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An Investigation of the Perceptions of Early Career Academics towards Science

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ABSTRACT

The purpose of this study was to understand science perceptions of the research assistants as early career academics. For this aim the questionnaire composing three main parts was conducted to 347 research assistants from a state university in Turkey. The findings of the study revealed that the research assistants generally have strong interest to their academic fields. Another important finding was that research assistants have a pragmatic approach toward the idea of science. Results also pointed out that majority of the research assistants consider themselves as an intellectual on science. The results of this study are expected to enhance scientific culture at universities by revealing the current science perception among research assistants.

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Early career, science perception, research assistant, faculty development

Introduction

Science literacy has been one of the fundamental issues that have been discussed since the late 1950s (Deboer, 2000). According to Laugksch (2000), "Scientific literacy has become an internationally well-recognized educational slogan, buzzword, catchphrase, and contemporary educational goal" (p. 71). However, there is not precise definition of the term "science literacy" yet. According to Durant (1993), it stands for "what the general public ought to know about science" (p. 129). Deboer defines it as "what the public should know about science in order to live more effectively with respect to the natural world" (p. 594). Shamos (1995) describes science literacy as;

a) having an awareness of how the science/technology enterprise works,

b) having the public feel comfortable with knowing what science is about, even though it may not know much about science,

c) having the public understand what can be expected from science

d) knowing how public opinion can best be heard in respect to the enterprise (p. 229).

The common feature of these statements is related with public concept. From this point of view, it can be stated that science literacy reflects public's knowledge and attitude towards scientific reality. Another important characteristic of these definitions is that science literacy includes different competencies, such as knowing, understanding, and predicting. Similar to this view, Miller (1983) stated that scientific literacy is a multi-dimensional construct. He also suggested that it should be conceptualized as three related dimensions:

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(1) knowing enough vocabulary of basic scientific constructs

(2) an understanding of the process or nature of scientific inquiry

(3) some level of understanding of the impact of science and technology on individuals and on society.

It can clearly be understood from these statements that scientific literacy requires not only descriptive knowledge but also predictions and inferences about the scientific activities. Hence, researchers who want to conduct research about science literacy need to focus on this multidimensional side of the scientific literacy in order to reach the valid results.

In recent years, the studies related with scientific literacy have increased its popularity especially in advanced countries (Vaccarezza, 2007). The literature includes many studies that investigate public perception toward science. The effects of science on country's cultural, economic, social, and educational life can be the main reason of these studies. In other words, political, cognitive, educational, professional and even commercial interests lead scientists to emphasize on public perception of science (Vaccarezza, 2007). Since public perception toward science is of great importance in terms of the spread of scientific growth and increase of the awareness level of the public, there should be more studies measuring the public science perception in a broader perspective. However, these studies should not be restricted as public perception. Similar studies should be conducted to investigate university dimension since universities are places in which the science is developed and taught.

Universities compose an important dimension of science perception. According to Scott (1997), universities are considered as leading scientific institution in this era. Universities can be seen as the dominant factor in the society, developing scientific culture. As Schaal (2008) stated, national universities have a key role in science policy of the country since they produce scientific information which is valuable for the society. Academic staff has also an important role in distribution of the scientific information to the society. Science perceptions of the academicians have deterministic effect on not only organization's but also society's culture. From this perspective, academicians that increase their scientific literacy and have positive science perception are necessary people for the society. Early career academics who are planning to be academician in the future can be the starting point for improving science perception. Hence, the current situation of science perception of early career academics needs to be investigated deeply and existing insufficiencies need to be revealed.

Early Career Academics

According to Baldwin and Blackburn (1981), Boice (1992), Finkelstein and Lacelle-Peterson (1993), Menges (1996), Rice, Sorcinelli and Austin (2000), Sorcinelli (1992), and Sorcinelli and Austin (1992), faculty careers can be conceptualized in three main periods; early, mid-career and senior faculty periods (cited in Austin, 2002, p. 96). There are different approaches as to "early career" term in the literature. For instance, Bazeley (2003) defined "early career" as;

> An early career researcher is one who is currently within their first five years of academic or other research-related employment allowing uninterrupted, stable research development following completion of their postgraduate research training (p. 274).

Bazeley (2003) pointed out that finishing the postgraduate program (Ph.D.) is essential for starting the early career. However, Solem and Foote (2004) stated that several academics consider that the early career period begin with the employment at the university before finishing the Ph.D. until receiving permanent employment in the university. Solem and Foote, also, described the academics who entered the employment at a university before finishing the Ph.D. as "early career faculty" in their research study. Similarly, Foote (2010) defines "early career" as the period between final one to three years of graduate study and taking permanent contract from the university. The author also, defines "early career" as a period beginning with the employment as a research assistant before finishing the Ph.D. until being Associate professor or having permanent contract at the university. In context of this study, research assistants conducting their graduate studies have been included as early career academics since they have employment at the university.

The duties of research assistants at university in the universities are varied. The Turkish Law on Higher Education (Law No 2547) defines research assistant as people who help research, observations and experiments in higher education institutions. They can assist faculty in several courses, carry out administrative responsibilities and arrange their Ph.D. study period. According to Adams (2002), early career academics need to consider five components:

> 1. Teaching practices of new faculty members are very important since they help research assistant to develop their teaching skills toward their future academic career.
>
> 2. Research gives a chance to new faculty members to develop their research skills and follow the latest developments in their field. Additionally, they may provide prestige and other economic rewards to these new faculty members.
>
> 3. Academic life integration is important in order to reach a success in an academic community. It is essential since it requires new faculty members or early career academics to know multiple responsibilities and duties in this community.
>
> 4. Job search skill helps new faculty members or early career academics (especially research assistants) to make clear decisions about applying to the best positions suitable with their skills and interests.
>
> 5. Academic options are needed to be considered by new faculty members including research assistants as early career academics to make an effective career planning (p. 3).

This study involves research assistants since they are employed academics until finishing the Ph.D. period. In addition, they are supposed to conduct research during their Ph.D. Thus, they are one of the main people who contribute the development of scientific knowledge in societies and in universities. For this reason, their perception of science should be deeply examined. Moreover, the findings of this research may help to determine what should be taught in graduate courses. The research questions of this study are as follows;

- What are the scientific activities of research assistants during career development process?
- What are the general perceptions and opinions of research assistants about science?
- What are the perceptions of research assistants toward science in Turkey?

Methodology

Design of the Study

This study was a descriptive study and survey method was used in this study. Fraenkel and Wallen (2005) stated that the major purpose of the survey is to describe the characteristics of a population. It helps the researcher to discover the distribution of certain traits and attributes (Babbie, 1990). Since the aim of the study was to analyze the science perception of research assistants, the survey method is suitable for the aim of the study.

Participants / Subjects

The study was conducted in a state university in Turkey. It offers both undergraduate and graduate education to all the students around the world. Thus, the main language of the education is English. Moreover, the university is the member of a program called Staff Development Program (SDP). This program hires successful students graduated from any universities around the world as research assistants and supports them during their graduate education. After their graduation from the program, they work at universities as academicians. Thus, this program aims to educate the future faculty members of the other universities around the world.

The participants of this study are research assistants and there are approximately 1200 research assistants at the university. The status of the research assistants are varied in the university. They may be

departments' research assistants, research assistants at administrative units, research assistants enrolled in Staff Development Program or research assistants hired by other universities in the country and charged by them in order to complete their graduate education.

The research assistants were administered the questionnaire by the researchers in this study. They were informed about the aim of the research by the researchers and asked whether they wanted to participate. Out of 1200 research assistants 347 of them filled the survey. Of these participants, 190 (54.8%) were female, 157were male (45.2%). In addition, 124 (35.7%) attended programs in Natural Sciences, 102 (29.4%) in Social Sciences, 75 (21.6%) in Engineering and 45 (13%) in other departments. In Table 1, the demographics of the research assistants participated in this study is presented.

Table 1. Demographic Characteristics of the Research Assistants Participated in the Study

Demographics	Participants	Percentages
Gender		
Female	190	54,8
Male	157	45,2
Age		
22-25	108	31,2
26-29	153	44,2
30 and Above	85	24,3
Status of Research Assistantship		
Enrolled in Staff Development Program	140	40,3
Departments' Research Assistants	132	38,0
Research Assistants in Administrative Unit	46	13,3
Research Assistants Charged by the Other Universities	29	8,4
Education Level		
Master Student	114	32,9
Ph.D. Student	178	51,3
Ph.D. After B.S Student	44	12,7
Post-Doc Student/Researcher	10	2,9
Departments		
Natural	124	35,7
Social	102	29,4
Engineering	75	21,6
Other	45	13,0

Data Collection Instruments

The questionnaire used in this study was adapted from the study conducted by Vaccarezza (2007). With the permission of Vaccarezza, all items from the questionnaire were translated to Turkish by an expert from the department of Modern Languages. Afterwards, the items were discussed by the researchers of this study and were adapted in order to understand the research assistants' perception of science. Finally, four research

assistants from different departments were asked to analyze the items and told what they understood from them. Based on their advices, the researchers developed the questionnaire.

The questionnaire consists of three main parts. In the first part, the demographic data of the research assistants were gathered (13 items). Gender, age, academic department, the status of research assistantship, research courses taken and the status of graduate education were some of the main titles included in the first part. In the second part, research assistants were asked about their scientific activities during career development process (9 items). Research assistants' opinions about their knowledge on science, following scientific and non-scientific journals and following documentary and science and technology programs were the main titles included in the second part. In the last part, their perception about science was investigated (11 items). Perception of research assistants towards the idea of science, potential problems, institutional support, motivational components, implementation of science and scientific activities in Turkey were the main titles included in the last part. The questionnaire consists of categorical variables and 5 Likert-scale types. Although majority part of the questionnaire includes categorical items, the section related with the **o**pinions of Research Assistants about Implementations of Science includes 13 five likert-scale items.

Data Analysis

Quantitative data analysis method was used in this part of the study. The frequencies of the responses to the questions were calculated and descriptive and inferential statistics were conducted. PASW 18 software was used to perform the necessary data analysis tests. Since categorical variables were considered as discrete, reliability analysis was carried out for 5 Likert-scale types. Reliability analysis of the related section including 13 five-likert scale items was applied in PASW 18 and Cronbach's alpha value was calculated as .43. After dropping out the 3 items decreasing the reliability, new Cronbach alpha value was calculated as .60. According to Özdamar (1999), questionnaires Cronbach's alpha value of which are equal to 0.60 or higher than 0.60 are accepted as reliable instruments. Hence, the related section including 10 five-likert items was accepted as reliable. Explanatory Factor analysis was also applied to analyze the construct validity of the related section. Pertaining to validity and reliability of the instruments used in the current study serves as a pilot.

Before conducting explanatory factor analysis, assumptions were checked. Kaiser-Meyer-Olkin (KMO) value was calculated as .73 and Barlett's test was found as significant ($p < .05$). After meeting the assumptions, explanatory factor analysis was conducted. 2 items whose factor loadings were lower than .30 were excluded from the instrument. Explanatory factor analysis results are shown in Table 2.

Table 2. Explanatory Factor Analysis Results

Item	Necessity of independent science	Adherence to science and technology
The government should not intervene in the work of scientists, even when the same government that pays them.	.93	
The scientific research should not be controlled by companies.	.39	
The main cause of the improvement in quality of life of mankind is the advancement in science and technology.		.66
The benefits of science and technology outweigh the negative effects.		.55
The science and technology can solve all problems in daily life.		.50
The scientists and technologists are the ones who know best what should be investigated to the country's development.		.49
The application of science and technology will increase job opportunities.		.48
If we neglect science, our society will become increasingly irrational.		.36

Results

Descriptive Results

347 research assistants participated to this study. Out of 347, 184 (53%) research assistants had their B.S degree in the same university in which the study was conducted whereas 160 (46.1%) of them from the other universities in Turkey. 2 research assistants get their B.S degree in Kyrgyzstan and 1 is in Turkish Republic of Northern Cyprus. In addition, 165 (47.6%) research assistants have taken some courses related with Research methods whereas 178 (51.3%) of them have not.

The majority of the research assistants (72.6%) in the study spent majority of their lives in metropolitan whereas 18.4% in cities. Only 9% came from towns or districts. 38.6% of participants state that their father was graduated from university. However, only 22.8% of research assistants' mothers were graduated from university. Nearly half of the research assistants (46.1%) have a sibling and at least one of their siblings was graduated from university.

Scientific Activities of Research Assistants during Career Development Process

According to the findings presented in Table 3, majority of the research assistants (63.1%) perceived themselves intellectual on science. Moreover, 8.4% of research assistants perceived themselves very intellectual. However, 27.7% of research assistants consider themselves little intellectual on science. Based on the findings, half of the research assistants (50.1%) often define themselves as a scientist. Moreover, 36.9% of research assistants consider themselves as a scientist sometimes. However, only 6.9% of research assistants do not define themselves as a scientist.

Table 3. Research Assistants' Opinions about their Knowledge on Science

Perceptions	Frequency	Percentage
Yes, I am very intellectual	29	8.4
Yes, I am intellectual	219	63.1
Little intellectual	96	27.7
No, I am not intellectual	2	.6
Other	1	.3
Total	347	100
Whether Research Assistants Define Themselves as Scientist		
No	24	6.9
Sometimes	128	36.9
Often	174	50.1
Always	21	6.1
Total	347	100

According to the findings presented in Table 4, more than half of the research assistants (58.6%) follow scientific journals related with their field every week or 3-4 times in a month regularly. Moreover, 30.1% of research assistants follow these scientific journals 1-2 times in a month. However, 11.3% of the research assistants do not follow these journals regularly. Based on the findings, more than half of the research assistants (66.3%) successfully specify three scientific journals leading and/or shaping their field. On the other hand, 20.2% of research assistants do not (or could not) specify any scientific journal related with their field.

This study also reveals that 27.4% of the research assistants do not follow any publication other than scientific journals in their field. On the other hand, 72.6% of the research assistants follow at least one publication beside scientific journals in their field. According to the findings presented in Table 4, only 14.7% of the research assistants follow non-field scientific journals every week and 3-4 times in a month. Moreover,

25.9% of research assistants follow non-field scientific journals 1-2 times in a month. However, these journals are not followed or rarely followed by more than half of the research assistants (59.3%).

Finally in Table 4, the results for "frequency of documentary and/or science and technology programs regularly" are shown. The findings of the study indicated that 40.6% of the research assistants do not follow any documentary and/or science and technology program regularly. On the other hand, more than half of the research assistants (59.4%) follow at least one documentary or science and technology program regularly. According to the findings, 42.1% of the research assistants follow documentary and/or science and technology programs every week and 3-4 times in a month. Furthermore, 28.8% of research assistants follow these programs 1-2 times in a month. Nevertheless, these programs are not followed or rarely followed by 29.1% of the research assistants.

Table 4. The Rate of Scientific, Non-Scientific Journals and Documentary and/or Science and Technology Programs Followed by Research Assistants

The Frequency of Following Scientific Journals	Frequency	Percentage
None	2	.6
Rarely (3-4 Times in a Year)	37	10.7
1-2 Times in a Month	104	30.1
3-4 Times in a Month	79	22.8
Every Week	124	35.8
Total	346	100
Number of Scientific Journals Known by Research Assistants	Frequency	Percentage
0	70	20.2
1	14	4
2	33	9.5
3	230	66.3
Total	347	100
The Frequency of Following Non-Field Publications	Frequency	Percentage
None	56	16.1
Rarely (3-4 Times in a Year)	150	43.2
1-2 Times in a Month	90	25.9
3-4 Times in a Month	38	11
Every Week	13	3.7
Total	347	100
Number of Followed Non-Scientific Journals	Frequency	Percentage
0	95	27.4
1	138	39.8
2	79	22.8
3	13	3.7
More than 3	22	6.3
Total	347	100
The Frequency of Following Documentary and/or Science & Technology Programs	Frequency	Percentage
None	18	5.2
Rarely (3-4 Times in a Year)	83	23.9
1-2 Times in a Month	100	28.8
3-4 Times in a Month	60	17.3
Every Week	86	24.8
Total	347	100
Number of Followed Documentary and/or Science and Technology Programs	Frequency	Percentage
0	141	40.6
1	85	24.5
2	70	20.2
3	14	4
More than 3	37	10.7
Total	347	100

Science Perceptions and Opinions of Research Assistants

The results for 'believes of the idea of science' theme and "potential problems of scientific problems for mankind according to research assistants" are presented in Table 5. The findings of the study indicated that 78.1% of the research assistants consider 'improvement of human life' as the description of the idea of science. 'Understanding the natural world' is also emphasized by 64.8% of the research assistants as a definition of the idea of science. However, only 2% of the research assistants believe that 'ideas that few understand' indicates the idea of science. 'Rapid change' and 'domination of nature' are also little emphasized descriptions of the idea of science by the research assistants.

According to the findings presented in Table 5, nearly half of the research assistants believe that science brings problems for mankind. 'The use of knowledge for war' is seen as a problem by 76.6% of the research assistants. More than sixty percentage of the research assistants also consider 'the dangers of applying some knowledge' as a problem. On the other hand, only 7.8% of the research assistants describe 'excess of knowledge' as a problem that scientific development brings.

Table 5. Perception of Research Assistants towards the Idea of Science and Potential Problems of Scientific Development

Descriptions	Frequency	Percentage
Great discoveries	116	33.5
Technical advance	178	51.3
Domination of nature	39	11.2
Improvement of human life	271	78.1
Understanding the natural world	225	64.8
Rapid change	28	8.1
Living in a more controlled world	61	17.6
Ideas that few understand	7	2
Opinions about and Potential Problems of Scientific Development	Frequency	Percentage
Yes, the development of science brings problems for mankind	165	47.6
No, the development of science does not bring problems for mankind	163	47
Potential Problems		
The loss of moral values	38	22.8
The dangers of applying some knowledge	103	61.7
Excess of knowledge	13	7.8
Further concentration of power and health	77	46.1
The use of knowledge for war	128	76.6

The findings presented in Table 6 indicated that nearly all of the research assistants (98%) expect from 'governmental institutes' to support scientific and technological research. 'International organizations' are also expected to support scientific and technological research by majority of the research assistants (72%). However, only 11.5% of the research assistants believe that 'scientists with their own money' need to make scientific and technological research.

Table 6. Distribution of Research Assistants' Responses Regarding to Institutions that should support Academic Research

Supporters	Frequency/N	Percentage
Scientists with their own money	40/347	11.5
Governmental institutes	340/347	98
Private companies	191/347	55
National organizations	139/347	40.1
International organizations	250/347	72

The results for 'motivational components leading scientists to conduct research' are presented in Table 7. The findings indicated that 'gaining academic degree' is preferred by 81.6% of the research assistants. 'Having prestige' is also considered as a motivational component by 69.7% of the research assistants. However, 'winning a major award', 'gaining a power' and 'solving the problems of human' are preferred by less than thirty percentages of the research assistants.

Table 7. Motivational Components Leading Scientists to Conduct Research

Motivational Components	Frequency/N	Percentage
Make money	159/347	45.8
Gaining academic degree	283/347	81.6
Grasp of knowledge	111/347	32
Have prestige	242/347	69.7
Winning a major award	82/347	23.6
Doing good	142/347	40.9
Gaining a power	97/347	28
Solving the problems of human	101/347	29.1

Table 8 shows the opinions of research assistants about implementation of science. 86.4% of the research assistants agree that 'the government should not intervene in the work of scientists, even when the same government that pays them' (M=4.29). Additionally, 84.4% of the research assistants agree that 'if we neglect science, our society will become increasingly irrational' (M=4.08). 75.1% of the research assistants also agree that 'the main cause of the improvement in quality of life of mankind is the advancement in science and technology' (M=3.84). In addition, 76.3% of the research assistants agree that 'the benefits of science and technology outweigh the negative effects' (M=3.96). On the other hand, only 18.9% of the research assistants agree that 'the science and technology can solve all problems in daily life' (M=2.54).

Table 8. Opinions of Research Assistants about Implementations of Science

Statements	N (Valid)	Disagree (%)	Agree (%)	Mean	Std. Deviation
The main cause of the improvement in quality of life of mankind is the advancement in science and technology.	345	10,1	75,1	3.84	0.91
The application of science and technology will increase job opportunities.	346	13,3	68,8	3.79	1.01
The benefits of science and technology outweigh the negative effects.	346	6,4	76,3	3.96	0.87
The science and technology can solve all problems in daily life.	345	55	18,9	2.54	1.01
If we neglect science, our society will become increasingly irrational.	345	5,3	84,4	4.08	0.81
The scientists and technologists are the ones who know best what should be investigated to the country's development.	345	27,3	38,8	3.14	0.95
The government should not intervene in the work of scientists, even when the same government that pays them.	346	5,2	86,4	4.29	0.84
The scientific research should not be controlled by companies.	345	12,8	58,6	3.72	1.02

Opinions and Perceptions of Research Assistants toward Science in Turkey

The results that show the opinions of research assistants towards research and scientific activities in Turkey are given in Table 9. Based on the findings presented in Table 9, more than half of the research assistants (57.9%) believe that the research result are applicable but not widespread. However, only 4.9% of the research assistants consider research results as inapplicable.

In addition, the findings of the study pointed out that majority of the research assistants (75.4%) believe there is mildly improvement of science in some areas. On the other hand, only 5.8% of the research assistants emphasize that there is a well-developed science in Turkey. Based on the findings presented in Table 9, more than half of the research assistants (60.8%) believe that the support of Turkey's state is inadequate for scientific research. Similar to this finding, 'little state support' is seen as the main reason of no great scientific improvements in Turkey by 64.8% of the research assistants.

Table 9. Opinions of Research Assistants towards Research and Scientific Activities Conducted in Turkey

Applicability of research results	Frequency	Percentage
Yes, the research results are applicable	69	19.9
No, the research results are not applicable	17	4.9
The research results are applicable but not widespread	201	57.9
Development Level	Frequency	Percentage
Well developed	20	5.8
Mildly improvement of science in some areas	261	75.4
No	57	16.5
Economical Support	Frequency	Percentage
Totally adequate	14	4
Adequate	84	24.2
Inadequate	211	60.8
Reasons of No Great Scientific Improvements in Turkey	Frequency	Percentage
There are no good scientists	81	23.3
Little state support	225	64.8
Reluctance of companies	89	25.6
People generally not interested in science	107	30.8

Discussion

The purpose of this study was to investigate science perception of research assistants. According to the findings, majority of the research assistants consider themselves as an intellectual on science. This situation reflects the research assistants' current perception towards science. In addition, findings revealed that more than half of the research assistants see themselves as a scientist. This also supports the trust of research assistants on themselves toward their research. In similar to this finding, Austin (2002) pointed out that graduate students gained confidence by means of their research experiences. Additionally, Saracaloglu, Varol and Ercan (2005) found in their study that graduate students are quite capable of doing research. The findings about the frequency of reviewing scientific journals of research assistants in their field and the number of scientific journals leading and/or shaping their field given by them also show the strong interest of research assistants toward their own academic development. In addition, they have also some interest

toward other scientific activities such as reading non-field scientific journals and watching documentaries although their interest toward those is less than field related scientific journals and documentaries. This finding implicates the development of science culture among research assistants at universities.

For the research assistants, improvement of human life and understanding the natural world are the best phrases that explains the idea of science. From this point of view, it can be inferred that pragmatist philosophy composes the early career academics' world view. In addition, it was founded that the danger of usage of knowledge for war and the danger caused by application of some knowledge are most emphasized problems of scientific development for mankind stated by research assistants. This also supports this pragmatist approach of them. According to the findings, nearly all of the research assistants agree that the government should support the scientific research. This finding is parallel to idea that science provides a way for taking governmental support for research and training (Fox, 2001). On the other hand, majority of the research assistants believe that scientific research should not be controlled both companies and governments. This idea reflects the early career academics' independent science view. For the motivational components, most of the research assistants preferred gaining academic degree and prestige. Similarly, being academician was the main goal of graduate education for 93% of graduate students (Sayan & Aksu, 2005). This is of importance since early career academics prefer doing science for the purpose of developing themselves as a scientist rather than making money. As Bieber and Worley (2006) emphasized, graduate students consider their scientific research career on an intrinsic or emotional level. The findings also pointed out that research assistance perceive science as increasing the quality of society.

For the situation in Turkey, the majority of the research assistants believe that there is mildly improvement of science in some areas and the research results of scientific research conducted by Turkish scientist are applicable but not widespread. It can be understood from this statement that according to research assistants, Turkey is not in the ideal position in terms of scientific development. Additionally, most of the research assistants believe that the economic support of the government is inadequate; hence, this little government support is the main reason for not making great scientific improvements in Turkey. This situation also reflects the expectations of early career academics from the government of Turkey in terms of economic support. This is also a good example of pragmatist view of them since they expect to be supported for the purpose of developing scientific progress.

Conclusion and Recommendations

The findings of the present study revealed that research assistants as early career academics have a great interest toward science related topics and they are aware of the importance of the science for not only their academic development but also the improvement of quality in society. The findings of the study are expected to show young academicians' science perceptions in the university culture. The results of the study can propose promising suggestions for the university administrations in terms of investigating today's early career academics' science perception. But, it should not be forgotten that the university culture may affect the results of this study. Hence, the same study may be conducted in several universities representing different cultures.

Since there are not much similar studies examining the science perceptions of research assistants in the literature, it increases the importance of this study. Similar studies should also be conducted to analyze the effectiveness of Staff Development Program in Turkey. Since the aim of the program is educating the future faculty members of other universities, similar studies can show these research assistants' science perception and their desire to develop themselves in their profession. The differences between research assistants in Staff Development Program and department research assistants in terms of science perception should also be analyzed to see whether the research assistants from different programs gain the necessary culture to be a good scientist in their graduate program. Further studies will also investigate the factors increasing the science culture of the research assistants at university. Since research assistants in general have a great interest toward science related topics, as a suggestion of this study, science philosophy course should be adapted to the graduate curriculum to enable research assistants to discuss about science and its components in a detailed way.

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