

PREDICTION OF NEW GENERATION'S CAREER CHARACTERISTICS TENDENCY AMONG IRANIAN HIGH SCHOOL STUDENTS IN THE COMING TWO YEARS: A FUTURES STUDY

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Abstract: This article has studied the career interests of Iranian high school students as a case study and has tried to predict the future possible scenarios of Iranian high school students' career characteristics tendency. The statistical population is four Borazjan high schools: Two for boys and two for girls. Based on Cochran's sample size formula 263 questionnaires were distributed. In each high school equal sizes (approximately 65 students) were selected randomly. Each questionnaire consisted of 50 career characteristics with calculated Cronbach's alpha of 0.79. Based on the respondents' answers, 50 job characteristics were ranked in terms of frequency with promotion opportunities, prestige, Income and payment, independence and creative thinking in the first place to the fifth and five characteristics of selling goods and services, work shifts, social services, working with the machine and manual skills as the next ones. The results confirmed extreme self-employment tendency among Iranian students. These results can be a guide for Iran's policy makers and planners in the fields of HRM and entrepreneurship in the public sector and draw their attention to the trends in the future two years.

Keywords: Career Characteristics, Entrepreneurship, Human resource management.

1. INTRODUCTION

We fear that our future to be like our fathers. We unconsciously predict that in the future we will be faced with the forces that we are not able to understand them and it seems that they are much stronger than us. We are afraid of the face of the unknown forces. The fact is that as time passes, our fear of the future becomes more and more. This redundancy fear is due to the rapid changes that it is the constant feature of

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our age that add to the future ambiguity, so that they convert knowing the future to a serious challenge to us. So if in the past, only fear of the future could be the motivation for trying to understand the future but, today the hope of creating a better future has become to motivation for understand the future (Malekifard, 2010). On the other hand, the employment issue is one of the most important issues in all countries especially in populated countries. Iran has always considered the employment issue as one of the pivotal problems of the country and the related issues to employment are taken into consideration by governmental authorities in recent years (Tabatabai, 2005). Today, the world is rapidly changing, new career paths are taking place and the traditionalists are also changing and changes in job skills and training needs is taking place. These changes are results of creating new technologies, changes in the organizations design and the process of business globalization (Minor, 2003). The need to recognize desire of young people for identity and rethinking the role of the future makers with respect to their professional and social needs has very effective role in entrepreneurship. The consensus view of high school students can be significantly information to understand the business's future. The future has a close relationship with student motivation, the future is not just a mind set for them but it's a kind of vision. Students face more choices and possibilities than in the past that resulting from the globalization process (Toffler, 1974).

2. LITERATURE REVIEW

Teenagers in the eleventh and twelfth grade are defined as the most suitable for investigating decision-making career choices (Germeijs, Verschueren, & Soenens, 2006). (Harrington & Harrigan, 2006) concluded that in eleventh and twelfth grade, teenagers' preferences relative to profession seem to change and become more realistic, compared to students in the eighth to tenth grade which seem to remain constant. Many authors believe that indecision is the inability to make decisions in different contexts and situations (Frost & Shows, 1993); (Gaffner & Hazler, 2002); (Patalano & Wengrovitz, 2006); (Saka & Gati, 2007). People with a high degree of indecisiveness consume more time to choose between different alternatives (Frost & Shows, 1993), use very little effective decision-making strategies (Ferrari & Dovidio, 2001), submit a high cognitive effort into making decisions (Ferrari & Dovidio, 2001), feel threatened by ambiguous situations (Rassin & Muris, 2005) and are more likely to postpone decisions (Rassin & Muris, 2005). Moreover, indecision has been associated with certain individual characteristics such as neuroticism (Jackson, Furnham, & Lawty-Jones, 1999), low self-esteem (Burka & Yuen, 1983); (Ferrari, 1991), procrastination (Beswick, Rothblum, & Mann, 1988); (Ferrari, 1992), obsessive compulsive tendencies (Frost & Shows, 1993); (Richichi et al., 2008) and perfectionism (Frost & Shows, 1993); (Gayton, Clavin, Clavin, & Broida, 1994). Furthermore, difficulties in career choice were associated with personality and emotional intelligence (Di Fabio & Palazzeschi, 2009). On the other hand, self-efficacy in making career decisions represents the confidence of the individuals in

which they can engage in activities associated with choosing a route or vocational education and career commitment (Taylor & Betz, 1983). Since the emergence of the concept of self-efficacy in career decision making literature, studies have shown its importance in career development (Bandura, 1997), (Bandura, 2006). For example, studies have found surprising positive correlation between self-efficacy in making career decisions and: vocational identity (Gushue, Scanlan, Pantzer, & Clarke, 2006), career exploration (Blustein, 1989), occupational self-efficacy (Taylor & Popma, 1990), career decisions attitudes (Luzzo, 1993), self-esteem (Robbins, 1985) and career preferences maturation (Gianakos, 2001). Contrarily, some studies have shown negative correlation between self-efficacy in making career decisions about career and: career indecision (Lopez & Ann-Yi, 2006); (Taylor & Betz, 1983); (Taylor & Popma, 1990), isolation from others (Gianakos, 2001) and fear of commitment (Wolfe & Betz, 2004). (Kamali et al., 2012) (Flores, Ojeda, Huang, Gee, & Lee, 2006) (Naselli-Flores, Padisák, Dokulil, & Chorus, 2003) extended their research on career indecision which included various demographic and contextual factors that have a high potential on making career decisions. (Bandura, 2006) captured the existence of gender differences on the level of professional effectiveness, career choice and personal development. Other studies, such as those made by (Betz & Hackett, 1983) and (Betz & Hackett, 1981) support the existence of gender differences regarding self-efficacy in making a choice for a profession, particularly regarding concern on the professional path that has proven to be more dominant in adolescents. In most cases, male teenagers feel more effective working in the fields of science and technology, while female teenagers feel more effective in professions traditionally held by their gender (Bandura, 1997), (Bandura, 1997); (Betz & Hackett, 1981). In a study conducted by (Marlino & Wilson, 2003) it was found that, while male and female adolescents have comparable levels of self-efficacy, there are gender differences in some key areas; more precisely, the girls have a low level in the areas of mathematics, finance, decision-making and problem solving, but have significantly better results in planning and gathering information on the profession they wish to follow, concludes (Gianakos, 2001) Based on the results conveyed by the literature, the purpose of the present study is to identify and prioritize career characteristics based on high school students' interests and tendencies.

3. STATEMENT OF THE PROBLEM

Career selection is one of many important choices students will make in determining future plans. This decision will impact them throughout their lives. The essence of who the student is will revolve around what the student wants to do with their life-long work (Borchert, 2002). It is noteworthy to ponder about how students have seen themselves in a role in which personality is a determining factor and how it may influence a chosen career. Some careers demand the personality adaptation to match the qualities of the occupation. For example, sales people have to be out-going. Moreover, (Spilaver, 1977) believed "personality" plays an important role in the

choosing of the right career. Moreover, a student's personality must be self motivated type, as to investigate career possibilities from early on in their lives, and not the procrastinating type that waits till they are compelled to decide. Students must take seriously the role grades play in limiting opportunities in the future. Splaver went on to say "It is important for you to have a good understanding of yourself, your personality, if you are to make intelligent career plans". ((Splaver, 1977)). It is noteworthy that the students should also pay enough attention to the concept of "Entrepreneurial Timing" and the best suitable time for their entrepreneurship (Forouharfar, Yaghoubi, & Motamedifar, 2014) and career selection. Opportunity is the third factor that has shaped career choices for students. Opportunity may influence how students have perceived their future in terms of the reasonable probability of a future in particular career fields. The issue of poverty has played an important determining role in the opportunities available to all. Additionally, young people can lead their societies towards the best possible futures but it should be considered that there is not enough jobs vacancies and opportunities for all young people in a country like Iran. Statistical Center of Iran (2015) has reported that, the unemployment rate in spring of 2015 was near to 10.8%. Based on the released statistics of the center, the unemployment rate among women in comparison to men was extremely higher especially in rural areas. Hence, the problem of career choice among high school students has generated a lot of questions and answers among scholars in Iran and out of Iran. The problem has been a delicate issue that has to be approached with caution. There is no clear process that high school students use while they want to make career choice. High school students should have the opportunity to explore all of the choices available in order to make a logical educated plan when choosing a career. Here, this question could be raised that for a generation that prepares itself to face its career decision making, how would the Iranian high school students make a decision about their future career? What are their interests? And what is their imagination about their employment in the future?

4. RESEARCH QUESTIONS

This research sought to provide answers to the following questions:

1. What are the favorite career characteristics to Iranian high school students? And what are their priorities?
2. Are the favorite career characteristics in male and female students different?
3. Are the favorite career characteristics different among Iranian high school students in mathematics and science fields?

5. OBJECTIVES OF THE STUDY

The purposes of this study are:

1. To study career characteristics prioritization based on Iranian students' tendency.
2. To study existing differences in job characteristic tendency among male and female students.
3. To study existing differences in job characteristic tendency among mathematics and science students.

6. METHODOLOGY

The research method in this paper is descriptive-survey. The study population is Borazjan's high schools. The samples were selected regionally that include 4 high schools (Nejabatgirls' school, Farzanegangirls' school, Taleghani boys' school, Doctor Hesabiboy's school). The questionnaire used to collect data is designed by Oregon Survey Research Laboratory for job characteristics which includes 50 characteristics and the options are yes or no, and very important or fairly important which is analyzed by SPSS software to determine the frequency and implement the mean test. Based on Cochran's sample size formula 263 questionnaires were distributed. The calculated Cronbach's alpha of the questionnaire was 0.79.

7. DEFINITION OF TERMS

For clarity, 50 characteristics used in the study were clarified as following:

1. **Accuracy and details:** Some jobs require workers to attend to details carefully and make sure they complete all tasks.
2. **Activity:** Some jobs keep workers busy all day. In other jobs, workers sometimes need to wait to do their tasks.
3. **Promotion opportunities:** In some jobs, workers can move to a higher job if they perform their tasks well.
4. **Analytical thinking:** In some jobs, workers evaluate information and use logic to analyze and solve problems.
5. **Annual job outlook:** Some jobs offer little or no work for part of the year, due to holiday seasons, bad weather, or varying demand for skills.
6. **Artistic:** In some jobs workers design or create interesting things and express themselves in music, pictures, dance, or building design.
7. **Care for people:** In some jobs, workers give medical or emotional attention to people.
8. **Check accuracy:** In some jobs, workers compare sets of letters, numbers, objects, pictures, or patterns, and then note when they do not match.
9. **Coaching:** In some jobs, workers train and encourage people to improve skills or knowledge. This applies to athletics but also to other fields.

10. **Communication:** Some jobs require workers to clearly speak or write information.
11. **Community service:** In some jobs, workers provide services and programs in places to help people.
12. **Enterprise:** Some jobs give workers chances to take risks, such as starting up and carrying out new projects, activities, or ideas.
13. **Flexible hours:** Some jobs do not have rigid work schedules. Other jobs require working 9 a.m. – 5 p.m., Monday through Friday.
14. **Health and safety:** Some jobs need workers to care for people who are sick, hurt, in danger, or need protection.
15. **Income and payment:** Some jobs pay workers a lot of money. Other jobs pay modestly, and still others pay little.
16. **Independence:** Some jobs allow workers to do their tasks in their own way with little direction. In other jobs, supervisors tell workers what to do.
17. **Indoors vs. outdoors:** Some jobs need workers indoors nearly all day. Other jobs need workers outdoors most or all of the day.
18. **Information gathering:** Some jobs need workers to find and select information that fits a task. Other jobs give workers all the information they need.
19. **Length of training:** Some jobs require four or more years of college. Other jobs require a few hours of on-the-job training. Most jobs are between these two.
20. **Listening:** Some jobs need workers to listen to what people say and ask questions when needed.
21. **Long-term job outlook:** Some jobs need more workers because that part of the economy is growing. Other jobs are declining so fewer workers are needed.
22. **Maintain and repair things:** Some jobs require workers to know the tools and processes needed to keep machinery and equipment running, or to fix it when broken.
23. **Manual dexterity:** Some jobs require workers to use their hands to pick up, move, or put together objects. This is different from the finger skills needed to type.
24. **Math:** Some jobs require workers to select correct math formulas or methods from accounting, geometry, or statistics to solve problems or to plan.
25. **Operate vehicles:** In some jobs, workers drive or navigate vehicles such as forklifts, trucks, boats, or planes.
26. **Operate machines:** In some jobs, workers use or control machines, for example, to make plastic, paper, food products, cloth, or clothing.

27. **Organize:** In some jobs, workers schedule and coordinate events, programs, and activities for groups of people.
28. **Persuasion:** In some jobs, workers try to convince people to change their minds or their behavior.
29. **Physical activity:** Some jobs require physical activity, like walking, climbing, or lifting. Other jobs require sitting or standing in one place most of the time.
30. **Prestige:** Workers in some jobs are admired, honored, and respected by people in their organization or community.
31. **Plants, animals, and nature:** In some jobs, workers work with or care for plants and animals, or help protect the environment.
32. **Problem solving:** In some jobs, workers identify problems, review related information, develop and implement solutions.
33. **Provide advice & consultation:** In some jobs, workers discuss topics with individuals or groups, and then guide, suggest, or recommend options or solutions.
34. **Public interaction:** In some jobs, workers deal directly with the public, such as greeting or serving customers.
35. **Reading:** Some jobs require workers to look at and understand written words and information.
36. **Resolve conflict and negotiate:** Some jobs bring people together to try to settle their differences or disputes.
37. **Responsibility:** Some jobs require a worker to be accountable for final products or services, which result from many workers' activities.
38. **Sell things:** In some jobs, workers try to convince others to buy goods or services.
39. **Shift work:** Some jobs require night or evening work, at least some of the time.
40. **Stress:** Some jobs have high levels of pressure, anxiety, or importance for a long time. In other jobs, workers rarely experience high stress.
41. **Supervise:** In some jobs, workers guide, direct, encourage, and evaluate other people's work, including hiring and firing.
42. **Teach others:** In some jobs, workers teach others how to do things, and they teach in systematic and structured ways.
43. **Think creatively:** Some jobs require workers to come up with unusual or clever ideas about a topic or develop new ways to solve problems.

44. **Travel:** Some jobs require frequent travel away from home for one or more nights per week. Other jobs require daily travel, but workers go home every day. Yet other jobs require travel rarely.
45. **Urban or rural:** Some jobs can be found only in large cities, and some jobs occur only in rural areas. Many jobs can be found everywhere.
46. **Use science:** Some jobs require workers to use scientific rules and methods to solve problems or create new knowledge.
47. **Variety:** In some jobs, workers do different tasks almost every day.
48. **Work conditions:** Some jobs expose workers to heat, cold, odors, or other unpleasant conditions. In other jobs, the work environment is protected.
49. **Work with abstract ideas:** Some jobs require workers to analyze concepts, test hypotheses, or create theories.
50. **Work with children:** In some jobs, workers teach or care for children. Other jobs have nothing to do with children.

8. DATA ANALYSIS AND RESULTS

The responses were analyzed based on the respondents' answers, using mean and frequency (Table 1).

Table 1
The high school students' responses based on frequency and mean

No.	Career Characteristics	Frequency	Mean of response among science students	Mean of response among mathematics students	Mean of response in females	Mean of response in males
1	Promotion opportunities	163	1.61	1.52	1.44	1.63
2	Prestige	144	1.62	1.90	1.61	1.86
3	Income and payment	138	1.68	1.72	1.63	1.47
4	Independence	134	1.78	1.65	1.72	1.71
5	Think creatively	128	1.81	1.73	1.89	1.7
6	Accuracy and details	128	1.68	1.77	1.65	1.77
7	Use science	127	1.80	1.82	1.87	1.78
8	Responsibility	126	1.92	1.79	1.89	1.83
9	Urban or rural	119	1.89	1.85	1.92	1.84
10	Health and safety	118	1.76	1.99	1.82	1.92
11	Communication	116	1.89	1.83	1.84	1.87
12	Organize	115	1.91	1.86	2.10	1.76
13	Work conditions	114	1.89	1.92	1.75	1.99

No.	Career Characteristics	Frequency	Mean of response among science students	Mean of response among mathematics students	Mean of response in females	Mean of response in males
14	Supervise	112	2.05	1.81	1.95	1.9
15	Analytical thinking	110	1.80	1.93	1.86	1.88
16	Reading	110	1.93	1.95	2.04	1.89
17	Persuasion	110	1.94	1.91	2.03	1.87
18	Provide advice & consultation	109	1.85	2.13	1.93	2.05
19	Physical activity	109	1.89	1.97	2.03	1.88
20	Long-term job outlook	105	1.88	1.94	2.15	1.78
21	Problem solving	105	1.84	1.93	1.93	1.87
22	Teach others	104	1.98	1.87	2.04	1.85
23	Care for people	103	1.83	2.09	1.97	1.97
24	Math	102	2.03	1.89	2.06	1.9
25	Work with children	102	1.95	2.06	2.02	2.01
26	Variety	99	1.90	1.95	1.97	1.9
27	Stress	99	1.94	2.06	2.01	2.01
28	Length of training	99	1.93	1.90	1.88	1.93
29	Annual job outlook	98	1.94	2	2.07	1.92
30	Artistic	98	1.96	2.02	2.04	1.97
31	Listening	98	1.89	2.04	1.96	1.98
32	Travel	98	2	1.96	2.15	1.88
33	Coaching	97	1.95	2.05	2.02	2
34	Enterprise	97	2	1.97	2.01	1.97
35	Information gathering	96	2.02	1.98	2.13	1.92
36	Activity	96	2.09	2.02	2.24	1.95
37	Indoors vs. outdoors	95	2.01	1.98	2.10	1.94
38	Public interaction	94	1.99	1.98	1.97	1.99
39	Flexible hours	94	1.94	2.06	1.97	2.02
40	Work with abstract ideas	93	2.10	2.02	2.12	2.01
41	Check accuracy	93	2.04	1.97	2.09	1.95
42	Resolve conflict and negotiate	92	1.97	2.04	2.18	1.91
43	Operate vehicles	87	2.11	2.06	2.20	2.02
44	Plants, animals, and nature.	86	1.99	2.16	2.07	2.09
45	Maintain and repair things	85	2.1	2.13	2.31	2.01
46	Manual dexterity	84	1.99	2.17	2.15	2.05
47	Operate machines	80	2.16	2.10	2.29	2.04
48	Community service	78	2.01	2.14	2.03	2.11
49	Shift work	77	2.18	2.07	2.17	2.1
50	Sell things	75	2.22	2.12	2.35	2.07

According to Table 1, 50 career characteristics from the viewpoints and responses of high school students were prioritized. Accordingly, 5 characteristics that were more important for high school students are: 1. Promotion opportunities, 2. Prestige, 3. Income and payment, 4. Independence, 5. Think creatively/Accuracy and details (Figure 1).

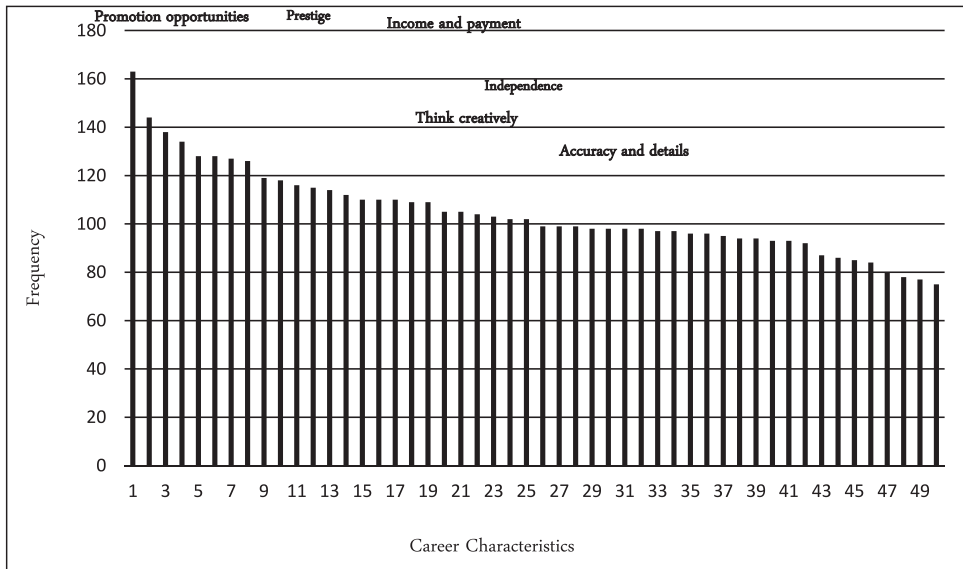


Figure 1: The frequency of students' responses to career characteristics

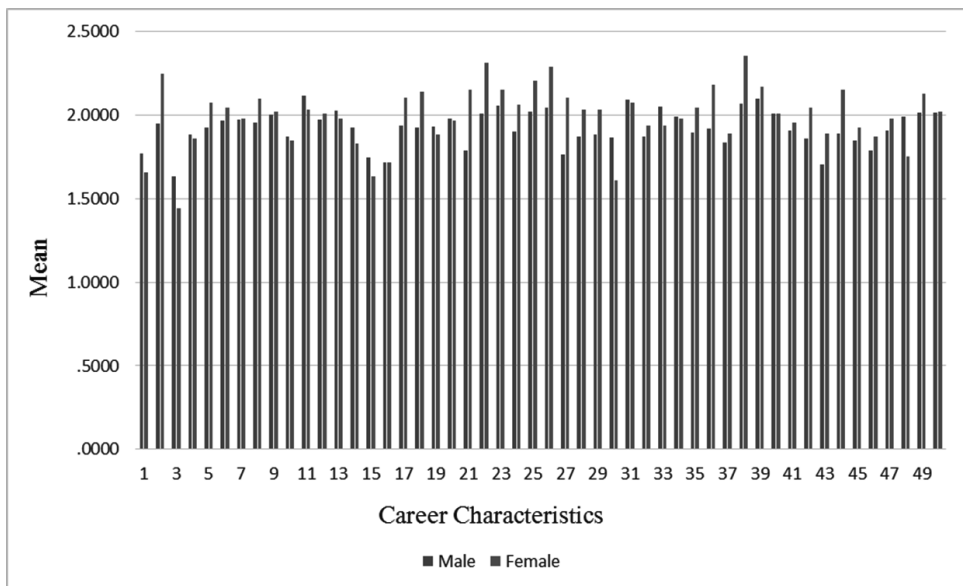


Figure 2: A comparison of average of male and female responses to Career characteristics

Based on the comparison of the average of 170 male and 93 female, the average of Promotion opportunities and prestige characteristics in male was higher than female, Income and payment and Think creatively and Accuracy and details in female were higher than male and Independence characteristics of both male and female were equal (Figure 2).

By comparing the averages of the 5 characteristic in mathematics and science fields (Figure 3) it can be said that the responses of 144 students in mathematics field and 119 people in science field are considered in this research. Therefore it could be claimed that:

- The average of Promotion opportunities characteristic in science fields was higher than mathematics fields.
- The average of Prestige characteristic in mathematic fields was higher than science fields.
- The average of Income and payment characteristic in mathematic fields was higher than science fields.

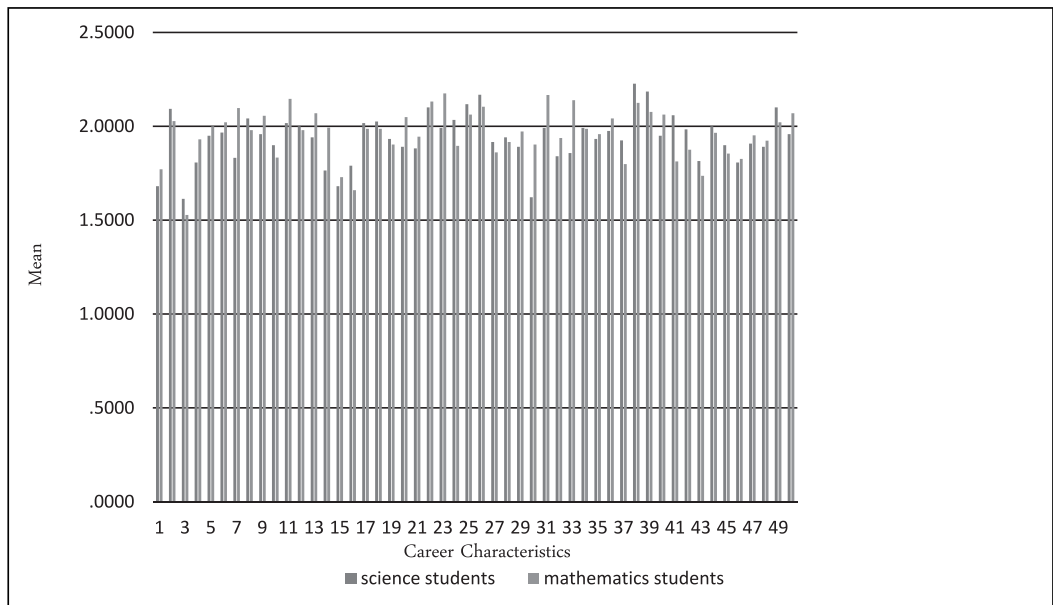


Figure 3: A comparison of average of science and mathematics student's responses to career characteristics

- The average of Independence characteristic in science fields was higher than mathematic fields.
- The average of Think creatively characteristic in science fields was higher than mathematic fields.

- The average of Accuracy and details characteristic in mathematic fields was higher than science fields.

9. CONCLUSION

The Iranian students should do necessary research about future jobs that they are interested in before the selection of their university fields. Although, they can get enough information about their favorite careers from the Internet, libraries as well as television or the practitioners, it is necessary for the policy makers of the country to understand the future trends to be able to respond and program for the near future as effectively and insight fully as possible. Results show that, today interest of Iranian students for doctorate and engineering careers which were common in a few years ago has changed and is going to be changed more dramatically towards other fields like self-employed businesses which could be the reflection of economic situation of the country and inability of the job market in offering enough vacancies to the job seekers and youngsters. Since in one hand because of the poor economic situation of the students and their families, which is a reflection of the country's economic situation, the students like to start up a business as soon as possible, and on the other hand the students themselves ponder about new ways for entrepreneurship. Moreover, this study revealed and ranked five characteristics that are the most important among Iranian students for the future career selection and tendency as: (1) Promotion opportunities, (2) Prestige, (3) Income and payment, (4) Independence, (5) Think creatively / Accuracy and details, respectively. It can be concluded that students will act independently in their future business, this means that someone do not order them and they can be completely self-employed. They want jobs that they can earn a good income. Also, based on the results it can be inferred that the Iranian students could have characteristics of entrepreneurs which is a positive point for the future of the country, but they are not familiar with the requisites of entrepreneurship which the authorities and the decision makers who are responsible for the promotion of entrepreneurship in Iran should pay enough attention to. Finally the research recommend the policy makers of the country to persuade entrepreneurial thinking and job generating ideas, beside their effective economic decisions and practice, indifferent levels of education in Iran even at the primary schools.

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