Gender Differences in Vocational Interest of Elementary School Children in India

Suniti Sanwal*

Abstract

An interest inventory was developed to identify the vocational interests of elementary stage students. The inventory was developed across 14 vocational areas, which were identified as high growth sectors for employment and on which vocational courses were being offered from Class IX onwards under National Skills Qualification Framework (NSQF). The inventory was administered to 1700 students of Classes VII and VIII in the states of West Bengal, Telangana, Goa and Delhi. All types of schools— rural, urban, tribal, private, aided and government schools were selected for data collection. Results indicated that girls have a significantly higher interest in agriculture and food processing, hospitality, travel and tourism, creative and performing arts, textiles and fashion, education and training, beauty and wellness and security, defence and police, as compared to boys. Boys, on the other hand, showed higher preference for areas like ICT, science and technology and sports and athletics as compared to girls. The study suggests different strategies to orient students about various vocational opportunities which would develop decision-making skills.

Introduction

Students at elementary stage are required to make critical decisions about their educational and career choices as these choices will have an impact on their life satisfaction and livelihood during adult life. Career selection is an important step in determining the future plans of an individual. With the

* *Professor,* Department of Elementary Education, NCERT, Sri Aurobindo Marg, Hauz Khas, New Delhi.

advent of information technology, post-industrial revolution and job competition, career decision making has become a complex scenario. Today, due to changing socio-economic conditions, one has to undertake exhaustive career research in order to make career plans. Multiple factors like personality (including vocational interests); individual perception about themselves and the world (self-concept, racial or cultural identity, world view); socialisation; resources (financial, information, role models, social supports); experiences of sexism, racism, and classism; and the salience of various life roles and identity influence career choice and development (Kerka, 1998).

The process of career selection for each individual is influenced by several factors like the context in which they live in, their personal aptitudes, social contacts and educational attainment (Bandura et al., 2001). Hewitt (2010) stated that factors influencing career choice can either be intrinsic or extrinsic or both. Various factors influence the career decisions of an individual like careers favoured by their parents, careers that their educational choices have opened for them or some choose to follow their passion. Studies such as Super's Theory of Development (Super, 1953), Holland's Theory of Vocational Choice (Holland, 1959), Hoppock's Theory and Anne Roe's Theory (Roe, 1957) attached considerable importance to individual's self-concept, values, and past experiences.

The importance of elementary years has been highlighted by various career development theorists in an individual's career development. According to Gottfredson's (1981, 2005), theory of circumscription and compromise, individuals compromise and eliminate their career aspirations based on gender, academic ability, social prestige, personal interest, and their beliefs in four overlapping stages which coincide approximately with the preschool, elementary, middle, and high school years — orientation to size and power, orientation to sex roles, orientation to social valuation, and orientation to one's internal, unique self. According to Gottfredson, a host of career options based on their gender and social prestige are eliminated by the students by the end of their elementary school.

Donald Super (1980) stated that career development process unfolds over five stages— growth, exploration, establishment, maintenance, and decline. Students in elementary school are in the growth phase, which is categorised by students' development across various career dimensions such as desire for information, and exploration of information about the self and the world, acquiring and accessing career information and awareness of ones' likes and dislikes. Successful development across these dimensions of career exploration leads to the development of positive self-concept and a strong foundation for their further career development.

As per the study conducted by Blackhurst and colleagues (2003), it was observed that by the fifth grade, elementary students could develop a conceptual framework for understanding general educational requirements for career preparation; however, they were unable to apply this knowledge to specific careers. These findings suggest that career development interventions geared towards career exploration must be paired with information about career attainment processes and planning skills.

It is important to keep in mind that the goal of career development at the elementary level should not focus on encouraging children to make career decisions (Akos et al., 2011), but it should be structured around age-related matters of child development and learning (Harkins, 2001). At elementary level, students should be exposed to a variety of careers and build self-awareness (Akos et al., 2011). It should be ensured that career development interventions should be developmentally appropriate, so that they have personal meaning for children, (Alexandria, 2012; Harkins, 2001).

According to Betz (2002) and Gates (2001), many females have been socialised to adopt nurturing roles rather than career or achieving roles. They stated that traditionally, they have not seriously planned for their careers, and have not explored the career options extensively, but have restricted their career choices to careers that are gender stereotyped. The duo maintained that the motivation for work is the same for both sexes. However, both the genders make different choices because of their socialisation experiences and the ways in which social forces structure the opportunities available to them. Lippa (2005) found that there were large differences in women's and men's preferences for realistic occupations (for example, mechanic or carpenters) and moderate differences in their preferences for social and artistic occupations. His results also found that women tend to be more people-oriented and men tend to be more things-oriented.

Over the past decades, the careers for both women and men have changed. Today, jobs are more diverse and many jobs have shifted from one area to another. Over time, the culture and the economy have changed. Therefore an interest inventory can help children identify the vocational area of their interest.

The Policy Context

The vocationalisation of education in schools in India at elementary stage has been introduced by different terminologies. At the primary and middle school levels (Classes I–VIII), it is called 'work experience' or 'socially useful and productive work', and 'pre-vocational education' in Classes IX and X. Kothari Commission Report of the Education Commission (1964–66) conceived work experience programme as 'participation in

productive work in the school, in the home, in a workshop, on a farm, in a factory or in any other productive situation'. It recommended that work experience, which includes purposive and meaningful manual work, should be an essential component at all the stages of education. It should inculcate in the learners a respect for manual work, values of self-reliance, cooperativeness, perseverance, helpfulness, work ethics, attitudes and values related to productive work and concern for the community.

In order to provide diversification of educational opportunities to enhance individual employability, to reduce the mismatch between demand and supply of skilled human resource and to provide an alternative for those pursuing higher education, a Centrally Sponsored Scheme of Vocationalisation of Secondary Education was launched in the year 1988. A Programme of Action was brought out in 1986 to translate the policy imperatives into concrete programmes.

The Programme of Action (1992) of National Policy on Education (1986) emphasised that vocationalisation of education programme must ensure that students are prepared at the secondary stage to choose a career. It stressed the development of vocational interests and aptitudes to allow the self-exploration of vocational preferences and to enhance productivity and participation in work.

On 27 December, 2013, the National Skills Qualification Framework (NSQF) was notified by the Government of India to integrate vocational education with general education and to provide seamless pathway to the learners for a smooth transition from school to work or higher education. It is a competency-based framework that organises all qualifications according to a series of levels of knowledge, skills and aptitude. In schools vocational courses are offered from Classes IX to XII along with regular school subjects. In order to help children choose vocational courses in Class IX, an interest inventory was developed.

Materials and Methods

Development of Interest Inventory

An Interest Inventory was developed to find the vocational interests of children studying in Classes VII and VIII. After pilot testing, 14 vocational areas were included in the interest Inventory namely— security, defence and police services; health care; textiles and fashion technology; agriculture and food processing; construction and architecture; banking and finance; beauty and wellness; education and training; sales and marketing; information and communication technology; hospitality, travel and tourism; creative and performing arts; science and technology; and sports and athletics.

Initially 15 items were developed in each vocational area but after item analysis, only 7–8 items were retained. The items were developed by experts from the field of Psychology, Education, and Vocational Experts. Primary school teachers also helped in making the items easily understood by the target group in terms of language and its content. The challenge was to gauge the interest of the child in a particular vocational area by making the topics relevant to their immediate environment. It was not possible to use any technical terms and the language had to be such which would be easily understood by the students of rural and tribal areas also. Four states were selected—one from each region for data collection—Delhi, Goa, West Bengal and Telangana.

The inventory was bilingual—developed in English and Hindi. The inventory was used as it is in Delhi and Goa. For West Bengal and Telengana, it was translated in the state languages— Bangla and Telugu, respectively. It was administered in English and Bangla in West Bengal and in English and Telugu in Telangana. The inventory was pilot tested in government, private and Kendriya Vidyalaya schools.

Selection of Sample

From each district, three types of schools— government, government aided or sponsored, and private schools from urban, rural and tribal areas were selected. Data was collected from 32 Schools— 6 schools from Goa, 9 schools from West Bengal, 7 schools from Delhi and 10 schools from Telangana. In states where aided schools were not present, data was collected from Kendriya Vidyalaya schools.

Data Collection

Data was collected from one section each of Classes VII and VIII and Interest Inventory was administered to all the students. In all, data has been collected from 1700 students. Independent sample t-value test was used to compare the difference between the mean scores in all the 14 vocational sectors.

Reliability and Validity

The pearson's coefficient of correlation using odd even method was found to be r = 0.82. The split half reliability using Spearman-Brown method was found to be 0.90; thus, indicating a high level of reliability. The construct validity of the test was ensured by obtaining expert opinion. The items were shown to the experts and their opinion was sought in determining whether the items were measuring the interests of the child for a particular vocation.

Results and Discussions

The results have been analysed for each State separately and a comparison has been done by merging all the gained data regarding gender, giving an overview. The results have been discussed across 14 vocational areas.

Table 1
Difference Between Boys and Girls' Vocational Interests Across Four States

	Delhi				Goa			Telangana			West Bengal		
	Boys N=277, Girls N=227				***Boys N=123, Girls N=98***			***Boys N=268, Girls N=167***			***Boys N=248, Girls N=292***		
	Gender	**Mean Difference**	**SD**	**t-Value**	**Mean Difference**	**SD**	**t-Value**	**Mean Difference**	**SD**	**t-Value**	**Mean Difference**	**SD**	**t-Value**
Agriculture and Food Processing	Boys Girls	5.98	1.743	2.594**	7.01	1.225	1.709	7.12	1.090	4.166**	5.90	1.771	6.412**
Hospitality, Travel and Tourism	Boys Girls	6.40	1.834	2.889**	7.28	1.063	1.512	7.51	0.693	4.080**	6.77	1.357	3.968**
Creative and Performing Arts	Boys Girls	4.21	1.296	7.209**	4.73	1.215	3.242**	4.96	1.050	5.609**	4.43	1.281	6.511**
Textiles and Fashion	Boys Girls	4.55	1.347	10.406**	4.97	1.088	6.629**	5.36	0.900	8.325**	4.84	1.138	9.036**
Information and Communication Technology	Boys Girls	4.45	1.718	3.945**	4.99	1.591	1.404	5.42	1.602	2.527*	4.55	1.596	2.794*
Science and Technology	Boys Girls	5.47	1.380	7.075**	5.64	1.334	3.748**	6.21	1.080	1.569	5.40	1.455	0.223

Banking and Finance	Boys Girls	2.39	1.812	0.224	3.13	2.119	1.589	4.16	1.846	3.250**	2.63	1.838	0.807
Sales and Marketing	Boys Girls	4.12	1.900	0.186	4.89	1.734	0.789	5.52	1.298	3.697**	4.11	1.938	1.297
Construction and Architecture	Boys Girls	5.80	1.375	2.532**	5.41	1.367	1.623	5.57	1.471	2.491**	5.47	1.639	2.522**
Education and Training	Boys Girls	5.31	1.421	3.849**	5.14	1.506	2.607**	5.20	1.580	4.784**	5.06	1.764	4.844**
Sports and Athletics	Boys Girls	5.66	1.404	6.621**	5.54	1.344	2.878**	6.24	1.004	0.056	5.34	1.633	7.219**
Health Care	Boys Girls	4.66	1.769	0.909	4.82	1.542	0.160	6.08	1.061	2.588**	5.31	1.405	4.220**
Beauty and Wellness	Boys Girls	5.78	1.528	7.515**	5.76	1.420	5.201**	6.19	1.387	5.579**	5.23	1.555	3.493**
Security, Defence and Police	Boys Girls	5.74	1.644	0.310	6.07	1.438	0.949	6.63	1.306	1.597	5.12	1.483	3.613**

* Significant at 0.01 level, ** Significant at 0.05 level, S.D.— Standard Deviation

Table 1 indicated that in Delhi, there is a significant difference between girls and boys in different vocational areas. The girls showed higher interest for vocational areas like agriculture and food processing, hospitality, travel and tourism, creative and performing arts, textiles and fashion, education and training, and beauty and wellness. The boys showed higher interest for vocations like information and communication technology, science and technology, construction and architecture and sports and athletics.

In Goa, girls showed significantly higher preference for creative and performing arts, textiles and fashion, education and training, and beauty and wellness as compared to boys. The boys, on the other hand, showed higher preference for science and technology, and sports and athletics.

In Telangana, results indicated that there is a significant difference in the preference between boys and girls. While girls have a higher preference for agriculture and food processing, hospitality, travel and tourism, textiles and fashion, education and training, banking and finance, sales and marketing and beauty and wellness, the boys showed greater interest in ICT, Construction and Architecture, and Creative and Performing Arts. The preference of boys for ICT was significantly higher than girls at 01 level of significance.

In West Bengal, girls showed a significantly higher interest in Hospitality, Travel and Tourism; Creative and Performing Arts; Education and Training; Health care; Beauty and Wellness; and Security, Defence and Police services, whereas boys showed significantly higher interest in Agriculture and Food Processing, Textile and Fashion, ICT and Sports and Athletics.

The overall comparison between boys and girls where all the states

Table 2
Overall Difference Between Boys and Girls' Vocational Interests

	Gender	Mean	Std. Deviation	t-value
Boys N=917, Girls N=784				
Agriculture and Food Processing	Boys	6.43	1.622	6.028**
	Girls	6.88	1.440	
Hospitality, Travel and Tourism	Boys	4.56	1.250	5.485**
	Girls	4.88	1.186	
Creative and Performing Arts	Boys	4.83	1.684	10.465**
	Girls	5.62	1.379	
Textiles and Fashion	Boys	3.07	2.008	15.163**
	Girls	4.51	1.873	

Information and Communication Technology	Boys	5.59	1.483	5.646**
	Girls	5.17	1.600	
Science and Technology	Boys	5.73	1.406	6.985**
	Girls	5.22	1.563	
Banking and Finance	Boys	5.75	1.523	.076
	Girls	5.74	1.593	
Sales and Marketing	Boys	4.55	1.504	1.252
	Girls	4.64	1.592	
Construction and Architecture	Boys	5.63	1.914	.554
	Girls	5.58	1.883	
Education and Training	Boys	4.56	1.421	6.729**
	Girls	4.98	1.153	
Sports and Athletics	Boys	5.70	1.344	9.967**
	Girls	4.96	1.708	
Health Care	Boys	6.66	1.398	1.518
	Girls	6.76	1.195	
Beauty and Wellness	Boys	4.43	1.532	8.958**
	Girls	5.11	1.607	
Security, Defence and Police	Boys	5.82	1.176	2.147*
	Girls	5.94	1.155	

*Significant at 0.01 level, ** Significant at 0.05 level

(Table 2) revealed that girls have a significantly higher interest in Agriculture and Food Processing; Hospitality, Travel and Tourism; Creative and Performing Arts; Textiles and Fashion; Education and Training; Beauty and Wellness; and Security, Defence and Police. Boys, on the other hand, showed higher preference for areas like ICT, Science and Technology, and Sports and Athletics.

There are certain cultural stereotypes associated with gender. For example, cooking, hospitality, stitching and designing clothes, beauty and wellness, etc., are generally considered a girls' domain, whereas sports, ICT, security, defence, etc., are considered more appropriate for boys. The trends showed that girls have a higher interest in career choices associated with females' vocational interests like agriculture and food processing; hospitality, travel and tourism; creative and performing arts; textiles and fashion; education and training; and beauty

and wellness. During the informal discussions at the time of data collection, it was observed that girls wanted to become SI (Sub Inspector) in the police force as a few girls from their village or neighbourhood had joined the police forces. This explains the reasons which influenced the interest of girls in the security, police and defence sector.

For boys also, traditional stereotypes are reflected in their choice as they showed greater interest in areas like ICT; science and technology; and sports and athletics, as boys making a job-oriented career is considered as very important. Therefore, they are encouraged to take up Science and Computer related subjects which are believed to fetch jobs easily.

Conclusion and Recommendations

A comparison across genders showed that students are still showing a preference for specific careers reflecting traditional stereotypes. Therefore, there is a need to take steps as given here. It is imperative that elementary school children should be provided 'Vocational Orientation' by calling experts from different fields who could talk about opportunities available in different fields (which are not so popular), like Nursing, Paramedical fields like Physiotherapist, Occupational therapist, X-ray technicians, etc., so that students can be made aware about different opportunities in medical field other than the profession of doctor. Parents engaged in different vocations can also participate in such awareness programmes. Students can be taken to an 'Exposure Visit'. For example, a visit to a hotel exposes students to a variety of careers like Front Desk Manager or Receptionist, Housekeeping Attendants, Floor Supervisors, Chefs, Waiters, Steward, Bakers, etc. Emphasis should be placed on discussing the roles and responsibilities of different careers, career ladder and the kind of training required for the same. There is a tremendous pressure against girls learning and doing what are traditionally considered as 'masculine jobs' and boys being involved in doing 'feminine jobs'. Gender neutral opportunities to explore various vocations should be provided in elementary grades so that they are better prepared while choosing a vocation. Schools should appoint or invite career counselors to give career talks and educate students about different occupations— their requirements, duration and prospects, financial requirement and career progression to make informed choices. The skill development programmes at the elementary stage of schooling should also aim to provide skills combined with the understanding of markets, business negotiation and communication skills. Parents also play an important role in the career choices of their wards. During parent teacher meetings, such advocacy

workshops should be taken up where career talks, sharing of experiences of people successful in their fields should be regularly conducted. Greater opportunities to participate in sports and athletics should be provided to girls. Success stories or life journeys of female athletes like Sania Mirza, Sania Nehwal, P.V. Sindhu, Mary Kom, Geeta Phogat can motivate girls to choose sports as a career.

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