

SCIENCE AND TECHNOLOGY CAREER PREFERENCE OF COLLEGE STUDENTS

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Abstract

The main purpose of the present study was to investigate the **Science and Technology Preference of college students**. The sample used for the study consisted of 140 students of government colleges of Himachal Pradesh. These 140 students were divided into 70 male and 70 female students residing in tribal and non tribal areas. Analysis of variance (ANOVA) was used for interpretation of data. Results showed that College students do not differ on their Science and Technology Preference with respect to their gender and area. Gender x Area have combined effect on Science and Technology Preference of college students at 0.01 level of significance.

INTRODUCTION

The importance of education is undeniable for every single person. It goes without saying that education has a positive effect on human life. All people need to study. Only with the advent of education can people gain knowledge and enlarge their view over the world. For example, learning by watching TV or reading books gives people a huge amount of information about anything they are interested in such as mathematics, current news, exchange rates, other countries' cultures and so on. Although education has a significant influence on life, the average education is not the same in different areas. As a result, strategies are being made to resolve the problems. Without education, life would be disastrous and detrimental. Consequently, to this day, we are trying our best to make education global and accessible for everyone particularly the poor and the disabled. There are still some places where the inhabitants are almost completely uneducated, causing a serious lack of knowledge. Additionally, every child should be

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given equal opportunities to learn and study. Because the development of a country depends vastly on the standard of education, it must do everything in its power to improve it.

CAREER PREFERENCE

The career preference process in scheduled tribes college students is unique since these individuals generally have the freedom to pursue whichever careers they desire. The ideal outcome for these students is to have a career they find fulfilling, and that ultimately provides them with high levels of vocational satisfaction. Vocational satisfaction is consistently moderately related to life satisfaction thus, the importance of making a “good “career decision is great. While the career decision process is complex, as is its relation to satisfaction, it is an important developmental challenge and one that will likely affect a good portion of students’ future lives.

SCIENCE AND TECHNOLOGY

Our societies are dominated and even 'driven' by ideas and products from science and technology (S&T). It is very likely that the influence on S&T on our lives will continue to increase in the years to come. Scientific and technological knowledge, skills and artefacts 'invade' all realms of life in our modern society: The workplace and the public sphere is increasingly dependent on new as well as the more established technologies. So are also the private sphere and our leisure time. Knowledge and skills in S&T are crucial for most of our actions and decisions, as workers, as voters, as consumers etc.

Individuals interested in this field of technology/engineering need to have a good background in mathematics, physics and chemistry, scientific and numerical aptitude, mechanical aptitude, good mental ability, logical reasoning and problem solving skills are essential attributes for engineer, scientist etc. understanding physical and mechanical concepts, being able to express ideas in sketching and precise language is also expected. An aptitude for practical work, accuracy, good and quick judgement, perseverance and the ability to work as a part of team are required.

SIGNIFICANCE OF THE STUDY

Science and technology have become crucial factors for sustainable development worldwide.

Both have contributed immensely to the material progress of nations. It is in fact generally accepted that the adoption of a scientific frame of mind is a prerequisite for development. Associated with this in any country are issues of education which are of considerable importance for economic prosperity. And, in a developing country, issues of science and technology education are even of more particular importance, as it is principally by means of science and technology education that its people can achieve national development. Modern societies need people with Science and Technology qualifications at the top level as well as a general public with a broad understanding of Science and Technology contents, methods and as a social force shaping the future.

OBJECTIVES

1. To study and compare the **Science and Technology Preference of College Students** with respect to their:
 - a) Gender.
 - b) Area.
2. To study double interaction effects of:
 - a) Gender and Area, on **Science and Technology Preference of College Students**.

HYPOTHESES

- 1) College Students do not differ significantly in **Science and Technology Preference** with respect to their:
 - a) Gender.
 - b) Area
- 2) College Students do not interact significantly towards **Science and Technology**

Preference with respect to their:

- a) Gender and Area

DELIMITATIONS OF THE STUDY

- 1) The study was confined to the college students who were studying in different colleges of Himachal Pradesh.
- 2) The study was further restricted to the scheduled tribe category.

REVIEWS OF RELATED LITERATURE

Mau, W (2003) investigated students persistence regarding career aspiration in science and engineering (SE) professional career as a function of race and sex. In a rationally representative sample of 8th graders, persistent racial minority and female students were compared with non persistence racial minority and male students regarding their self concept, parental involvement, social economic status and academic achievement. Men were more likely than women to persist in SE career aspiration. Persistence students scored higher than did non-persistence students on all of the variables studied. Academic proficiency and math self efficacy were two of the strongest prediction of persistence in SE career. **Betz, B(2004)** examined the relationship of vocational interests and self efficacy, expectation and confidence as measured by the personal styles scales of the Helland's strong interest inventory. They also examined the extent to which confidence and personality measures contributed incrementally to the prediction of occupational group membership. Both personality and confidence contributed incrementally to the prediction of occupational group membership, although the most powerful single prediction set was 14 basic confidence dimensions (e.g. science, public speaking and writing) extracted through principal component analysis. There were substantial differences across the 21 occupation in their predictability and the extent to which they were differentiated by personality variables versus confidence dimension. **Rajneesh, P (2004)** studied the vocational interest of 10th class students. The study revealed that the boys showed their keen interest for vocations related with science. 23% male students had vocational interest in science related vocations like mechanical engineering, health officer civil engineering and electrical engineering. 20% girls had shown their first preference for vocations related with society. **Shelley, H (2009)** conducted a study on secondary career and technical student achievement measured by the Mississippi career planning and assessment system. The purpose of this study was to examine the relationship of teachers attributed and school contextual factors to students' achievement in career and technical education in Mississippi. At the career and technical programme level, academic achievement and degree of attainment showed positive impacts on students achievement and the professional development workshop had a negative impact on career and technical students achievement. **Shikha, S (2013)** conducted a study on Career Preferences among Degree College Adolescents in Kanpur City. Present study was conducted in Kanpur city on 300 adolescents (137 boys and 163 girls) randomly selected from 6 degree colleges to assess their carrier preferences (science

and technology, commerce and management, tourism and hospitality, mass media and journalism, art and designing, medical, agriculture, defense, law and order and education) using standard carrier test. Data revealed that adolescents were in age group between 16-19 years and in the sample 45.33 % were male and remaining 54.33 % were female. Higher number of respondents belonged to business (23.66%) and service class (24.00%) , while lowest number of adolescents belonged to families working in factories (16.33%). Data on carrier preferences revealed that education and science and technology were the most preferred carrier of adolescents and agriculture as least preferred carrier. Girls preferred medical, mass media and journalism and art and designing than boys while later had more preference to science and technology and commerce and management than former. Over time, preferences of adolescents changed more for art and design, science and technology and medical in 1 month to 6 month. It is evident from the results that science and technology and education are the most preferred carriers, while agriculture and defense are the least preferred carriers among adolescents. Preference of adolescents for carrier also changes with time.

METHODOLOGY

Sample: The sample consisted of 140 students of government colleges of Himachal Pradesh. These 120 students were divided into 70 male and 70 female students residing in tribal and non tribal area.

Tool: Career Preferences Record' developed and standardized by Bhargava and Bhargava

Statistical technique used: For the analysis of the obtained data on the data collection tool statistical technique analysis of variance ANOVA was applied.

ANALYSIS AND INTERPRETATION OF DATA

In order to study the main effects of type of gender and area of sampled college students on science and technology career preferences, statistical technique of analysis of variance (2x2, factorial design involving two levels of gender i.e. male and female and two types of areas i.e. tribal and non tribal area was applied. Total scores and means of science and technology career preferences of college students with respect to their gender and area are given in the table as follows:

Table 1: Gender and area Total Scores and Means of science and technology career preferences of college students

Gender	Female	Male	Total
Area			
Tribal	238 6.80	134 3.82	372 5.31
Non tribal	88 2.51	248 7.08	336 4.80
Total	326 4.65	382 5.45	708 5.05

From the means of above tables it is cleared that the male college students residing in Tribal area are having lowest mean score 3.82 and male college students residing Non Tribal area are having highest mean score 7.08 on science and technology career preferences.

From the means of science and technology career preferences of college students, F values are calculated. The results are summarized in table as follows:

Table-2. Summary Table of Analysis of Variance of college students on science and technology career preferences

Source of variations	Sum of squares	df	Mean squares	'F' ratio
Gender	22.39	1	22.39	1.11
Area	9.26	1	9.26	0.46
Gender x area	497.82	1	497.82	24.89*
Error variance	2920.08	146	20.00	
Total	3449.55	149		

****Significant at 0.01 level of significance for df 1 and 146**

MAIN EFFECTS:

1) **Main Effects of Gender:** Table 2 reveals that the calculated value of 'F' ratio for the main effects of gender of college students on science and technology career preferences is 1.11 for df 1 and 146, which is less than the 'F' table value 3.90 at 0.05 level of significance. Hence the hypothesis no.1 (a) 'College students do not differ significantly in the science and technology career preferences with respect to their gender'. Was retained. Thus it is interpreted that male and female college students do not differ significantly and prefers almost equal level of science and technology career preferences.

2) **Main Effects of Area:** Table 2 reveals that the calculated value of 'F' ratio for the main effects of college students on science and technology career preferences is 0.46 for df 1 and 146, which is less than the 'F' table value 3.90 at 0.05 level of significance. Hence the hypothesis no. 1(b) 'College students do not differ significantly in the science and technology career preferences with respect to their area'. is retained. Thus it is interpreted that college students residing in tribal and non tribal area do not differ significantly and have almost equal level of science and technology career preferences

INTERACTION EFFECTS:

Interaction Effect of Gender and Area: Table 2 reveals that the calculated value of 'F' ratio for the interaction effects of gender and area of college students on science and technology career preferences is 24.89 for df 1 and 116, which is more than the 'F' table value 6.81 at 0.01 level of significance. Hence the hypothesis no.1(c) 'College students do not differ significantly in the science and technology career preferences with respect to their gender and area'. Was not retained. Thus it is concluded that gender and area in their combined effect affect the result significantly.

CONCLUSION

On the basis of the finding of the present investigation following conclusions have been drawn College students do not differ on their science and technology career preferences with respect to their gender and area. Gender x Area have combined effect on science and technology career preferences of college students at 0.01 level of significance.

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