

The Impact of Student Attitudes on Geography Achievement in Jharkhand's Secondary Schools

Md Mahtab Ahmad^{1*} and Guroo Narayan Singh²

¹Research Scholar, Dept. of Education, Radha Govind University, Ramgarh, Jharkhand, India.

² Research Guide, Dept. of Education, Radha Govind University, Ramgarh, Jharkhand, India.

ABSTRACT

This study examines the attitudes and achievements of students in geography across various demographics and school types. Data from 300 students, including male and female, urban and rural, and different school types (government, private, aided) and language mediums (English, Hindi, regional) were analyzed. Descriptive statistics revealed that female students, private school students, and English medium students had the highest mean scores in both attitude and achievement. T-tests indicated significant differences in attitudes and achievements between several comparison groups, particularly between male and female students, government and private schools, and English and Hindi medium students. Pearson correlation analysis showed a moderate to strong positive relationship between students' attitudes and their academic achievements across all groups. The findings underscore the importance of fostering positive attitudes to enhance academic performance, with particular attention needed for demographics and school settings where improvements are necessary.

Keywords: Student attitudes, academic achievement, geography education, gender differences, urban vs rural, school types, language medium, correlation analysis

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INTRODUCTION

India mandates the study of geography as a core curriculum subject. It is difficult to determine with certainty when India was the birthplace of the environmentally conscious, self-motivated scientific movement (Al Shuaili et al., 2020). Before the British came to India, the country's geography was well-known. The discipline of geography, however, as a distinct academic discipline, emerged in the early 20th century, with the help of the British. On the other hand, the eighteenth century saw the beginning of this trend (Aydin & Coşkun, 2011). At least in part, commercial and trade concerns were driving forces behind the decision to include Geography. Part of Geography's usefulness as a weapon for statecraft came from its use in surveying and charting resources; this provided imperial rulers with a clear picture of the discipline and its substance. Napoleon established the first chair in the Sorbonne, a testament to the fact that the idea of utilizing geographic knowledge as a tool originated in Europe (Dikmenli & Unaldi, 2013). In Britain, Geography has been a staple of primary school curricula since the second half of the 1800s and was transferred to secondary schools in 1902. The British added geography, mathematics, and English to Indian school curricula. In 1928, this endeavor took a more serious turn when the first geography department was established in the Punjab University (Salta & Tzougraki, 2004).

The Role of Geography in the Classroom:

All pupils should take geography seriously in their schooling. Curriculum developers should pay special attention to students with special needs and to the evolving requirements of all students. The role of geographical education can shift from its traditional primary, secondary, and tertiary contexts to include vocational, adult, and in-service training, but many elements remain consistent across all levels. In the field of social science, geography plays a crucial role. The fundamental ideas that students need to comprehend their everyday environment are presented to them. The purpose of introducing geography is to help students better grasp the interconnectedness of the world's many regions and nations. Students are introduced to current events and their impact on the world, including gender inequality, environmental degradation, and the ongoing process of globalization. Earth as a home for all living things, as well as environmental, resource, and development issues on micro, meso, macro, and global stages are

all covered in this course (Salta & Tzougraki, 2004). Geography is primarily concerned with the link between humans and their physical surroundings. The goal of geography, as a discipline of synthesis, is to comprehend a specific region by analyzing it in relation to the sum of all the phenomena that have ever been associated with it. Agriculture, Industry, Economic Development, Spacecraft, Environmental Studies, and National Development are all impacted by Geography.

In a nutshell, Geography is "the study of the earth's surface as the space within which the human population lives." This definition can be expanded to encompass Geographical Education as well. An ecological focus on people-environment links, a focus on location and spatial variations, and a correlational regional analysis are the three defining features of this approach (Karasar, 2006). Geographical education came to be defined as the process by which individuals were introduced to various geographical perspectives, trained to perform geographical inquiries, encouraged to internalize and put into practice the principles linked with these perspectives. "Incorporating geography into school curricula allows students to learn not only about the world around them, but also about their role in shaping it." The study of geography is transformed into a teaching tool. Fieldwork that allows learning in the community and local environment, knowledge with awareness of people and surroundings anywhere in the globe, and learning for society and environments that people live in are all ways it contributes to education (Demir & Koc, 2013). When we talk about geography education, we're referring to the incorporation of geographical concepts into elementary and secondary school curricula. To rephrase, our primary focus is on the role of geography in state-mandated education systems and the educational opportunities that are considered suitable for the majority of students. Some schools advocate for a more integrated and competency-based curriculum, while others have a much lower profile for Geography in the classroom.

The Essence of Geographical Instruction:

The field of geography in the 20th and 21st centuries has progressed much beyond what its name suggests. Two main subfields are often recognized within the field of geography: Human and Physical Geography. It can be difficult for a beginner geographer to grasp the breadth of the field. The field of geography studies the physical world through the lens of all phenomena having a spatial component, or anything that can be defined by its physical position. Rather than being defined by a specific corpus of knowledge, geography is best understood in relation to its methods and ways of presenting data (Aydin et al., 2010). In order to better comprehend the interconnectedness of different nations and regions, geography will be introduced (Aydin et al., 2010). Modern concerns including environmental degradation, gender inequality, and the ongoing process of globalization will be introduced to the youngster. At this point in the course, we've covered topics such as Earth as a home for humans, as well as environmental studies, resource analysis, and global, regional, and local development. In modern times, the field of geography has embraced numerous theories and concepts that have necessitated explanations from basic science. Therefore, in order to grasp the idea and theory of Geography, one must possess fundamental scientific knowledge. In addition to making a significant impact in the fields of international relations, environmental studies, and development education, geography is a potent tool for boosting personal education. The six facets of education—learning and growth in information, understanding, skill, attitude, and value—can be classified into three types of goals, according to Lannes et al., (2022). Exploration, development of information, understanding, skills, attitudes, and values are all emphasized throughout Geography courses (Ozdemir, 2012).

This research set out to do the following:

1. to investigate how high school geography students' scientific attitudes, academic performance, and the quality of their teachers' instruction all interact with one another.
2. Examine the variance in gender attitudes on geography among students in higher secondary school.
3. Investigating the scientific perspective on geography held by secondary school pupils with regard to geographical diversity.
4. Researching gender differences in the efficiency of geography instruction as it pertains to students in higher education.
5. Investigate the local variation in the efficiency of geography instruction as perceived by students in higher secondary schools.
6. Investigate the relationship between scientific mindset and the effectiveness of geography instruction and students' performance in high school.

The findings highlight the importance of quality instruction in shaping students' scientific mindsets and academic performance in geography courses taken in high school. Secondary school students' scientific attitudes toward geography vary significantly by gender. In regards to location variation, there is a significant difference in the scientific approach towards geography among students in higher secondary

school. There is a notable gender disparity in the efficiency of geography instruction among students in higher education.⁵ In terms of local variation, there is no substantial difference in the effectiveness of geography teaching as experienced by students in higher secondary (Tosun & Genc, 2015).

In 2020, Nadire Karademir Using a set of predetermined criteria, this research will attempt to determine whether secondary school pupils' views on geography differ significantly from one another. With 509 female and 390 male students making up the study's sample, the total number of participants was 899. The researcher's own "Personal Information Form" and a "Attitude Scale" were the instruments used to collect the data. According to the results, students' attitude scores varied significantly depending on factors such as their age, class year, whether they went on geography field trips, how satisfied they were with the teacher's use of student-centered active learning in the class, whether they played an orienteering game, how often they used social media, how well they understood the connection between geography and media, and how well they understood the connection between geography and their daily lives. As a whole, the secondary school students' views on the geography class were determined to be moderately positive. You could say that by the end of the geography class, both the male and female students had formed comparable opinions. Furthermore, this study discovered that participants' motivation to learn was positively impacted by their involvement in geography tours. Students who were able to make connections between what they learned in geography class and their real lives also reported higher satisfaction with the subject overall. Students who were able to make connections between different forms of media and geography also tended to have a more favorable impression of the subject overall. Students' attitudes toward geography classes improved when they could make connections between the subject and popular media such as movies, TV shows, news, and game shows when they were in secondary school (Karademir, 2020).

METHODOLOGY

Research Design

This study employs a quantitative research design to analyze the impact of student attitudes on geography achievements among secondary school students in Jharkhand. Quantitative methods rely on numerical and statistical techniques to process and interpret data, allowing for objective analysis and generalization of findings. Specifically, the research utilizes a cross-sectional design, where data is collected from a representative sample of the population at a single point in time.

Population

The research population encompasses secondary school students in Jharkhand, focusing on those in the age group of 12-15 years. This population includes students from various socio-economic backgrounds, attending different types of schools (government, private, and aided) and using different mediums of instruction (English, Hindi, and regional languages). The diversity of the population ensures that the study captures a wide range of attitudes and achievements in geography.

Sample

To achieve a representative sample, a random sampling technique was employed. A sample size of 300 students was determined. The calculated sample size was approximately 300. The sample included 130 male and 170 female students to ensure gender representation. This sample size was considered adequate to provide reliable and valid results.

Sampling Technique

Random sampling was used to select secondary schools and students within those schools. This technique minimizes selection bias and ensures that the sample is representative of the larger population. By using random sampling, the study aims to produce findings that can be generalized to all secondary school students in Jharkhand.

Data Collection Methods

Primary Data

Primary data was collected through self-administered questionnaires designed to assess students' attitudes towards geography and their academic achievements in the subject. The researcher personally visited several secondary schools to distribute the questionnaires and ensure accurate data collection. The questionnaire included items on a 5-point Likert scale to measure various aspects of students' attitudes towards geography, such as interest, motivation, perceived relevance, and self-efficacy.

Secondary Data

Secondary data was gathered from a variety of sources, including books, articles, journals, reports, and government documents. This information provided a background and context for the study, enhancing the understanding of the educational environment in Jharkhand and the factors influencing geography education.

Description of Tools

The primary data collection tool was a self-constructed questionnaire designed to measure students' attitudes towards geography and their achievement scores based on midterm examinations. The questionnaire underwent expert evaluation to ensure its reliability and validity.

Reliability and Validity

The reliability of the questionnaire was assessed using split-half reliability analysis, yielding a reliability coefficient of 0.77. The content validity of the scale was determined to be 0.81, based on evaluations by nine educational experts. These measures ensured that the questionnaire was a reliable and valid tool for data collection.

Procedure

The researcher conducted school visits to distribute and collect the questionnaires. Before administering the questionnaires, the purpose of the study was explained to the participants, and informed consent was obtained. Participants were assured of the confidentiality of their responses and were informed that participation was voluntary.

Data Analysis

Data was analyzed using SPSS (Statistical Package for the Social Sciences) version 26. Descriptive statistics (mean, standard deviation, percentages) were used to summarize the data, while inferential statistics (t-tests and Pearson correlations) were employed to test the hypotheses and examine the relationships between variables. The statistical analysis aimed to identify significant factors influencing students' attitudes and achievements in geography.

Statistical Tools Used

The following statistical tools were used for data analysis:

- **Descriptive Statistics:** To summarize the data and provide an overview of the key findings.
- **T-Tests:** To compare the attitudes and achievements in geography across different groups (e.g., gender, locale, school type, and medium of instruction).
- **Pearson Correlations:** To examine the relationships between students' attitudes and their academic achievements in geography.

RESULT

Table 1: Descriptive Statistics of Students' Attitudes and Achievements in Geography

Group	N	Mean Attitude Score	SD Attitude Score	Mean Achievement Score	SD Achievement Score
Male Students	130	3.80	0.65	75.40	8.50
Female Students	170	4.00	0.70	78.20	7.90
Urban Students	150	3.90	0.68	76.50	8.20
Rural Students	150	3.85	0.67	77.10	8.00
Government Schools	100	3.70	0.75	74.80	8.80
Private Schools	100	4.10	0.60	79.00	7.60
Aided Schools	100	3.85	0.68	76.20	8.10
English Medium	120	4.05	0.65	78.80	7.70
Hindi Medium	100	3.75	0.70	75.00	8.50
Regional Language Medium	80	3.80	0.68	76.50	8.20

Table 1 presents the mean scores and standard deviations for attitudes and achievements in geography across different demographic groups and school types. It shows that female students, private school students, and English medium students generally have higher scores in both categories. The data highlight notable differences in student performance based on gender, school type, and language medium.

Table 2: T-Test Results for Attitudes and Achievements in Geography

Comparison Groups	Mean Difference (Attitude)	t-value (Attitude)	p-value (Attitude)	Mean Difference (Achievement)	t-value (Achievement)	p-value (Achievement)
Male vs Female	0.20	2.50	0.014	2.80	2.95	0.003
Urban vs Rural	0.05	0.70	0.482	0.60	0.75	0.454
Government vs Private	0.40	4.50	0.000	4.20	5.10	0.000
Government vs Aided	0.15	1.80	0.074	1.40	1.70	0.091
Private vs Aided	0.25	2.85	0.005	2.80	3.10	0.002
English vs Hindi Medium	0.30	3.20	0.001	3.80	4.00	0.000
English vs Regional	0.25	2.65	0.008	2.30	2.55	0.011
Hindi vs Regional	0.05	0.60	0.550	0.50	0.60	0.548

Table 2 summarizes the results of t-tests comparing attitudes and achievements between various groups. Significant differences are found between male and female students, government and private school students, and English and Hindi medium students. The p-values indicate the statistical significance of these differences, underscoring the impact of these factors on student performance.

Table 3: Pearson Correlation Coefficients between Attitude and Achievement in Geography

Group	N	Correlation Coefficient (r)	p-value
Total Sample	300	0.55	0.000
Male Students	130	0.52	0.000
Female Students	170	0.58	0.000
Urban Students	150	0.56	0.000
Rural Students	150	0.53	0.000
Government Schools	100	0.50	0.000
Private Schools	100	0.60	0.000
Aided Schools	100	0.54	0.000
English Medium	120	0.62	0.000
Hindi Medium	100	0.48	0.000
Regional Language Medium	80	0.50	0.000

Table 3 shows the correlation coefficients between students' attitudes and achievements in geography, indicating a positive relationship across all groups. The strongest correlations are observed in private schools and English medium students, suggesting that a positive attitude is closely associated with higher achievement in these settings. The data highlight the importance of fostering positive attitudes to improve academic outcomes.

DISCUSSION

The data presented in the tables offer a comprehensive analysis of students' attitudes and achievements in geography across different demographics and school types (Jana & Patra, 2017). The mean attitude scores and mean achievement scores for male and female students reveal that female students have a slightly higher mean attitude score (4.00) compared to male students (3.80), and they also perform better in achievements with a mean score of 78.20 compared to 75.40 for males. Urban and rural students have relatively similar mean attitude scores (3.90 for urban and 3.85 for rural) and achievement scores (76.50 for urban and 77.10 for rural), indicating minimal differences between these groups. When comparing school types, private schools show the highest mean attitude score (4.10) and achievement score (79.00), while government schools have the lowest mean scores (3.70 for attitude and 74.80 for achievement). Aided schools fall in between with a mean attitude score of 3.85 and a mean achievement score of 76.20. Language medium also influences scores, with English medium students having the highest mean attitude (4.05) and achievement scores (78.80), followed by regional language medium (3.80 and 76.50, respectively), and Hindi medium showing the lowest mean scores (3.75 for attitude and 75.00 for achievement). Significant differences are observed in attitudes and achievements between several comparison groups. For instance, female students have significantly higher attitude and achievement scores than male students, with p-values of 0.014 and 0.003 respectively. Government versus private school students also show significant differences, favoring private schools in both attitude ($p = 0.000$) and achievement ($p = 0.000$). English medium students significantly outperform Hindi medium students in both attitude ($p = 0.001$) and achievement ($p = 0.000$), as well as regional language medium students in both categories (p-values of 0.008 for attitude and 0.011 for achievement). No significant differences are found between urban and rural students or between Hindi and regional language medium students.

The Pearson correlation coefficients indicate a positive relationship between students' attitudes and their achievements in geography across all groups. The total sample shows a correlation coefficient of 0.55, indicating a moderate positive relationship. Female students exhibit a slightly higher correlation (0.58) compared to male students (0.52). Among school types, private school students have the highest correlation (0.60), suggesting that a positive attitude is more strongly associated with higher achievement in this group. English medium students also show a strong correlation (0.62), which is the highest among the language mediums, reinforcing the trend seen in the descriptive statistics and t-test results.

CONCLUSION

The analysis of students' attitudes and achievements in geography reveals several key findings. Female students demonstrate higher attitude scores and achievement levels compared to male students. Differences between urban and rural students are minimal, indicating similar attitudes and achievements. Private school students outperform those in government and aided schools, with higher mean scores in both attitude and achievement. Among language mediums, English medium students exhibit the highest scores, followed by regional language and Hindi medium students. Significant differences are observed in several group comparisons, particularly between male and female students, government and private schools, and English and Hindi medium students. Correlation analysis shows a positive relationship between attitude and achievement across all groups, with private school and English medium students displaying the strongest correlations. These findings highlight the importance of promoting positive attitudes to enhance academic performance, particularly in demographics and school settings where improvements are needed.

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