



Women and Mathematics : A statistical analysis of Girls pursuing Mathematics in Science colleges of Kachchh region

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Abstract :

For many years, mathematics has been an area of the men and there were hardly few women appearing in the global research scenario in subjects like Mathematics. However, for the last few decades, more and more women have been appearing in the field of Mathematics with some of them acquiring higher positions in Mathematics departments. In India too, a group 'Indian Women and Mathematics' (IWM) has been established in 2009. This shows an increasing interest of women in Mathematics in India. This increase has its ground root in the increasing number of girls pursuing Mathematics at the graduation level. This paper aims to statistically analyse the number of girl students pursuing their career in Mathematics in the science colleges of the Kachchh region.

Key Words : Mathematics, statistical analysis, women.

Introduction

Though contribution of women in the field of Mathematics is noted ever since the time of a Greek philosopher, astronomer, and mathematician Hypatia of Alexandria in the year 400 AD, Mathematics is generally considered a field of men. In 2008, two economic researchers Paola Sapienza (Northwestern University's Kellogg School of Management in Evanston, Illinois, USA) and Luigi Zingales (University of Chicago Booth School of Business in Illinois, USA) designed an experiment to test people's gender bias about judging mathematical ability with the help of Ernesto Reuben, an experimental psychologist at Columbia Business School in New York City. This experiment too showed that most of the sampled people in USA believe that men have better ability to understand mathematics than women. However, the real situation seems to be different in the last few decades. It is a common experience that many of the Mathematics teachers are women these days. Even at the research level, more and more women are appearing in the field of Mathematics now. This paper aims to analyse this situation at a local level with the study of increasing interest of girls in the study of Mathematics.

Science Graduation Studies in Kachchh region

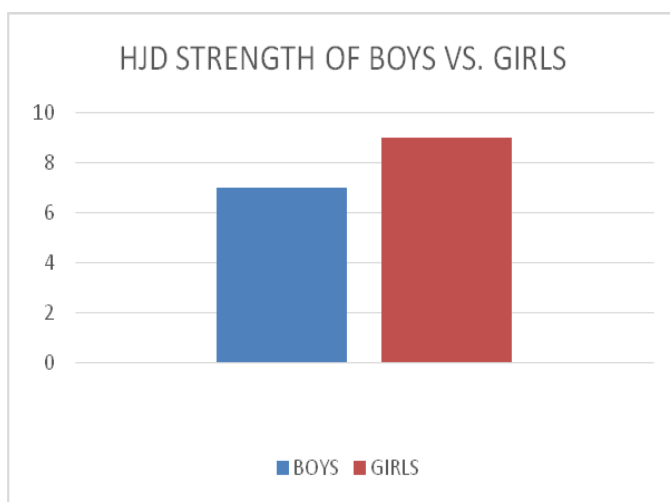
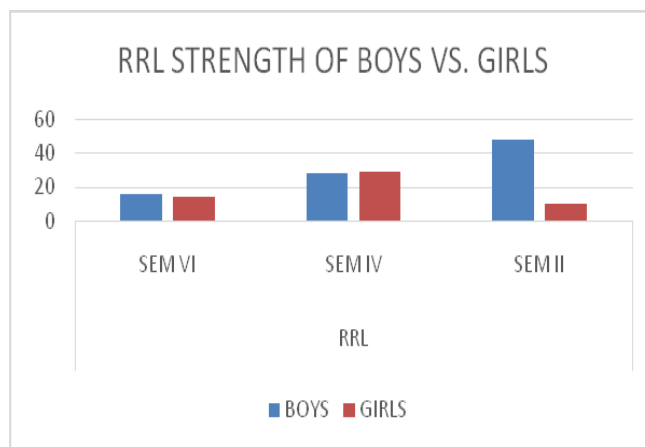
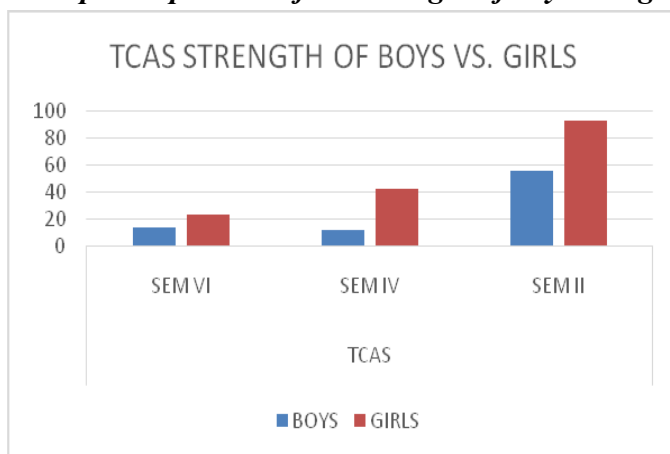
Considering the situation of science education in students of Kachchh region, few years back, the children, or even their parents, were dreaming for the admissions into medicines or engineering after doing higher secondary science. However, there has been a change in this attitude in the recent years and students have started preferring to go to pure science course like B Sc after doing higher secondary science. During the single year of 2017-18, two new science colleges began functioning in Kachchh. Almost half of such B Sc students have the mathematics group, and they can do their graduation with one of the subjects like Physics, Chemistry and Mathematics. It is an interesting fact that the girl students are in a clear majority in Mathematics.

As in 2017-18, there are five science colleges in Kachchh. They are Tolani College of Arts & Science (Adipur), R R Lalan College (Bhuj), Government Science College (Mandvi), Sahjanand Girls Institute (Bhuj) and HJD Science College (Kera). Of these five colleges, Government Science College (Mandvi) runs specialized courses of Environmental Science and Marine Science only. Remaining four science colleges run usual B Sc courses. Of these, Sahjanand Girls Institute (Bhuj) is for girls only, so study of boys vs. girls doesn't arise. Hence, this study covers the remaining three colleges of Kachchh. The

following is the data of number of students in these science colleges in the second term of the academic year 2017-18 :

Name of the Institute	Semester	Boys	Girls
Tolani college of Arts & Science	VI	14	24
	IV	12	42
	II	56	92
R R Lalan College	VI	16	14
	IV	28	29
	II	48	10
HJD Science college (Kera)	II	7	9

➤ **Graphical preview of the strength of boys and girls :**



The above graphical survey suggests that in Tolani College Of Arts and Science and HJD institute, number of girls are more as compared to boys. So, the next question is to analyse the reasons behind this situation. For this, a survey was conducted among the students of Tolani College Of Arts & Science to choose the reason of them selecting Mathematics as their career subject. The following is the outcome of the survey :

Survey on the situation of more girls choosing Mathematics

To study the situation why girls choose

Mathematics, a survey of 70 students of Tolani College Of Arts & Science was done. They had a simple question to answer, and the question was :

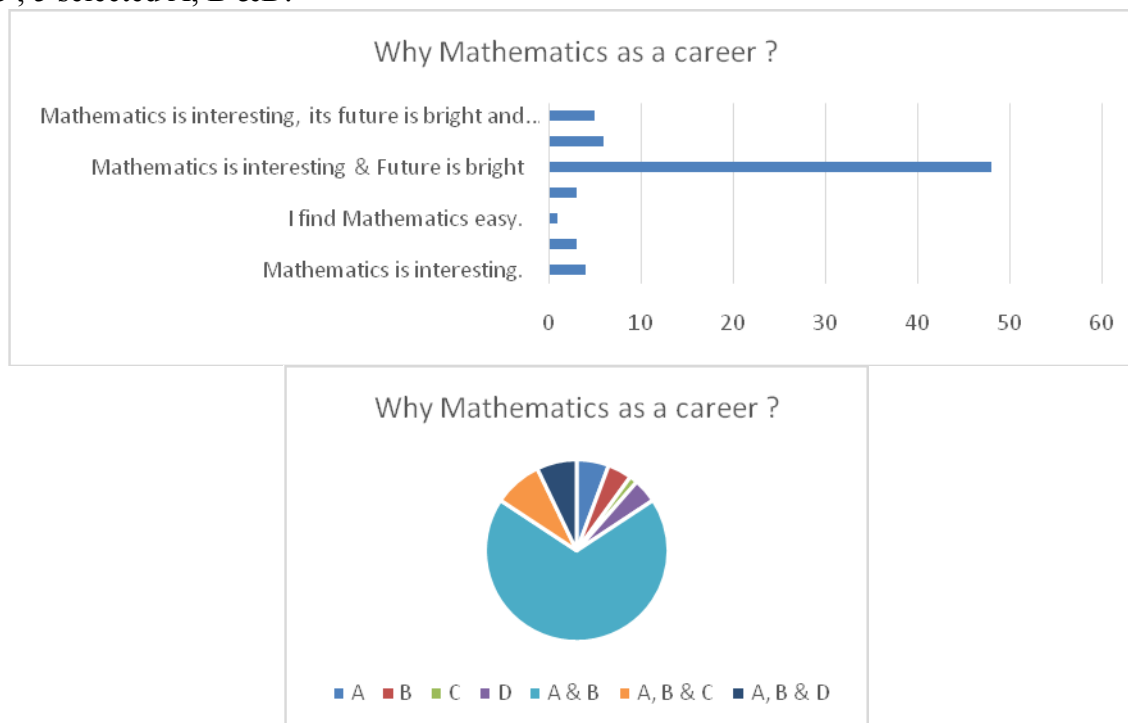
“Why did you select Mathematics as your career subject ?”

They had to select one or more options from the following options :

- Mathematics is interesting.
- Future of Mathematics is bright.
- I find Mathematics easy.
- My Mathematics faculty was good.

The following is an output of the survey :

4 selected only A ; 3 selected only B ; 1 selected only C ; 3 selected only D ; 48 selected A & B ; 6 selected A, B & C ; 5 selected A, B & D.



Conclusion

This small study describes that girls are inclined more towards to Mathematics because of mainly two reasons : They find Mathematics more interesting (!) and according to them, future of Mathematics is bright.

References

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