Career Choices of Girls and the Effect of Intervention in the form of Provision of Vocational Guidance

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Introduction

In the context of the Indian educational system, the education of girls has become a matter of priority and concern. Students and their parents do realise that it is 'education' that plays an important role in shaping the future. In the case of girls, choosing a suitable career is important not only to them and their families but has important social implications. In other words, career choices of girls and therefore vocational guidance available to them are socially important issues.

A project was undertaken by the Homi Bhabha Centre for Science Education (HBCSE) in collaboration with the Government of Maharashtra in the Dahanu region of the Thane District in Maharashtra. The aim of this project was to improve the teaching of science for developing increased understanding of science on the part of students (HBCSE, 1987, 1990). At the same time HBCSE, was also concerned with other aspects of vital interest, such as: *what are the traditional career choices of students in the region, how aware are they of the entry requirements as well as competencies needed for completing professional courses leading to various careers, what kind of vocational guidance facilities are available to these students, and what fields of work or study do these students eventually enter.* Exploration of these aspects was undertaken from the beginning of the project and some parts of this investigation have been reported elsewhere(Chunawala, 1987, 1989). A relevant aspect of the work on career choices was the attempt *to study the efficacy of intervention in the form of provision of vocational guidance to students studying in their final year of schooling.* This year is crucial in terms of career aspirations as students do have to make a choice for some career since, for a vast majority of them, the school leaving examination implies termination of their academic career. Since this situation is even more valid for girls, it was decided to restrict the sample to girls (also because of the personal interests of the researcher in the field of women and work).

The objectives of the study were as follows:

1. To study the nature of career choice.
2. To study factors that influence career choice.
3. To study the sources of vocational guidance i.e., parents, relatives, teachers and the peer group.
4. To study the effects of intervention provided in this study.

The results of the study are presented in this paper.

The Research Design

A *pre-post intervention* research design with experimental and control groups was adopted. It was decided to have two control groups, in order not to confound the effects of merely being interviewed with the effects of being exposed to intervention.

The experimental group (ExG) and the control group 1, (termed CG1), consisted of students who were in the final year of schooling during the academic year 1989-90, that is, they were to appear for their S.S.C. examinations in March 1990. The students from each of the three selected schools were placed in any of the two groups randomly. Thus the two groups were considered to be equivalent for this study, though not matched on all possible variables.

Both the control group 1 and the experimental group were interviewed at the pre-and post-intervention stages. The experimental group was exposed to vocational information and guidance (which the control group 1 was denied) between these two stages of interviewing. Details of the intervention are provided later on. The other control group (termed CG2) was neither interviewed in the pre-intervention phase nor did it receive any intervention. The research design can be briefly represented as follows.

ExG:	Pre-interview	Intervention	Post-interview
CG1:	Pre-interview	————	Post Interview
CG2:	————	————	Post-interview.

The CG2 sample was different from the CG1 and the ExG sample in yet another way. This group consisted of girls who had appeared for their S.S.C. exams, prior to 1989-90, and were currently out of school. These girls had already passed or failed in their examinations and were either continuing their studies, repeating the examinations, engaged in some job or in some gainful activity. This group was a control for the CG1. As the CG1 girls were interviewed about their career choices, and the very process of undergoing an interview might have helped in clarifying one's decision about the career choices, it was decided to have a control for this factor too.

The Sample

For the purpose of this study three schools from differing areas in Dahanu were selected. The areas are distinct from one another and furnish a sample of students from i) a semi urban area ii) a semi-rural area and iii) a completely rural area. These areas have differing characteristics, such as, the *semi-urban* area is easily accessible by train and state transport buses. Several occupations such as tailoring, teaching, die-making (the making of casts and molds to be used by goldsmiths), agriculture, government jobs, beauty parlors and a variety of business enterprises are available in the area. This area is within easy reach of a residential township of the Department of Atomic Energy, which also makes many jobs and business opportunities possible.

The main occupation of the *semi-rural* area is agriculture. This region is not directly accessible by train. However the Dahanu railway station, being at a distance of fifteen minutes by road transport, makes possible a variety of employment opportunities, such as, clerical, teaching, tailoring, nursing and other Government jobs. The last area is *completely rural* and is different in the sense that fishing is the major occupation of the people. This region is the most backward of the three selected regions in terms of a) transport, b) access to a nearby railway station and hence jobs and c) the level of literacy in the village and the importance given to formal education of boys and girls. The other occupations in this area are agriculture and die-making.

The Procedure

All the three groups were interviewed between mid-February and mid-March 1990. The questionnaire used as an interview schedule was the same in the case of the CG1 and the ExG, but had to be modified marginally in the case of CG2, who unlike the other two groups had already appeared for the S.S.C. exam. All the interviews were conducted in the school premises and lasted for around thirty minutes each.

The experimental group was provided with vocational information about feasible career opportunities. Various educational and work possibilities, along with the names of the institutions, colleges and universities that offer the necessary academic courses or vocational training were provided to students. Emphasis was placed on giving information about locally available courses. Besides vocational information, the intervention included elements of guidance, such as, providing motivation or encouragement to girls to decide on non-traditional but more prestigious occupations. The guidance also consisted of explaining the difference between short-term and long-term objectives, and encouraging students to opt for the latter. This advice was given keeping in mind, the realities of the situation which the girls faced in terms of financial background and family responsibilities information on which was gathered from the pre-intervention interviews.

Post-intervention interviews were conducted in September 1990. The same questions were asked to both CG1 and ExG. In these interviews, information about the present activities of the students in terms of education or work were collected so that a comparison between the two groups would be possible.

Analysis of Results:

a) Demographic Data:

The total number of students interviewed for the study were a hundred and fourteen, distributed in the three groups as shown in Table 1.

Table 1: Number of students in the various groups.

Group	Number
Experimental	37
Control group 1	39
Control group 2	38
Total	**114**

The ages of the students interviewed in the CG1 and ExG. ranged between fourteen to eighteen, while the ages of the CG2 students ranged from fifteen to twenty-six. The mean age of each of the first two groups was 15 (in-school students), while that of the second control group was 17 (out-of-school students). The number of students from each of the three regions are as follows:

Table 2: Number of students from each school in the three regions.

Region	Experimental Group	Control Group 1	Control Group 2	Row Total
Semi-urban	18	18	12	48
Semi-rural	11	14	13	38
Rural	8	7	13	28
Total	**37**	**39**	**38**	**114**

The academic performance of students in the three groups, in terms of passing the S.S.C. examinations, at the first attempt, indicated that there were no significant differences between the groups (Z test).

Group	% Passing at First attempt
ExG	59%
CG1	46%
CG2	47%

Socio-economic status is another variable on which the students could vary. It was decided to assess the socio-economic status of the students in order to confirm that the three groups of students did not differ drastically on this variable. The socio-economic status (*SES*) of the students was derived from the variables of *parental education*, *occupation* and *income* of the family. *Parental education* was ranked separately for mothers and for fathers. A scale, ranging from 0 (no education), 1 (primary education), 2 (secondary), 3 (S.S.C.), 4 (between XI to XV) and 5 (beyond XV) was developed for scaling the educational level of parents. Interestingly, the fifth value indicating the highest educational achievement in the group was not attained by any of the fathers of the students, but it was attained by three of the mothers.

Fathers' occupations were ranked on a scale from 0 to 7, with 0 indicating *miscellaneous* responses. The term miscellaneous was applied to responses which could not be coded accurately, such as the unemployed, and occupations which the student was unable to describe or elucidate.

1, on the scale, referred to *unskilled occupations* such as labourers, peons, and domestic servants.

2, referred to *semi-skilled occupations* such as tailor, driver, bus-conductors.

3. referred to *skilled occupations* and low grade technicians such as welders, electricians, carpenters, plumbers.

4, referred to *proprietors of small scale enterprises and the self-employed* such as the farmers, fishermen, shopowners and building contractors.

5, referred to *white collar clerical* occupations.

6, to *professions* (*ranked lower in comparison to 7*) such as police inspector, librarian, teacher, nurse.

7, referred to *higher order occupations* such as medical doctor, lawyer, scientist.

This scaling of occupations on a seven point scale has been adapted from the Goldthorpe and Llewellyn scale[4] developed in 1977.

Mothers' Occupation was also intended to be coded on the same scale. However 40% of the sample stated that their mothers were housewives. It is difficult to code the category housewife on a socio-economic status scale. One way of doing it would be, by making the status of the housewife dependent on the status of the husband. This approach was not likely to provide any new insights into the data and hence it was decided not to take into account mothers' occupation while calculating *SES*, except in the case of those students whose father was dead or unemployed (2 cases).

Family income was scaled according to a procedure advocated by Ameerjan (1987). All the possible incomes were first arranged from lowest to highest and

then were divided into six groupings in such a way that no group had too few or too many students. The six ratings were 1 (<500), 2 (501-1000), 3 (1001-1500), 4 (1501-2000), 5 (2001-3000), 6 (>3001).

The *SES* was calculated by adding the values of father's education, mother's education, father's occupation and family income. Theoretically, the above classification could range from 1 to 23. In practice, it was found that the range was between 3 and 18. Socio-economic status is a continuum and its division into categories is convenient for the purpose of analysis. It was decided to divide this range into three groups which would indicate low, middle and high socio-economic status.

The method utilised by Trivedi and Pareek (1964) in categorisation of rural socio-economic groups was followed. The sample was distributed into categories based on percentages of the sample falling in each category i.e. 25%, 50% and 75%, indicating the divisions of the normal curve statistically. The middle category is the largest, with the lower and higher categories being one fourth each, and are shown in the following table.

Table 3: Categorisation of the sample on the basis of SES scores arranged in percentages.

Category	Score range	% of the sample expected	Actual number	Actual %
Low	3-8	25	23	20
Middle	9-12	50	63	55
High	13-18	25	28	25
Total	**3-18**	**100**	**114**	**100**

In constructing table no. 3, it was decided to make the groups on the basis of the percentage of sample falling within ranges. These ranges were held constant as indicative of socio-economic status, even though the percentage of the sample falling into each of them was not exactly what had been selected earlier, i.e. 20% instead of 25%, and 56% instead of 50% and 23% instead of the last quartile. This was done because the scale consisted of integers and selecting the next integer on the scale would throw the selected percentages totally out of gear.

The comparison of the three groups, experimental and control, showed that the differences between them on their socio-economic status were not significant (Chi square). The scores on the *SES* scale for the three areas also showed no significant difference (Chi square).

Vocational Choices

The vocational choices could be collected only in the case of the experimental and

control group 1, as these students had yet to finish their schooling. The range of choices from this group of 76 students was very poor, i.e. only 12 differing occupations were listed in all. This range is very small considering the size of the group. It is understandable that socio-economic deprivation would lead to a narrow range of career choices. For example in a similar work on socio-economically deprived children in Bombay, it was found that the range of occupational choices elicited was small (16 choices were drawn from a group of 35 students). Even then, the number was greater than that evoked from the students in Dahanu.

It is important to learn the career choices of the students, and where these choices fall on the scale of occupations. Table 4 presents this information.

Table 4: Career choices of students ranked on the scale of occupations chosen.

Scale of occupational ranking	Frequency	Percentages
Miscellaneous (any job, marriage)	4	5
Undecided	2	3
Semi-skilled (e.g. sewing)	4	5
Clerical	6	8
Lower order professionals	46	61
Higher order professionals	3	4
Combinations of choices	11	14
Total	**76**	**100**

From the above table it is clear that a majority of the students have chosen lower order professional careers. This category refers to occupations like librarian, teacher and nurse which, though professions, do not require the prolonged higher education and training necessary for higher order professions, such as medical doctor, lawyer or scientist. Very few students, only four percent of the sample, have selected higher order professions. Even though the smallness of this percentage is disturbing, it is encouraging to note that in comparison to their mothers' occupations the sample of girls has made higher choices. The occupations of the mothers are presented in Table 5.

Table 5: The occupations followed by mothers of respondents.

Mother's occupation	Frequency	Percentages
Housewife	36	47
Unskilled	4	5
Semi-skilled	1	1
Small scale proprietors	31	41
Lower order professionals	4	5
Total	**76**	**99**

The information in Table 5 indicates that very few mothers of the sample students were involved even in lower order professions, and most of them were either housewives or involved in some small-scale business. Thus, compared to the mothers the students had made much higher choices. One of the objectives of this study was to learn the reasons for these choices. Table 6 presents the reasons given by students for their career choices.

Table 6: Reasons for the Career Choice.

Reasons for the choices	Frequency	Percentages
Parents desire	38	31
Self decision	56	46
Finance	16	14
Academic	3	2
In order to be independent	10	8
Total	**123**	**101**

Some students cited multiple reasons.

The reasons most often cited by the students are 'self decision' and 'parental desire'. The reasons cited least often were academic reasons and the desire to be independent. Finance was stated as a reason in only 14% of the cases. Another question asked students to state the influences on their choice. To this question 25% of the students stated that finance was one of the considerations.

It would be interesting to focus on the fact that lower order professional careers such as teaching and nursing were chosen by 61% of the students and on the reasons for these choices. The reasons why the majority of students reach such decisions are possibly the following. Firstly, teaching and nursing are stereotyped as women's work. Secondly, they are very much within the reach of most of the students in terms of academic requirements and local availability. Thirdly, both these professions are termed 'noble' professions i.e., professions where one does something good for the benefit of society. These reasons could have made these choices appear more attractive in the eyes of the students.

Sources of Vocational Information

Students were asked questions about their sources for vocational information. The parents, the school and the family (other than parents) were suggested as sources of vocational guidance to the students, who were asked to state whether these had provided any guidance. The responses of the students are presented in Table 7.

Table 7: Student's responses to sources of vocational guidance.

Sources of guidance	Received guidance		Did not receive guidance		Received slight guidance		No response		Total	
	No	%	No	%	No	%	No	%	No	%
School	49	43	59	52	6	5	-	-	114	100
Parents	86	75	24	21	4	4	-	-	114	100
Family (other than parents)	64	56	26	23	1	1	23	20	114	100

Table No. 7 indicates that parents were the main source of vocational guidance for students followed by other members of the family. The school was last on this list, yet around forty-three percent of the students stated that it had provided them with vocational guidance. The Z test of proportionality indicated that the difference between parents and school, parents and family, and family and school were significant at the 0.05 levels of significance. This indicates that the school is not playing an important a role in vocational guidance.

Specifically, students were asked detailed questions regarding their discussions about career options with a) family, b) friends and c) school (teachers). Of the total, 104 students or 91% stated that they did discuss career options with their friends. Such discussions began from middle school, i.e., in the VII (5%), VIII (21%) IX (24%) and X (31%) standards. 19% of the students did not respond to this question. Peer group discussions increased with increasing age and successive years in school.

With regards to the family, 89% of the sample said that they had discussions about careers with their parents, while the remaining 10% said that they never had any discussions with their parents. Students were asked to state when (at what age) such discussions had begun. 24% of the sample did not respond to the question and of those who did, 33% said that discussions began in S.S.C., 5% after S.S.C., 46% in middle school i.e. VII to IX and 15% in primary school. An attempt was made to learn the frequency of such discussions. 40% of the students stated that they had occasion to have such discussions around once to five times. The percentage of students who said that such discussions took place 'very often' was 35%.

With regard to the school, 61% of the sample said that their teachers had discussed careers with them, while 37% of the students said that their teachers never discussed such issues with them. Such discussions began in S.S.C. according to 30% of the students, while according to 11% and 2% of the sample the discussions began in middle school and primary school respectively. The remaining 57% of the students did not respond to the question. With respect to 'place of interaction' the school was stated most often (82%) by those who responded to the question. However, other places, such as private tuition classes

(16%) were also mentioned in combination with school. It is interesting to note that while all the three sources inquired into, i.e. the peer group, the family and the teachers, were found to have discussed career options with the sample students, the teachers were involved the least.

Effects of Intervention

The effects of the intervention provided to the students could be seen in two major ways. These were, a qualitative feel, and a quantitative assessment of the change in career choices in the control and experimental group with reference to each other. The qualitative feel that the intervention was seen by students as beneficial arises from various observations. Firstly, the sample students showed an exceptional willingness to be interviewed, both in the pre and post states of intervention, and came for the lecture on vocational guidance. This was in spite of the fact that the S.S.C. examinations were drawing close and that they sometimes had to wait for long hours for their turn to be interviewed. Another observation was that some students brought along other girls from different classes so that they may also benefit from the interviewing and the lecture. Some girls did write, or contacted the investigator on later visits to get more specific information.

The quantitative assessment of the intervention concentrated on the ranking of the choices on the occupational scale developed earlier and the changes in the choices over the two stages. Table 8 depicts the career choices of the three groups ranked on the occupational scale.

Table 8: Career choices of the experimental and control groups ranked on the occupational scale.

Occupational ranking of Career choices	ExG		CG1		CG2	
	No	%	No	%	No	%
Undecided	1	2	-	-	1	2
Miscellaneous	2	5	3	6	2	4
Semi-skilled	4	9	5	10	4	8
Small Proprietors	-	-	-	-	2	4
Clerical	3	7	9	18	13	25
Lower order professions	31	72	28	57	22	42
Higher order professions	2	5	4	8	8	15
Total	**43 * 100**		**49 * 99**		**52 * 100**	

* More than one choice stated by students.

Table No. 8 indicates that while the three groups show the same trends in their choice, within the same trend there is differential preference for some

choices. The three groups have all shown a greater preference for lower order professions but the experimental group has opted for this choice more than the other groups and the difference between the experimental group and the control group 2 students is significant at the 0.05 level (Z test). But more important is the comparison of the experimental group and control group 1 on change in the career choices after their examination results. Table 9 presents the comparison of the two groups with respect to change in their choices.

Table 9: The change or stability of career choices.

Change or Stability of choice	**ExG**		**CG1**	
	No	**%**	**No**	**%**
Remained stable	9	24	18	46
Changed	12	32	11	28
Data not available	16	43	10	26
Total	**37**	**99**	**39**	**100**

The change in choices was approximately the same in both the groups. The direction of the changed choices was considered in order to learn what kind of change occurred. If the choice moved higher up the scale, it was termed a change in the upwards direction, and if the choice moved lower on the scale, it was termed a change in the downwards direction. Table 10 presents the classification of the changed choices in these terms.

Table 10: Direction of the changed choices.

Direction of change	**ExG**		**CG1**	
	No	**%**	**No**	**%**
Upward	8	67	3	27
Downward	4	33	8	73
Total	**12**	**100**	**11**	**100**

In the case of the experimental group there are more changes in the upwards direction, and the difference between the control and experimental group with respect to amount of change in the upward direction is statistically significant (Z test 0.05 level of significance).

Conclusion

It is gratifying to note that the earlier existing notions with respect to girls' education and work that women need not be educated and need not follow any

career, and should be content to play the role of a housewife, are fast disappearing. The difference between the careers of the sample students and those of their mothers showed that very few student were content to be housewives, and most of them have chosen a career for themselves. The careers selected also do not appear to be chosen thoughtlessly or at random or inconsistently with realities. Instead it seems clear that attainable and locally available careers have been selected deliberately by the students.

The study showed that the majority of the students had selected teaching and nursing as their future career. It is pity that students have not tried for careers which may not be so easily available or those which do not fit so easily into the stereotype of women's work. Restricting the girls to a few categories of work due to traditional social constraints or due to ignorance, without exploring newer work avenues, is lamentable. Therefore intervention studies in this field would be both desirable and productive.

It was clear that the school system was not playing an effective role in vocational guidance or in discussing topics related to careers as compared to other sources such as the family and the peer group.

The intervention was effective when seen both qualitatively and quantitatively. The success of a 'limited' intervention, provided at such a late stage in academic life suggests that serious efforts by schools are needed to provide more vocational guidance to students.

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