.P. Board compared to that of Central Board (Fig. 1a). In humanities discipline, the maximum percentage of boys of M.P. Board and girls of Central Board recorded positive behaviour (Fig. 1b). The maximum percentage of girls of M.P. board and boys of Central board, pursuing humanities discipline, has shown the average behaviour. However, the gender differences were pronounced in humanities students of Central Board relative to that of M.P. Board (Fig. 1b). Among science students of M.P. Board, the maximum proportion of boys and girls recorded the positive behaviour and the minimum revealed the negative behaviour with no gender differences (Fig. 1c). Among science students of Central Board, the maximum proportion of boys recorded the average behaviour and the maximum percentage of girls revealed the positive behaviour (Fig. 1c). However, the minimum proportion of boys as well girls of science discipline of the Central Board recorded the negative behaviour. The gender differences were sharper among science students of the Central board (Fig. 1c).

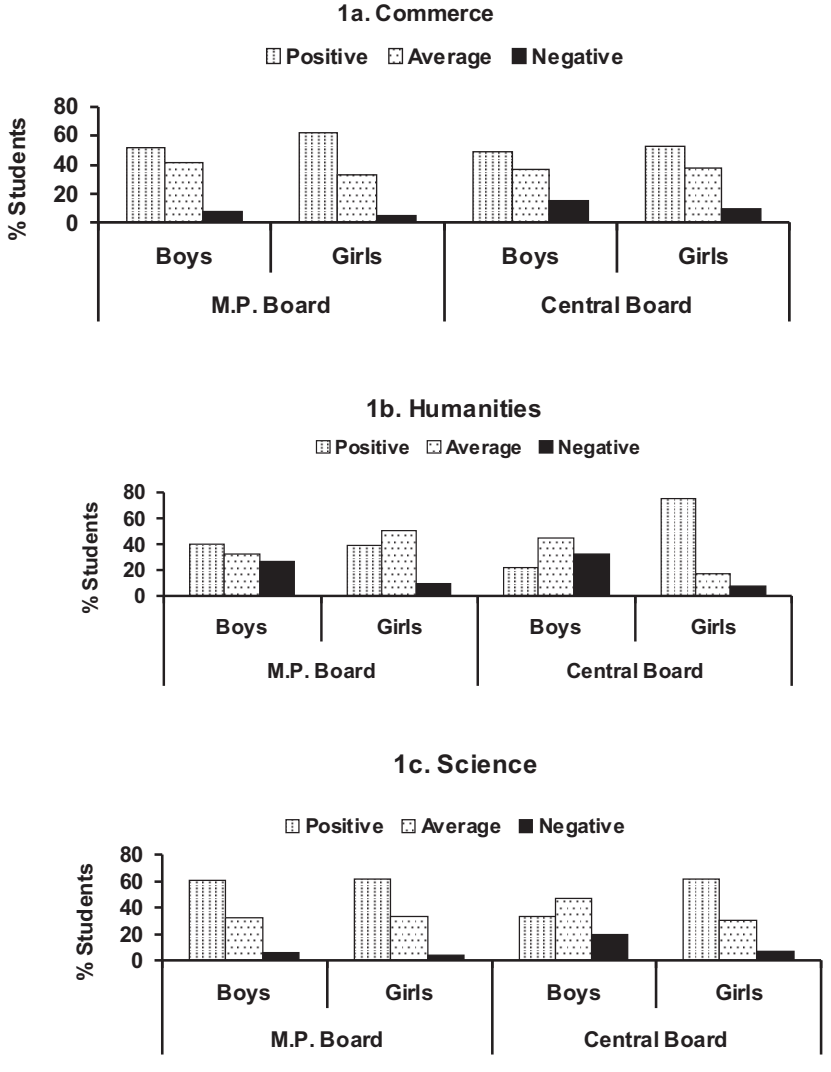

Fig. 1: Gender differences in performance categories of environmental behaviour in students of different disciplines.

The mean environmental behaviour of M.P. Board students was the maximum in science discipline and the minimum in humanities discipline (Table 2). The commerce students recorded mean values closer to that of science students. The girls recorded relatively higher values of mean environmental behaviour than the boys in all disciplines of study (Table 2). The gender differences were significant only in commerce discipline ($p<0.05$) and insignificant in other disciplines ($p>0.05$).

Table 2: Gender differences in environmental behaviour of students pursuing different disciplines of study with Madhya Pradesh Board of Secondary Education.

Discipline	Gender	N	Mean	Standard Deviation	Critical Ratio
Commerce	Boys	105	46.4	6.64	2.06*
	Girls	191	47.9	5.6	
Humanities	Boys	15	43.9	8.58	0.62
	Girls	78	45.3	6.02	
Science	Boys	119	48.1	6.99	0.01
	Girls	213	48.1	5.65	

*p=<0.05, **p=<0.01, ***p=<0.001

The mean environmental behaviour of Central Board students was comparable across different disciplines with the maximum in girls of science discipline and the minimum in boys of humanities discipline (Table 3). The girls recorded higher values of mean environmental behaviour than the boys in all disciplines of study (Table 3). The gender differences were insignificant in commerce discipline ($p>0.05$), significant in humanities discipline ($p<0.05$) and highly significant in science discipline ($p<0.001$).

Table 3: Gender differences in environmental behaviour of students pursuing different disciplines of study with Central Board of Secondary Education.

Discipline	Gender	N	Mean	Standard Deviation	Critical Ratio
Commerce	Boys	102	45.2	7.61	1.32
	Girls	145	46.5	7.09	
Humanities	Boys	18	41.7	7.18	2.10*
	Girls	12	48.0	9.21	
Science	Boys	181	43.9	7.80	5.99***
	Girls	205	48.3	6.70	

*p=<0.05, **p=<0.01, ***p=<0.001

The boys of M.P. Board recorded significantly higher values of mean environmental behaviour as compared with that of boys of Central Board ($p<0.001$, Table 4). The girls of Central and M.P. Board measured exactly same values of mean environmental behaviour, which were also statistically insignificant (Table 4).

Table 4: Comparison of environmental behaviour of students between Central and M.P. Board of Secondary Education.

Gender	Board	N	Mean	Standard Deviation	Critical Ratio
Boys	M.P.	240	47.1	6.72	4.65***
	Central	301	44.2	7.73	
Girls	M.P.	482	47.6	5.77	0.10
	Central	362	47.6	6.98	

*p=<0.05, **p=<0.01, ***p=<0.001

DISCUSSION

Majority of students of both the boards exhibited average to positive environmental behaviour, while a minority recorded the negative behaviour. These findings are consistent with those reported earlier from other parts of the world (Clark et al., 2003; Tonglet et al., 2004; Kumari et al., 2006; Onder, 2006). The proportion of the students having positive environmental behaviour was the minimum in humanities discipline and the maximum in commerce or science disciplines. Boys of Madhya Pradesh Board have shown a significantly greater mean environmental behaviour than that of Central Board. However, girls of both the boards recorded same mean environmental behaviour. Such results may indicate that environmental knowledge, family background or/and well-being of the subjects may not have any direct impact on environmental behaviour of the students. Many researchers have reported that level of education (Goetz et al., 1998), happiness (Frey and Stutzaer, 2002) and population pressure (Brechin and Kempton, 1994) can raise environmental concerns and subsequently improve environmental behaviour of students (Duroy, 2005). The proportion of students of M.P. Board recording positive environmental behaviour was higher than that of Central Board. The girls showed a higher level of environmental behaviour relative to the boys. Indian girls in comparison to boys are typically more involved in daily chores of their home and management of family affairs, thereby making them more concerned and sensitive about their environment. Tonglet et al. (2004) observed that moral norms may be an important factor for recycling behaviour in addition to attitude, subjective norm and perceived control. Zelezney et al. (2000) proposed gender socialization as the most plausible reason for a better environmentalism among females owing to their stronger levels of social responsibility. Girls may care more for environment as they are socialized to be natural caretakers (Lee et al., 2013). It seems plausible that the cultural affinity and moral norms in conjunction with education standard of students may play a substantial role in shaping their environmental behaviour.

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