

**PROBLEMS IN PURSUING SCIENCE EDUCATION AMONG MUSLIM GIRLS AT  
SENIOR SECONDARY LEVEL**

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**Abstract**

*The educational backwardness and fewer shares of Muslims, especially Muslim women in jobs, is a well-known fact which is also revealed by the Sacher Committee Report. Girls' education is foundation stone for the development of any community and society. If girls are educated and value-laden it is quite possible that the generation ahead would also be educated, cultured, worthy and nation builder in many senses. This research paper attempts to bring into light the problems faced by Muslim girls studying science at senior secondary level. The study was conducted in senior secondary schools of walled city of Delhi. The results revealed various reasons of low enrolment of Muslim girls in science stream, the lower level of academic support that they receive at home, a little higher level (66.66%) of parental encouragement, girls' willingness to have separate schools for them and the higher level (86.66%) of sincerity of parents towards their daughter's education.*

**Key Words:** Science education, Parental encouragement, Academic facilitators



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**Introduction**

The term 'science' is derived from the Latin word 'scientia' meaning Knowledge. It is the knowledge attained through observation of natural phenomenon and experiments. Knowledge in science are constructed and tested through scientific method and concern with the physical world. Science has always been centre of gravity of all educational efforts, especially in the modern world. 'Science for all' has been adopted as the slogan at global level to accelerate the pace of scientific and technological development and to create knowledge based modern society. Science education prepares the citizens to participate in decision making. If the citizens are unaware of the social relevance of science, the development will suffer.

Therefore, each and every individual should be literate in terms of science. Scientific literacy has been recognized as one of the most important goals of science education in the world. It helps young generation in acquiring citizenship skills and prepares them for the globalised world of work, new technologies and the contemporary knowledge-society. Scientific knowledge promotes a scientific attitude and a spirit of enquiry which sharpens the intellect of the learner and enables the students to take up some defined occupations.

The reports of the Kothari Commission (1966) recommended that the government had to focus on a carefully chosen set of subjects in order to bolster its economy to meet certain important targets in the engineering sector. To this, the report suggests as a solution a broadening of scope in classrooms, to make science a “conceivable career” for students. The commission also states, “At secondary stage science should be taught as a discipline of the minds and a preparation of higher education”. The ‘science pipeline’ model of science education policy has also been strongly criticized for assuming that its primary importance is to prepare the next generation of the nation’s professional scientists.

Article 51 A of the Constitution of India states that “It shall be the duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform.” Science is the creative response to curiosity. Its learning augments the spirit of enquiry, creativity and objectivity along with the aesthetic sensibility. It aims to develop well defined abilities of knowing, doing and being. It concerns itself with the fundamental knowledge of nature and its environment and nurtures the ability to explore and seek solution to the problem related to environment and daily life situations and to question the existing beliefs, prejudices & practices in society.

### **Relevance of Science Education:**

The importance of science and technology in today’s world is overwhelming and therefore the education system throughout the world has to gear itself to provide the required training in scientific skills to meet this growing challenge. Undoubtedly the application of science & technology have transformed the world through dramatic advances in almost all fields including medicine, engineering, electronics, aeronautics, etc. and in more recent times dramatic leaps in computer technology have revolutionized the information and communication sector. It can be argued that “*science education is important for acquiring citizenship skills as well as preparing students for the globalized world of work*”. China & India are two outstanding examples as they have grown to become economic and industrial power houses and in several ways compete effectively with developed countries.

The present society is the science-based society. The present century has made tremendous advancement in scientific and technical knowledge as a result of explosion of knowledge. In such a situation one of the main functions of education is to keep pace with this advancement of knowledge. Another feature of modern society is the rapid social change. In the situation of change, the schools must always be alert if they want to keep abreast of significant changes. An education system which does not renovate itself continuously becomes out-dated and puts hindrance to progress. To keep pace with modernization the Indian Education Commission (IEC) is of the opinion that “greater emphasis must be placed on vocational subjects, science education and research.”

### **Muslim Girls in Science Education:**

Education for girls has been a national agenda since independence in India. Special commissions and committees were set up from time to time to assess the progress of girls' education and to propose suitable interventions to promote their educational participation. Several strategies were adopted to promote education of girls as an integral part of the planned socio-economic development of the country. Secondary education is a crucial sector for future development of girls. The lower participation of girls is a cause of concern at secondary and senior secondary stage as well as in vocational, technical and professional education. There is a gender gap as girls are lagging behind boys and most of the girls from disadvantaged groups are the worst off. At this stage girls lag behind not in numbers, but the type of courses they opt for and receive training in. Girls find it easy to opt for and are primarily concentrated in courses such as Arts & Humanities and only a few girls enter into courses like Science, Mathematics & Technology.

Studies have shown that communities with a higher proportion of educated mothers have less health problems. By virtue of an educational program, the future generations will become the torch-bearer of values and play an effective role in the present and the future world.

### **Rationale of the study:**

The quality or standard of life of the members of a community represents the development of that community. The modern era is the era of science & technology. The Muslim community in India especially women have been facing mass illiteracy, poverty, backwardness and substandard living. It is science alone that can solve the problems of hunger, poverty, sanitation, illiteracy, superstition and depending customs, and traditions. There are various reasons behind gender stereotyping, misleading perceptions that science & technology are subjects more suitable for boys and the failure of curricula to relate science & technology to

the everyday life of women. There is self-inhibition among school girls that affects not only the number of young women entering university to study science & technology subjects, but also results in the reluctance of talented women to introduce their own values and vision into a working world dominated by men.

The present study is important in order to find out the problems of Muslim minority girl students in getting into Science stream at Senior Secondary level.

### **Research Questions**

Why the enrolment of Muslim girls in science stream is very low at senior secondary level?

What are the hurdles in getting into science stream by Muslim girls?

### **Objectives**

1. To find out the reasons for low enrolment of Muslim minority girls in Science stream.
2. To find out the opinion of Muslim minority girls towards separate school for girls.
3. To study the sincerity of parents towards Science education among girls belonging to Muslim community.
4. To study the encouraging behaviour of parents towards career options by girls in Muslim community.
5. To study the availability of facilitators/helps to the Muslim girls in academics at home.

### **Methodology**

The present study is descriptive and exploratory in the way it has been conducted. The brief details of the procedure of the study are discussed below.

**Population:** All the Muslim minority girls studying Science in senior secondary schools of Central Delhi constitute the population for this study.

**Sample:** The sample for this study consisted of 30 girl students of class XII. The sample has been selected purposively as under-

- 3 Schools - 2 Govt. Aided & 1 Private.
- 10 girl students from each school i.e.  $10 \times 3 = 30$  girls students

**Sampling Technique:** Purposive Sampling technique was used for the selection of sample to collect data.

**Tools for data collection:** A self-developed questionnaire was used for data collection. The questionnaire was used to find out the problems faced by Muslim minority girls belonging to science stream.

**Analysis of data:** A qualitative-cum-quantitative approach was followed to analyze the data, after collecting the information related to problems of Science education from Muslim minority girls studying at Sr. Sec. School level.

**Delimitations:** The study was delimited to:

- Government Aided & Private Schools belonging to Muslim minority community having Science stream
- Class XII (Science) students
- Central Delhi

### **Review of related studies**

**Pathan** (1986) conducted a study on the causes responsible for the educational backwardness of the Muslim women and to suggest the measures for improvement. The study concluded that providing less education to girls was the common attitude in parents, both in urban and rural areas. The practice of early marriage was another important reason behind the high illiteracy among Muslim women. **Kumari** (1976) undertook a study to find out that which of the sociocultural and institutional factors in the Muslim community retard the progress of education among women. The findings revealed that the sociocultural and institutional variables were all found to prevent Muslim women from obtaining higher education. Compulsory religious education and early marriage were interference in participation in formal education system. **Chandran, Karan** (1982) studied the attitude of rural women of Tamil Nadu towards formal education & found that the attitude of rural women towards formal education was positive. It was also reported that more than 70% of women agreed to the statements related to the advantage of women education but favoured education of girls up to high school level only. **National committee on status of women (1983-87)** survey revealed that although acceptance of girls' education is far wider in urban areas among middle class families, but opposition towards girls' education was found because of social norms and traditions prevailing in the society. The survey also showed that domestic chores, inadequate facilities, distant schools and institutions perceived irrelevance of the content of education for traditional wife-mother role and fear of alienation from the environment and traditions are some of the major obstacles for girl education.

### **Analysis & Interpretation of Data**

**Reasons of low enrolment-**The data collected through questionnaire from the girls students studying in Science streams in the sample schools was treated and analysed (Table-1).

**Table1: Reasons of low enrolment of Muslim minority girls in science stream**

<b>Reasons of low enrolment of Muslim minority girls for pursuing Science at Sr. Sec. level.</b>	<b>No. of Students</b>	<b>Percentage</b>
Lack of interest in Science	4	13 %
Unavailability of separate school for girls for pursuing Science stream	6	20 %
Science is generally thought to be a difficult subject	8	26.66 %
Studying science is more expensive and requires hard work.	12	40 %

When the students were asked about the reasons of low enrolment of Muslim minority girls pursuing science education, most of the students (40%) agreed that it is more expensive to study Science; some of them (26.66%) thought that it is difficult and hard to study Science as compared to other subjects. Unavailability of separate schools for girls providing science stream (20%) was also one of the reasons, because some parents do not want to send their daughters in co-educational institutions. Some of them (13%) did not go for Science due to lack of interest in this subject.

#### **Need of separate school for girls**

When the girls students were asked about the need of separate school for girls in Science stream, it was revealed that they desire to have a separate school for minorities especially for Muslim minority girls (Table-2).

**Table 2: Is there a need for Separate Schools for girls?**

<b>Need of Separate Schools for girls to improve their percentage of enrolment in science stream</b>	<b>No. of students</b>	<b>Percentage</b>
Yes	17	56.66 %
No	13	43.33 %

Most of the girls (56.66%) were in favour of separate school because they feel more comfortable in separate school in comparison to the co-ed schools; they feel shy in front of opposite gender to ask for their problems. On the other hand (43.33%) girls had no problem; they were not in favour of a separate school because they thought that there is always possibility to learn more within the mixed group (Table 2). So there is need of separate school for those Muslim girls who would seek admission, but could not get permission from their parents to get admission into co-educational schools.

### **Sincerity of Muslim parents towards their daughter's education**

When girls were asked as to whether your parents are serious about your education in general and studying Science in particular, the responses received from the girls are shown in Table 3.

**Table 3: Sincerity of Parents towards education of their daughters**

<b>Whether your parents are sincere about your education?</b>	<b>No. of students</b>	<b>Percentage</b>
Yes	26	86.66%
No	4	13.33%

When the students were asked about the sincerity of parents towards the education of their wards, it was revealed that most of the parents (86.66%) were sincere about the education of their wards especially girls while it was also brought to the notice that a few parents (13.33%) are not serious about the education of their daughters. In today's scenario of science & technology, when education has become a right of every child, there are few people who are not sincere as they should be. They don't have time to spend with their wards for their education. In these situations the child either takes front seat to achieve her goal by herself or she may withdraw herself from getting further education.

### **Encouragement by parents to pursue career in Science**

On asking "Do your parents encourage you to take Science related career for your future?" the responses received are shown in Table 4.

**Table 4: Parental Encouragement towards career in Science**

<b>Parental Encouragement towards career in science</b>	<b>No. of students</b>	<b>Percentage</b>
Yes	20	66.66%
No	10	33.33%

When the students were asked about parental encouragement towards career in science, most of the students told that their parents always encourage them for pursuing career in the area of science, some of the parents also guide them but few parents are there who did not encourage them, rather discouraged them to a certain extent. The reason of this disparity is the educational background of the parents, their profession and financial status etc. because they are either struggling for their stable financial status or suffering from other problems in the family, community and society. They have no ample time for their daughters to encourage and motivate them.



### **Availability of facilitators or academic assistance at home**

To find out the availability of academic support at home girls were asked, “Who helps you to do your Science related work at home?” The result revealed is depicted in Table 5.

**Table 5: Availability of facilitators in academics at home**

<b>Facilitator at home</b>	<b>No. of students</b>	<b>Percentage</b>
Parents	2	6.66 %
Elder brother/sister	3	10 %
Tutor	25	83.33 %

When the students were asked about the availability of facilitator at home, it has been revealed that majority of students (83.33%) were dependent on tutor. Few of them got assistance from siblings and rarely from parents. Again the reason was shortage of time, educational and professional background, economic condition, etc. Parents do not have enough time for their wards, so they leave their wards fully on the tutor either at home or in the coaching centres. The second biggest reason to get tuition is the low level of education and teaching at school. Teachers are busy to complete the vast syllabus, along with the co-curricular activities and events organized in the school and in keeping their records for references.

### **Conclusion**

Development of a nation entirely depends on education of its citizen in general and advancement in science and technology in particular. The more a society is educated, the more prosperity it will attain. Girls/women have a special significance in the advancement of a society. They play different roles from the front as well as from behind in the form of a wife, mother, daughter and sister. They have huge potential and abilities to excel in any area of work, as evident from their success in various areas at national and global level. If all possibilities and resources for their quality education are provided to them and if they get required support from the government, family and parents, they can prove their worth and may play prominent contribution in the growth of the family, society and the nation.

In this study, 66.66% of the girls revealed that studying science is more expensive, difficult and needs hard work that is why girls avoid taking up science at sr. sec. level. 20% of the respondents said that due to unavailability of girls school having science stream, girls do not take up science and 56.66% of the girls shown their inclination towards opening of schools with science streams especially for girls to improve their share of admission in science. The data also revealed that 86.66% parents are serious about their daughters pursuing science



education but only 66.66% parents encourage them to pursue career in science. This gap, along with the 33.33% respondents' direct reply that their parents do not encourage them for career in science, indicates that Muslim girls are facing obstacles in going ahead for making their career in science related vocations.

Most of the girls (83.33%) depend on tuition for academic support for which Muslim parents are not prepared as they are financially weak leading to girls avoiding the selection of science as their choice of study. Hence, it may be suggested that there should be provision of academic support in the form of coaching for weaker section of Muslim girls arranged by either well-off Muslim(s) group, NGOs or government.

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