

A Survey on Motivation for Choosing Science Subjects by Students of S.B. Women's Higher Secondary School, Cuttack, Odisha

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ABSTRACT

For the growth of technology and innovation, science education is essential. There remains a gender disparity in science education in India, though, as fewer females choose to major in science in upper secondary school. With an emphasis on the Indian context, this paper examines the body of research on the variables influencing students' decisions to study science. After that, a study programme is suggested to investigate these aspects in more detail, taking into account societal effects, professional objectives, intrinsic interest, and teacher impact. In the current study, the primary factor influencing the choice of scientific course was career possibility, which was followed by instructor and personal impact. Comprehending these incentives is essential for formulating tactics to encourage science education among Indian females.

Keywords- Science subject, Motivation, S.B. Women's Higher Secondary School, Factors influencing choosing science.

I. INTRODUCTION

For a country to grow, it must have a solid scientific basis since it is vital to innovation, technological advancement, and problem-solving abilities. Nonetheless, there is still a persistent gender disparity in science education in India. Research indicates that compared to males, fewer girls select science courses for their upper secondary education (Osborne et al., 2003; Sahoo, S., & Klasen, S. (2021)[1-2]. To close this gap and promote more female participation in science education and future jobs, it is imperative to comprehend the factors influencing students' decisions to major in science. According to Tai et al. (2006), students who have an innate interest about the natural world and a strong drive to comprehend scientific phenomena are more likely to major in science[3]. Engaging and inquiry-based science education strategies can nurture this innate curiosity (OECD, 2015)[4]. Students' decisions of science subjects can be greatly influenced by engaging and knowledgeable science teachers (Tschannen-Moran et al., 1998)[5]. By fostering a good and encouraging learning atmosphere, effective science teachers can pique students' interest in the subject. Students are more inclined to pursue science courses if they see themselves working in the STEM (science, technology, engineering, and mathematics) industries (Wang, 2013)[6]. Lack of exposure to a variety of STEM job alternatives, however, can discourage females who do not think they are represented in these professions. Girl's decision to major in science can be significantly impacted by gender stereotypes (OECD, 2015). The belief that science is a field best left to men and societal expectations may deter girls from pursuing these fields. Girls' ambitions may also be further restricted by the dearth of female role models in the scientific fields. Research conducted in India demonstrate the impact of such factors on students' decisions to major in science. According to Singh et al. (2017), parental support, perceived utility, and interest all had a favorable impact on kids' decisions. The study did, however, also note the impact of gender norms, with girls reporting higher pressure to select topics unrelated to science.[7]

This study looks into what inspires students to choose science courses at S.B. Women's Higher Secondary School in Cuttack, Odisha. Gaining an understanding of these driving forces can help to encourage young women to pursue science education.

II. METHODOLOGY

One way to acquire more in-depth understanding of the motives and experiences of a smaller sample of 20 students—especially girls—is through semi-structured interviews. The impact of peer groups and societal expectations can also be investigated through focus group talks, and data analysis was done. study questions were posed on the factors listed in Table 1 that influence students' decisions to major in science in order to better understand why students—especially female students—choose these topics.

III. RESULTS

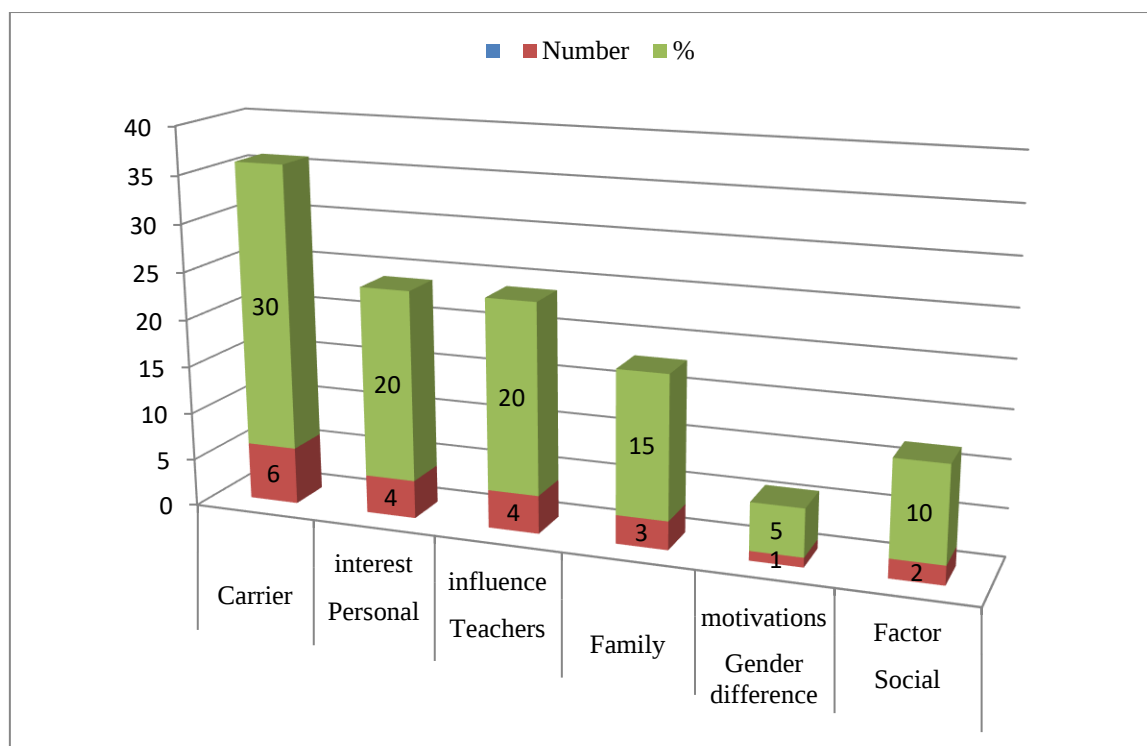
Results showing motivations of students for choosing science subjects reflected in table and graph.

Table-1 Response to the selection of scientific courses

Student	Carrier	Personal interest	Teachers influence	Family influence	Gender difference motivations	Social Factor
1	Y					
2	Y					
3		Y				
4			Y			
5			Y			
6			Y			
7	Y					
8	Y					
9	Y					
10		Y				
11				Y		
12				Y		
13					Y	
14			Y			
15						Y
16						Y
17	Y					
18		Y				
19		Y				
20				Y		

Table 2- Analysis of factors influence for choosing science subjects

Student	Carrier	Personal interest	Teachers influence	Family influence	Gender difference motivations	Social Factor
Number	6	4	4	3	1	2
%	30	20	20	15	5	10



Graph showing factors influence for choosing science subjects

IV. CONCLUSION

This research report suggests a study to look into why students at S.B. Women's Higher Secondary School choose to study science. By comprehending these elements, we may create plans to inspire more young ladies to choose careers and studies in science. The selection of science as a subject was primarily influenced by career opportunities, with teacher and personal impact coming in second and third. Developing measures to encourage science education among Indian females requires an understanding of these reasons.

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