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Research experience of the PhD students in Iran: a case study in Ferdowsi University of Mashhad

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Abstract

Purpose – The purpose of this paper is to study the research experience of PhD students of Ferdowsi University of Mashhad and factors influencing this experience.

Design/methodology/approach – The information was gathered through a questionnaire which has been developed based on PREQ questionnaire. The statistical populations of this study consist of those PhD students whose research proposal had been approved by the educational council of their faculty or had defended their dissertation. By using random sampling method, 118 questionnaires were collected.

Findings – The findings showed that there is a significant relationship between all of the research experience factors and significant differences between overall satisfactions of the students on their research experience. Variables such as sex and different stages of research have positive and significant impact on the research experience of the respondents.

Originality/value – The outcomes of this study suggest that among the PhD students of Ferdowsi University, there is a relative satisfaction with factors making up the research experience.

Keywords Research experience, Thesis, PhD students, Ferdowsi University of Mashhad, Iran, Research, Students

Paper type Research paper

Introduction

Research has always been a way of advancing both in materialistic and non-materialistic fields in human life. We can suppose, doubtlessly, that many of humanity's improvements were due to research (Fayyazi, 2001). Universities are known as the main source of thinking and diligent research on social issues nowadays. Today "education depends on research" and various views on the way it applies is one of the most evident categories being discussed in higher education. To remove the gap between education and research field is possible by leaking out of inserting in the body of high education and especially in the field of education (Entwistle, 2002).

These days, all countries are trying to attend the role of universities in national development and knowledge and technology improvement. The dominant tradition in higher education, at least since 50 years ago, is training human forces with good and proper qualifications. Universities have been trying to have their morally accepted outputs with evaluative thinking, to clarify their concepts, and at last to play an important role in providing themselves and others with a better life. In order to develop privileged prefer the education and training, and also high education system to other things (Arasteh, 2003).

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As mentioned above, paying attention to research is one of the main duties of universities and colleges. This duty in academic society is in the hands of two main groups: faculty members and the students. In addition to doing research, university professors are supposed to directly guide the students, and also somehow they teach and provide new researches for the country. The postgraduate students, because of passing their education according to the research, and on the other hand having to provide a thesis to give their degrees, will enter the world of research in a more effective way and have a great role in producing science and knowledge, in a way that 55 percent of provided researches in the field of medicine in Iran are derived from MA and PhD medicine dissertations (Rafahi *et al.*, 2000).

Therefore paying attention to the work of this social group would cause development in different scientific fields. Knowing the needs and disturbances of these students, material and mental supports, paving the way for better research, making tools and other research things, etc. are some of the works that can provide the ground for splitting talents of postgraduate students.

Goals and applications of research

The main purpose of this research is depicting the research experiences of PhD students of Ferdowsi University of Mashhad.

The side goals of the current study are:

- analyzing the relation among these factors of research experience of PhD students;
- analyzing the rate of satisfaction among PhD students of Ferdowsi University of Mashhad;
- knowing the possible problems in the experiences of PhD students of Ferdowsi University of Mashhad;
- analyzing the effects or relation among popular variables, such as sex, the educative field, and the will to postgraduate education, scientific rank of supervisor, scientific activities, and working conditions of the rate of PhD students satisfied on research factors; and
- gathering and providing information which could help responsible people of Ferdowsi University on their future programming for PhD students.

Hypotheses of research

This study is going to analyze these hypotheses:

Main hypothesis:

- There is a meaningful relation between explanator factors for research experiences of PhD students of Ferdowsi University of Mashhad.

Side hypotheses:

- the rate of satisfaction among different PhD students of Ferdowsi University of Mashhad differs due to various factors;
- variables such as sex and educational field affect the rate of satisfaction of students on their research;
- current problem is different in PhD students of Ferdowsi University of Mashhad by various educational fields;

- working condition influences the students' research experience satisfaction;
- the scientific rank of supervisor affects the satisfaction of students;
- the satisfaction of students varies according to the way they selected and topic of their research; and
- the rates of students' satisfaction differ in different levels of research.

Literature review

The discussion of research experience dates back to some decades ago. This discourse is paid attention to by the authorities, the deans of universities, researchers, etc.

Stephanie (1990) has analyzed the research experience among PhD nursery students. The statistical group this study were 32 female students, and information was gathered through interviews. The factors which were analyzed in that study were: learning, the process of choosing a topic, controlling and managing, ownership, skill, and strategy, and the study findings showed that the process of writing an article is a relative and completive experience.

Swager (1997) in his study analyzed the personal and functional factors among students and members of scientific mission in research programs of Michigan University. Findings showed the competition of professor and students depends on different factors. It also found the relation between students and teachers is so important for some students and that the level of educational provocation of students is related to the domain of their participation in the research, and this matter also depends on their scientific and recruitment purposes.

In a comparative research, Asmar (1999) analyzed the differences in research experience among male and female PhD students of Australia. Findings showed that in Australian universities the number of females who have the chance of full-time studying, teaching, or high rank jobs is lower than males. It was also found that females are less interested in starting research teams or working with them, and most of the time produce lower scientific products.

Kardash (2000) developed a list of 14 research skills and asked students to self-assess their skill level before and after their research experience. While gains were reported in all of the skills, the gains were stronger in what Kardash termed "lower-order" skills such as oral communication or observing and collecting data, while only modest gains were reported in "higher-order" skills such as developing a research question and hypothesis, designing a way to test the hypothesis, and using the data acquired to reformulate the hypothesis. It would be interesting to learn if there are connections between the amount of intellectual freedom the student has in the design and the direction of the research project and the development of higher-order skills. It would also be useful to know more about the types of experiences that help students develop higher-order skills.

In the same year, Mabrouk and Peters (2000) analyzed the expectations and points of views of students about research experience from another view. Their research group contained 320 students. Findings of that study showed that 98 percent of students had remarked they can convey their own experience to others. Also about 62 percent of them agreed that the supervisor has performed this duty. Also students believe that the most valuable characteristics of a supervisor are: being knowledgeable enough in the field of the students' research topic, being interested in the topic, being tolerant, and also being available. However, they also believe that the above-mentioned

traits are much more valuable then being intellectual, famous, and scientifically talking a scholar.

Merkel (2001), Seymour *et al.* (2004), and Loppato (2004) also had done some other researches and analyzed the advantages and interests of research experience; and they all found that research had many advantages for students and affected the process of research experience to reach personal and professional skills.

Hunter *et al.* (2006) analyzed the rate of researches of postgraduate students on development and improvement of the cognitive, personal, and professional skills of their studies. Their findings showed the outstanding growth in scientific and mental understanding of students, in comparison with the howness of research by experts. Critical thinking skills and the scientific knowledge of many students had improved their abilities to reach knowledge and research matters. In the same year, Kanter (2006) in his paper, by doing some interviews with professors and students of universities, found when students themselves chose their topic of research, they would be more interested in the writing. They also found that most of the students had a problem with studying the materials and other sources, and connecting them with their ideas and views.

Abdelhafez (2007) in his study analyzed the relation between the rate of recognition for postgraduate students on the regulation of using supervisor in Exeter University and the way this recognition affected their attitudes and expectations from supervisors; a matter that was not so popular in other researches. Findings of this research showed the meaningful relation between the rate of students' recognition of regulation of using supervisors and their attitudes concerning their professors. It also made it clear that there is a meaningful difference between students' recognition or their attitudes and sex.

The survey of the satisfaction rate of students from their research experience was done by Krieg (2007) at the Auckland Technology University. The results showed that 90 percent of students are satisfied with the quality of university educational program. It also found that 83 percent of them are satisfied with the university, such as library, computers, laboratory, etc. Hanburay (2007) in order to analyze the rate of satisfaction of the students from their research experiences analyzed the seven factors: supervisor, mental condition, making goals and expectation transparent, the process of article correlation infrastructures, the development of skills and overall satisfaction of students of eight institutes in England, by using the questionnaire of their research experience (Postgraduate Research Experience Questionnaire (PREQ)). The findings showed that more than 68 percent of students are satisfied with their supervisor and 17 disagreed. Also about 59 percent of them were satisfied with equipment and infrastructure of their institutes. On the other hand, 48 percent of students believed that research had flourished their mentality and aroused their various skills. About 68.5 percent of students agreed with the factor of making goals and expectation transparent and, on overall satisfaction from research experience, the percentage who said they experienced something better than they had expected was 56. Among the other findings was the question that there was a remarkable relation between the students' satisfaction with supervisor and with overall research experience satisfaction.

In Iran many researches have been done about research in general means, and the factors which influence the research, etc., but we found no research on research experience of students in Iranian universities. You can see some studies below which had the most relation with analyzed variables in current research.

Naddaf Zadeh Shirazi (1994), in his research, analyzed the views of MA students of governmental and Islamic Azad Universities of Shiraz about the problems of research and writing a dissertation (from Nili *et al.*, 2004).

Sadeghi (1996) studied the factors influencing the quality enhancing of students' dissertations. Rafahi *et al.* (2000), in another study, analyzed the dissertation quality of training students in the medicine college of Isfahan University of Medical Sciences. Zamani and Azimi (2004) had also studied the level of students' participation in producing knowledge. Nili *et al.* (2004), in their research, analyzed the quality of supervisor's leading and performances for MA students' thesis of Isfahan University. The scientific writing was the subject of Hasrati's (2005) research. Feili *et al.* (2006) research about the student's participation in research activities and producing knowledge, made clear that there is a meaningful relation between the rate of participation in research activities and variables such as attitude toward student's researches in the country and also the scientific exchanges of students to obtain the research equipment, the financial situation, and the scientific ability of professors. On the other hand, students whose supervisor was the associate professor participated more than others in research.

The research method and data gathering tools

The method we used here is measuring and from the purpose view, it is applied. The tool used is PREQ. This questionnaire was produced by the Graduate Careers Council of Australia and the Australia Council for Educational Research. However, in designing the final copy of the research questionnaire, we did not only rely on the above-mentioned questionnaire, but, based on the theoretical background and the literature review, we tried to adopt the final questionnaire with the conditions governing Iran's higher education. Thus we changed some parts of the PREQ and some other points taken from other Iranian questionnaires were added in order for it to be in accordance with Iran's PhD students' educational conditions and cover the different aspects of Iran PhD students' research experience.

The statistical society and the sampling method

The statistical societies of this research are those PhD students of Ferdowsi University of Mashhad whose proposals have been accepted in the educational council of college, or had defended from their thesis. So we can divide the statistical society of this research into two general groups:

(1) The students who had defended their dissertation, which statistical group contained 47 graduated people in different fields, that is a small one, and because of this we did not use sampling but census because we could not reach this part of our society. The mentioned questionnaire has been sent to them by post and 30 of them returned it to us, equal to 64 percent.

(2) The students whose proposals had been accepted in educational council of the university and now are busy with it, but, up to that time, had not defended from their dissertation. According to the gathered information from education offices of colleges and educational groups, this part of statistical society contained 104 PhD students; because of their large size, we used the Morgand and Kerjcie table with 80 students. After appointing the number of sample, we did stratified sampling. Also in order to give our research more credit, we distributed more questionnaires, so if any problems come up in the process of

gathering information, we could reach the same number; so in practice 88 questionnaires were collected.

Research findings

By using gathering information, we analyzed the research thesis that is explained below:

H1. There is a meaningful relation among all of the research experience factors of Ferdowsi University of Mashhad PhD students.

All the factors of research experience of PhD students had appeared in seven forms in the research questionnaire:

(1) the process of approvement of proposal thesis;

(2) supervision;

(3) infrastructures and university equipments;

(4) intellectual climate;

(5) skill development;

(6) to make the goals and expectation transparent; and

(7) thesis examination.

In order to analyze the data we used the correlation two-side table that analyzed the relation between these seven factors (Table I) by Pearson's correlation.

Regarding Table I and calculated correlation coefficient, you can see that there is a meaningful relation among all factors of research experience. We can also find that the highest rate of correlation (/569) is between the variable of "infrastructures and university equipments" and "intellectual climate" variable and the lowest rate of correlation (0/215) is for the "thesis examination" and "infrastructures and university equipments." On the other hand, there is a positive relation among all factors, which means the rise of satisfaction of one factor will cause the same happening to others, and these factors together will explain the research experience of students:

H2. The rate of satisfaction of PhD students of Ferdowsi University of Mashhad is different from the various factors of experiences.

In order to analyze this hypothesis, the mean of the given answers by the respondents has been offered in Table II.

As Table II showed, the highest rate of satisfaction is for the variables of "to learn and develop skills" with the mean of 3.97 and after that the "article correlation" with 3.8 followed that. But the variables "intellectual climate" which are brought by the college and educational group with the mean of 2.69 and "infrastructures and university equipments" with 2.99 are the least satisfied ones. Other variables have got the moderate satisfaction.

It is also found that the overall satisfaction of students from different explanator factors of research experience is higher than mean:

H3. The variables such as sex and educational field of PhD students of Mashhad Ferdowsi University affected the rate of the students' satisfaction with research experience.

		Process of approve	Supervision	Infrastructures	Intellectual climate	Skill development	Goals and expectation	Thesis examination
Process of approve	Pearson correlation	1						
	p-value							
	n							
Supervision	Pearson correlation	/371	1					
	p-value	/000						
	n	118						
Infrastructures	Pearson correlation	/368	/309	1				
	p-value	/000	/000					
	n	118	118					
Intellectual climate	Pearson correlation	/420	/372	/569	1			
	p-value	/000	/000	/000				
	n	118	118	118				
Skill development	Pearson correlation	/252	/300	/312	/382	1		
	p-value	/000	/000	/000	/000			
	n	118	118	118	118			
Goals and expectation	Pearson correlation	/312	/263	/311	/389	/456	1	
	p-value	/000	/000	/000	/000	/000		
	n	118	118	118	118	118		
Thesis examination	Pearson correlation	/421	/488	/215	/451	/286	/302	1
	p-value	/000	/000	/000	/000	/000	/000	
	n	30	30	30	30	30	30	

Table I.
The Pearson two sides table to evaluate the relation among all factors of Ferdowsi University of Mashhad PhD students' research experience

Overall satisfaction	Process of approve	Super-vision	Infra-structures	Intellectual climate	Skill development	Goals and expectation	Thesis examination	Our scale
3/25	3/51	3/59	2/99	2/69	3/97	3/45	3/8	Mean

Note: $n = 118$

Table II.
The mean of asked people's views on related variables to the "overall satisfaction" factors

The mentioned hypothesis included two parts: the influence of sex on the satisfaction rate and the influence of educational field on the satisfaction rate. At first we analyze this hypothesis: the sex of PhD students of Ferdowsi University of Mashhad has influenced the rate of students' satisfaction with research experience.

The findings of research showed that the male students had the 3.14 mean, while the female ones were more satisfied with their research experience with the mean of 3.45. We used independent samples test in order to appoint the difference of satisfaction rates of male/female students, which is analyzed in Table III.

Table III.
t-test for equality of means of Mashhad Ferdowsi University PhD students, with the sex differences, compared with the overall satisfaction of research experience

	Levene's test for equality of variances		*t*-test for equality of means						
								95 percent confidence interval of the difference	
	F	Significance	*t*	df	Significance (two-tailed)	Mean difference	Standard error difference	Lower	Upper
Equal variances assumed	0.265	0.608	−2.517	116	0.013	−0.31011	0.12320	−0.55412	−0.6610
Equal variances not assumed			−2.484	76.002	0.015	−0.31011	0.12483	−0.55872	−0.06149

Note: $n = 118$

The results of variables showed the *p*-value about "overall satisfaction" is equal to 0.608 and greater than 0.05. Therefore the thesis of the same variable has not been accepted for this case. It is also found that from the statistical view, there is a meaningful difference between the rates of PhD students of Mashhad Ferdowsi University satisfaction, according to their sex.

The next variable of this hypothesis is the "educational field of PhD students": in order to answer this thesis, we divided the educational fields into four groups, including the engineering and technical field, basic sciences, humanistic sciences, and agriculture. Our findings showed that the students of agriculture (3.42), engineering (3.26), basic sciences (3.18), and humanistic sciences (3.1) are the highest satisfied ones on research experience. As you can see, all the fields have the mean of more than 3. By using the analyzing of variables test (ANOVA), we compared the mean rates of PhD students' satisfaction of different fields (Table IV).

With regard to the *p*-value (> 0.05), the results of Table IV show that the means different among the educational fields of Ferdowsi University of Mashhad are not meaningful. In other words, the PhD students of Ferdowsi University of Mashhad almost had the same satisfaction rate of research experience, based on their fields:

H4. The possible problem in research experience of PhD students of Ferdowsi University of Mashhad according to the educational fields is different.

This hypothesis contains nine research problems which students encounter while writing their dissertations. Table V offers the results of ANOVA test concerning the differences existing in the means of different students' research problems.

Table IV.
The results of ANOVA test about the mean of satisfaction differences of the PhD students of Ferdowsi University of Mashhad according to their educational field

Educational field	Sum of squares	df	Mean square	*F*	Significance
Between groups	1.859	3	0.620	1.495	0.220
Within groups	47.236	114	0.414		
Total	49.094	117			

Note: $n = 118$

	Sum of squares	df	Mean square	*F*	Significance
Topic choosing					
Between groups	24.467	3	8.156	5.028	0.003
Within groups	184.898	114	1.622		
Total	209.364	117			
Writing thesis proposal					
Between groups	13.674	3	4.558	4.143	0.008
Within groups	125.420	114	1.100		
Total	139.093	117			
Access to resources					
Between groups	7.282	3	2.427	1.820	0.148
Within groups	152.082	114	1.334		
Total	159.364	117			
Research data gathering					
Between groups	18.941	3	6.314	4.260	0.007
Within groups	149.688	101	1.482		
Total	168.629	104			
Statistical analyze					
Between groups	3.296	3	1.099	0.789	0.502
Within groups	143.358	103	1.392		
Total	146.654	106			
Thesis writing					
Between groups	11.869	3	3.956	3.995	0.010
Within groups	107.937	109	0.990		
Total	119.805	112			
Have not enough time					
Between groups	5.222	3	1.741	1.526	0.212
Within groups	124.317	109	1.141		
Total	129.540	112			
Relation with supervisor					
Between groups	4.882	3	1.627	1.071	0.365
Within groups	171.751	113	1.520		
Total	176.632	116			
University official procedures					
Between groups	1.578	3	0.526	0.325	0.807
Within groups	181.181	112	1.618		
Total	182.759	115			

Note: $n = 118$

Table V.
The results of ANOVA test about the difference on mean of PhD students' views about research problems depend on the educational fields

The data of Table V showed that being smaller than *p*-value about the problem of "topic choosing," "writing the thesis proposal," "research data gathering," and "thesis writing" showed the meaningful difference between these problems in different educational fields. The difference is not meaningful in other questioned problems:

H5. The working situation influences the research satisfaction of students.

This statistical data has been mentioned in Table VI. In Table VIII, we have also analyzed the existence of a meaningful difference between the rate of the students' satisfaction with their research experience and their employment condition.

The findings of Table VI show the small differences between the rate of overall satisfaction of employed students and unemployed ones in research experience.

The difference is meaningful between the rates of satisfaction of PhD employed or unemployed students have been analyzed in Table VII. You can see that the results of

t-test (p-value = 0.695) showed no meaningful difference between the satisfaction rate of these groups. These meant that maybe the working situation of students is not influential in satisfaction of research experience:

H6. The academic rank of supervisor influence on the students' satisfaction.

The supervisor plays an important role in the process of research experience for students. Since the supervisors are different in knowledge, the influence of this issue on satisfaction of the students who are being supervised has been analyzed. The results of ANOVA test on the mean of satisfaction rate of professors with the academic ranks of associate professor (3.26), assistant professor (3.14), and professor (3.27) have been gathered in Table VIII.

The results of Table VIII showed that if we had the degree of freedom (df) 2 ($n-1$), p-value would become bigger than 0/05; with the confidence interval of 95 percent, the supervisor's academic rank does not affect the students' level of satisfaction with his function.

Table VI.
Statistical data of satisfaction rate of PhD students from the research experience according to their working situation

Groups	*n*	Mean	Standard deviation	Standard error mean
Employed students	45	3.1837	0.58906	0.08781
Unemployed student	73	3.2922	0.68210	0.07983

Note: $n = 118$

Table VII.
The test of having the mean of cleaned difference in mean of PhD students' views of Mashhad Ferdowsi University with regard to the different working situation, compared with the overall satisfaction of research experience

	Levene's test for equality of variances		*t*-test for equality of means						
								95 percent confidence interval of the difference	
	F	Significance	*t*	df	Significance (two-tailed)	Mean difference	Standard error difference	Lower	Upper
Equal variances assumed	0.154	0.695	−0.883	116	0.379	−0.10853	0.12289	−0.35193	0.13486
Equal variances not assumed			−0.915	103.560	0.363	−0.10853	0.11868	−0.34389	0.12682

Table VIII.
The results of evaluation correlation of academic rank of supervisor on satisfaction of students of them; ANOVA test

	Sum of squares	df	Mean square	*F*	Significance
Between groups	0.399	2	0.199	0.466	0.629
Within groups	47.553	111	0.428		
Total	47.952	113			

Note: $n = 114$

H7. The rate of students' satisfaction with research experience according to the howness of subject selection of research is different.

One, by a logical and correct selection of his research subject which is considered to be the first step of doing the whole project, can put his first research step firmly and step into the world of research much more determinedly and confidently. In current study attempts have been made to analyze the different forms of research which are chosen. So, five forms of topic choosing have come in the questionnaire. Then the mean of overall satisfaction of students with any method of topic choosing will be modified as explained: topic has been chosen by the students (3), the topic proposed by supervisor (3.28), the topic is presented by other people out of university (3.17), the formulation of topic by exchanging the ideas between the students and professors (3.45), and other topics (3/38).

The results of one-sided variance correlation rendering is analyzing the different effects of these methods of topic choosing on the overall satisfaction mean had appeared in Table IX.

As you can see, there is no difference in the rate of overall satisfaction of students with research experience in different methods of topic choosing, and level of significance 95 percent, and with regards to the defined p-value of the mentioned test (0/81) bigger than 0.05:

H8. The rate of student satisfaction with research experience is different in various levels of research.

Thesis writing and in general any research work has different levels. The researcher would reach different experiences in any of these levels, or will face different problems and obstacles. In order to analyze the rate of students' satisfaction on the base of level working of research, we used one question in the research questionnaire about the howness of topic choosing, and students were asked to make one of these eight choices: recently accepted the thesis proposal, the data gathering needed for research, the thesis in writing progress, waiting for receiving the views of supervisor, the necessary reforms on the final version of thesis, clear thesis defense date, defend the thesis, etc.; then the related mean of the satisfaction rate of students involved in research work at each stage was modified. The findings showed that the highest satisfaction level (4) was for students who were busy with their necessary reforms on their thesis, and the lowest one (3/04) for those who were in the gathering data stage. The results of ANOVA test on the obtained mean of them appear in Table X .

As you can find in Table X, the obtained p-value of correlation is equal to 0/039, which is less than the α amount (0/05), therefore at the certain level of 95 percent, our hypothesis would be accepted. In other words, we can say that the students' satisfaction rate of the research experience differs in different levels of research.

Table IX.
The results of evaluation test of meaningfulness difference in overall satisfaction of asked people from research experience, and "howness of topic choosing"

	Sum of squares	df	Mean square	F	Significance
Between groups	3.448	4	0.862	2.134	0.081
Within groups	45.646	113	0.404		
Total	49.094	117			

Note: $n = 118$

Conclusion

Since the only way to save the research in our country and the only essential technique in scientific development is paying attention to the sprouts that have the potential to grow, we must care for the students and especially postgraduate students, because their education nature needs more attention. Also because the writing of even one article of any MA article and two articles for each PhD ones helped Iran to be one of the first ten countries in the world in terms of science production (Mosavi, 2003).

In the recent research, attempts have been made to analyze the different factors in the process of research experience of PhD students of Mashhad Ferdowsi University and their problems and obstacles. The results made clear that there is a meaningful relation between all the factors of research experience (Table I). On the other hand, the highest correlation (0/569) was found between the "infrastructures and university equipments" and "intellectual climate" variables. This finding means there is a strong relation between these factors. In other words an increase in research equipments, such as financial ones, place, data sources, and the library of Ferdowsi University of Mashhad, provides the required fields for researcher students to exchange their ideas and thoughts, encourage them to create the sense of sympathy between the students and professors, and as a result there would be an increase in the satisfaction rate of students with the "intellectual climate." Hanburay (2007) has also analyzed the relation between these factors in his research. He has found that there is a meaningful relation among all the factors of research experience. The satisfaction rate of students from the seven factors of research experience has also been shown (Table II). We can find from this part that the students depending on their special situation and things they face have different levels of research experience satisfaction and also various kinds of understanding which cause this difference.

The study on the sex effects of students on their satisfaction of research experience showed that the females are more satisfied than males (Table III). However, Kardash (2000) and Abdelhafez (2007), in their researches, found that there is no meaningful relation between male and female research experience satisfaction. Lopatto (2004) has also found that they are the same in research experience obtained advantages. Perhaps, personal differences between these two groups, women's attention to detail, greater accuracy in the tasks entrusted, and lower expectations of women than men made them more satisfied in this research. However, we should not close our eyes on the situation and culture of societies which have been analyzed in our research and other ones. It is also found that there is no meaningful relation between the means of students' satisfaction in different fields (Table IV). On the other hand, it is realized that the research experience of humanistic students shows least satisfaction with all the factors of research. The reason may be the diversity and complexity of research topics, a great need for the library materials, etc. in the humanistic sciences field. It is also found that there are meaningful differences between some students' problems of research in different educational fields (Table V).

Table X.
The results of evaluation test of meaningfulness, the differences of overall satisfaction mean of research experience and being in different levels of the study

	Sum of squares	df	Mean square	*F*	Significance
Between groups	6.054	7	0.865	2.210	0.039
Within groups	43.041	110	0.391		
Total	49.094	117			

Note: $n = 46$

It is also found that the working situation of a student, the academic rank of the supervisor, and the way of choosing a topic have no effect on the overall satisfaction of the research (Tables VI-IX). Also, Mabrouk and Peters (2000) believed that the academic rank of the supervisor has no special effect on the research rather than other supervisor factors. Nili *et al.* (2004) found the difference among the qualities of professor's leading depended on university and academic rank, but it was not the meaningful one. Feili *et al.* (2006) found that those students whose supervisor was an assistant professor were more satisfied than others. Our results in the current study are similar to those of Nili *et al.* (2004) but differ from a study by Feili *et al.* (2006), Kanter (2006) in his research found that whenever student and professor agree on the topic of research and choose it together, the student will be more interested in thesis writing. These findings agree with our obtained results and showed the high mean of satisfaction in these students. The last analyzed category was the different levels of doing research and the satisfaction rate of students from research experience which is different in various levels of study (Table X).

With regard to the obtained results, we can say that in general PhD students of Ferdowsi University of Mashhad are satisfied with all the factors of research experience. Infrastructures and equipments of university and intellectual climate are two factors which had the least satisfaction rate on students and should be paid more attention, by having more budgets and equipments, and good place to pose this problem.

Among the different fields and colleges of Mashhad Ferdowsi University, PhD students of humanistic science had the most problems that should be studied in further research. Also, the educational field must be attended in management programs of universities for students; because it will cause varieties in student needs. In universities, the supervisors can try to move toward having better relations with students, besides improving their scientific abilities, to have a better understanding of each other in researches. Changes in the classic system of evaluation and relying on the new standards will cause some diminutions to be lost or reduced. In general, the classic educational system of universities in Iran needs a review in many aspects, and to provide a dynamic environment needs some changes in different aspects. Avoiding from quantities is one of the most important factors, and the increase in research budget of universities is another one, which should be paid attention by the governors and programmers.

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