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## PROSPECTIVE SCIENCE TEACHERS' VIEWS ON CAREER PLANNING AND THEIR SELF-EFFICACY LEVELS FOR CAREER DECISION-MAKING

*Research article*

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# PROSPECTIVE SCIENCE TEACHERS' VIEWS ON CAREER PLANNING AND THEIR SELF-EFFICACY LEVELS FOR CAREER DECISION-MAKING

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## Abstract

The aim of this survey study was to determine prospective science teachers' competency levels in making career decisions and to determine their views on career planning. The participants were 88 prospective middle school science teachers enrolled at the Science Teaching Program of a state university during the spring 2018. The data were collected through the Career Decision-Making Self-Efficacy Scale (CDSS) (Ulaş & Yıldırım, 2016) and open-ended, written extended response questions prepared by the researcher. The findings revealed that for career decision-making, the participants had high efficacy levels; they were predominantly doing their own career planning; and that they were influenced by their family members' views. They envisioned career planning as a long-term process starting at birth and encompassing the whole school and professional lives. The majority thought that their career decisions affected every aspect of their lives.

*Keywords:* social cognitive career theory; career planning; career decision self-efficacy; prospective science teachers

## 1. Introduction

In Turkey, vocational decisions are taken either after graduating from high school or obtaining a university degree if an individual pursues a career depending on education (Kırdök & Harman, 2018, p.243). In order to be able to have a job as a teacher at state schools, one must have a related degree from a university and obtain a qualifying score from what is called 'The Public Personnel Selection Examination' as senior university students. The significance of this exam is that there is no other certification method that evaluates teacher candidates according to their interest in and competencies for teaching. However, at this period, teacher candidates make decisions and plans for their careers, since it coincides with the "exploration stage" as defined by Super in his theory of career development for ages between 14-25 (Super, 1953 and Super, 1957 as cited in Salomone, 1996).

Super (1957) developed the life-span, life-space theory and named his career stages as growth, exploration, establishment, maintenance, and disengagement. For Super (1990) career development is a lifelong process. However, for (Ginzberg, Ginsberg, Axelrad, & Herma, 1951) it ends in young adulthood (Super, 1957 and Ginzberg et al., 1951 as cited in Eryılmaz & Mutlu, 2017).

An individual's career decision-making competency influences her/his career decisions and ultimately career development process and career selection (Ulaş & Yıldırım, 2016). On top of

these, several researchers suggest that senior university students need to be considered by taking into account specific features of the period they are in and by studies about that period can reveal important findings (Lent, Hackett, & Brown, 1999; Luzzo, 1991).

A Career Decision-Making Self-Efficacy (CDMSE) Scale (Taylor & Betz, 1983) and its short form (Betz, Klein, & Taylor, 1996) were developed in order to measure university students' career decision-making self-efficacies. However, due to controversies regarding its factor structure Ulaş and Yıldırım (2016) developed the 'Career Decision-Making Self-Efficacy Scale' (CDSS) with five factors: "occupational information", "self-appraisal", "goal selection", "planning", "problem solving". These areas were originally based on Crites' career maturity theory (Lo Presiti et. al., 2012)

Our choice of using CDSS for the current study is based on its cultural sensitiveness in Turkey and the five factors given above. The significance of the current study is that there exist only a few studies conducted on prospective teachers' career decision-making self-efficacies, although, as suggested by the literature, it may have an impact on making career plans, evaluating job offers, preparing themselves for the job market, exploring career opportunities, etc. (Ulaş & Yıldırım, 2016). Besides, career self-efficacy is critical for successful job performance, and regardless of knowledge and skill, it can greatly influence work behaviours (Nasta, 2007, p.6). Individuals with high self-efficacy in career decisions making reflect higher confidence when they need to choose an appropriate career path for themselves (Ogutu, Odera, & Maragia, 2017).

A literature review by Gallo (2017, p.12) reveals two findings: i) career decision-making is not a single step action, but rather a complex and multi-faceted series of experiences that involves exploration and refining understanding of the world of work. ii) as opposed to career decision-making difficulty, self-efficacy can lead to career decisiveness.

Social Cognitive Career Theory (SSCT) was developed by Lent, Brown and Hackett (1994) and is based on Bandura's Social Cognitive Theory. Self-efficacy, outcome expectations and goals are the cornerstones of SCCT and Bandura defines self-efficacy as the belief of individuals in their ability to successfully complete the tasks required to reach a conclusion (Lent, Brown, & Hackett, 2002). Bandura's social cognitive career theory emphasizes the role of self-efficacy and outcome expectations in setting career-related goals (Dickinson, Abrams, & Tokar, 2017). Self-efficacy is one of the variables of SCCT (Segal, Schoenfeld, & Borgia, 2002) and regarded "as the bridge between adaptability and optimism" (McLennan, McIlveen, & Perera, 2017). SSCT has been researched extensively from various points of view. Recently researchers examined the issues of prospective teachers' career planning (Ertem, Engin Demir, & Gökalp, 2017), career decision-makings (Eryılmaz & Kara, 2018), strategies to deal with career indecisions (Mutlu, Owen, Korkut, Özdemir & Kılıç-Ulaş, 2019), career adaptations (Erus & Zeren, 2017), and attitudes toward their profession (Tezcan, & Genç, 2015). However, to the best of our knowledge of the current literature, prospective science teachers' views and self-efficacy levels about career planning still remains to be investigated.

Self-efficacy is considered as one of the remarkable concepts in the career literature (Chen, 1998) and since it is an important variable in individuals' career decisions (Ulaş & Yıldırım, 2019), self-efficacy of making career decisions as a variable is discussed in the current study. Betz and Voyten (1997) also stressed the important role self-efficacy plays in determining career decision-making intentions and behaviours. In addition, since recruitment and employment of newly graduated teacher candidates constitutes a big problem in Turkey, determining prospective teachers' career decision making self-efficacies and views regarding career planning becomes a necessity beyond being a pure research topic. Therefore, it is important to determine the state of affairs concerning prospective science teachers' career

decisions and to investigate their views on career planning in order to find out existing deficiencies in the field. More importantly, revealing prospective teachers' career decision-making self-efficacies, especially in the last year of their university education, may enable them to become aware of their qualifications and competencies. In this respect, the present study offers important insights for initial teacher education and provides useful guidance for future research and teacher preparation programs.

## 2. Method

### 2.1. Research aims and questions

Within the framework of the social cognitive career theory, we aimed to determine self-efficacy levels of prospective science teachers in a public university's faculty of education. Hence, we sought answers to the following research questions:

- How are the levels of proficiency in terms of decision making towards career decisions determined among prospective science teachers?
- What are the views of prospective science teachers about career planning?

### 2.2. Participants

This study was conducted with 88 prospective science teachers enrolled in the science education program of a state university in the fall semester of 2017-2018 academic year. A criterion sampling method was employed in order to determine the study group. Criterion sampling requires examining all cases fitting to a predetermined criterion in order to be able to reach information rich cases (Patton, 2002, p. 238). The criterion for selecting the sample for the current study was having taken the course entitled 'Career Planning in Science Education.' This criterion is both meaningful and necessary, since the participants are senior year students and hence they are in the process of evaluating the career alternatives in front of them.

### 2.3. Research design

Since the purpose in this study is to find out the career decision-making self-efficacy levels of prospective science teachers, a descriptive survey model has been employed. Such models are intended to reveal the particular features of a group in accordance with the actual situation (Karasar, 2000). Fraenkel, Wallen, & Hyun (2012) describe the general screening study as an information gathering process conducted by asking questions to the selected sample at a certain period of time to reveal the characteristics of a predetermined universe. Within the scope of this model, 20 prospective teachers who were enrolled in the "Career Planning in Science Teaching" course responded to the career decision-making scale developed by Ulaş and Yıldırım (2016). They were also asked to answer 4 open-ended questions prepared by the researcher. Since this study focuses on descriptive aspects rather than testing the effectiveness of the "career planning in science teaching" course, the data collection instruments were given at the beginning of the semester. The first author created the content of the course by considering available resource books on the subject (e.g. Niles & Bowsbey, 2013 and Yesilyaprak, 2016). The course schedule is given in Table 1.

Table 1. *The course schedule*

Week	The "Career Planning in Science Teaching" Course Topics
1. Week	What is a career? What is career planning?
2. Week	What is career developing?
3. Week	The administrative structures of universities and Ministry of National Education
4. Week	Methods for preparing a CV, a cover letter and a letter for thanking.

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5. Week	Qualifications required for graduates in the private sector
6. Week	Introducing job opportunities in other fields
7. Week	Introducing graduate education, graduate research fields and the faculty member raising programs
8. Week	Investigations and researches in national and international fields
9. Week	Investigations and researches in national and international fields (continued)
10. Week	How to interview effectively?
11. Week	Learning about the most successful individuals in our profession and their success stories
12. Week	The ethical rules of the profession
13. Week	The ethical rules of the profession (continued)
14. Week	Performance and time management

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## 2.4. Instrument

### 2.4.1. Career Decision-Making Self-Efficacy Scale (CDSS)

Career Decision-Making Self-Efficacy Scale developed by Ulaş and Yıldırım (2016) was used in this study as the data collection instrument. With this scale, it is aimed to measure the level of university students' ability to make career decisions and in other words, at which level they believe that they can successfully complete the tasks required to make a career decision. The scale is comprised of 45 items and five sub-scales which measure job/occupation knowledge, self-knowledge, career choice, forming a career plan, following vocational subjects. The scale is five-graded (I am quite sufficient = 5, I am sufficient = 4, I am Partially Adequate = 3, I am not Sufficient = 2, I am not Sufficient at all = 1), and individuals respond by selecting the appropriate degree corresponding the items. The total score which can be obtained from CDSS varies between 45 and 225; the total score which can be obtained from job/occupation knowledge is in between 11 and 55, 10 and 50 for self-knowledge, 6 and 30 for career choice, 14 and 70 for forming a career plan, 4 and 20 for following vocational subjects which respect to occupational issues. The high score obtained from the scale shows that university students are proficient in their career decision making levels and therefore they see themselves competent in making career decisions by themselves.

#### 2.4.1.1. The Administration Procedure of CDSS

Before the administration, prospective teachers were informed about the purpose of the research. It was confirmed that the information received from the participants would be kept confidential and course grades would not be effected, and that the participation was on a voluntary bases. A suitable class environment was preferred to enable participants to respond the questions easily. Administration of the scale took about 20-25 minutes.

### 2.4.2. Open-ended questions

In the qualitative dimension of the study, a questionnaire consisting of four open-ended questions was applied in order to determine the participants' thoughts about their career planning. During the preparation of the survey questions, literature review was conducted, and a draft form was prepared based on the discussions. The draft form was examined and finalized by a different researcher who is specialized in the field of science education. The open-ended questions are as follows:

- Who planned your career?
- When does career planning start?

- How long does career planning take?
- What aspects of your life were affected by your career decisions?

## 2.5. Data analysis

In the study, the scale was scored as strongly agree=5, agree=4, indecisive=3, disagree=2, strongly disagree=1. There are no reverse-scored items in the CDSS. We analyzed the data by using SPSS 18.0. The descriptive statistics values (i.e. minimum, maximum, arithmetic mean, and standard deviation) of the scale and the sub-scales are calculated. In the qualitative dimension of the research, we used a descriptive analysis technique by first summarizing the data and subsequently interpreting according to previously determined themes. Qualitative findings can be expressed by using quantitative expressions to clarify the analysis and to increase reliability (Chi, 1997, Yıldırım & Şimşek, 2008, p. 242). Coded names were assigned to each participant as P.T. 1, P.T. 2, ... P.T. 20 in the analysis for anonymity purposes.

## 3. Results and discussion

### 3.1. Findings obtained from the analysis of quantitative data

The scores obtained from CDSS applied for determination of prospective science teachers' career decisions were calculated based on arithmetic means and standard deviation values in correspondence with the scale in general and with the sub-scales. Besides, since sub-scales do not have equal number of items, their average values were calculated separately. Tekin (1993) previously put self-efficacy levels into intervals as follows: "1.00–1.80: Very low", "1.81–2.60: Low", "2.61– 3.40: Medium", "3.41–4.20: High", "4.21–5.00: Very high". These intervals are used in Table 2 for the categorization of arithmetic means to determine participants' levels of making career decisions.

Table 2. *Descriptive data regarding prospective teachers' career decision-making self-efficacy scale and sub-scale divisions*

Sub-Scale Divisions	<i>N</i>	Minimum	Maximum	<i>X</i>	<i>SD</i>
Job/occupation knowledge	88	2	5	3.67	.618
Self-knowledge	88	2	5	4.03	.590
Career choice	88	2	5	3.78	.596
Forming a career plan	88	1	5	3.55	.762
Following vocational subjects	88	2	5	4.00	.556
Scale-Wide	88	1	5	3.81	.522

Table 2 shows that pre-service teachers have the highest mean score ( $X=4.03$ ) in the self-knowledge dimension and the lowest mean score ( $X=3.55$ ) in the ways of forming a career plan. In general, participants' mean scores for the sub-scale divisions are found to be high. Likewise, their scores for 'self-knowledge' ( $X=4.03$ ) and 'following vocational subjects' ( $X=4.00$ ) were higher and followed by 'career choice' ( $X=3.78$ ) and 'job/occupation knowledge' ( $X=3.67$ ).

### 3.2. Findings obtained from the analysis of qualitative data

Participants' views about career planning (the second research question) were obtained according to their answers to open-ended questions given above. Below we present 4 tables in order to display participants' views for each open-ended question.

#### 3.2.1. Person planning the career

Participants' responses to the question "who planned your career?" are analyzed and grouped into 3 categories (see Table 3) by frequency values as follows: myself (f: 12), my family (f: 7) and my tutor (f: 1).

Table 3. Prospective teachers' responses to the open-ended question "Who planned your career?"

Theme	Categories	f	%	Examples of Prospective Teacher Statements
Who planned your career?	Myself	12	60	<p>P.T-2: The person plans it by herself/himself. In this process, the person is influenced by the views of her/his family members and close friends.</p> <p>P.T-4: The person makes a plan and aims at that objective.</p> <p>P.T-5: The person should plan this on her/his own. Because the person is responsible for her/his own life.</p> <p>P.T-6: I planned it myself. I have always wanted to be a teacher.</p> <p>P.T-8: I decided but I got into this department in accordance with my university admission exam score.</p> <p>P.T-14: I planned my career. However, in the planning process, the schools I studied, the things that I experienced at that time, the people I met, and my family had influenced me.</p> <p>P.T-15: Although I am the main factor in this planning process, family, environment, and friends are also effective.</p> <p>P.T-17: We have to plan this by ourselves.</p>
	Family member	7	35	<p>P.T-3: My parents planned it.</p> <p>P.T-19: I plan my career according to my family.</p> <p>P.T-11: According to the results of the exam, I planned it with my family by making the appropriate university selection.</p> <p>P.T-7: My brother and I.</p> <p>P.T-10: I got support from my sister in planning my career. Because I trusted her experience and knowledge as she was working in this profession.</p>
	My tutor	1	5	<p>P.T-1: According to my score I received [from the university entrance examination], I planned it with my private tutor.</p>

### 3.2.2. Beginning to plan the career

Participants' responses to the question "when does career planning start?" are analyzed and grouped into 4 categories (see Table 4) by frequency values as follows: school (f: 7), at birth (f: 6), occupation (f: 4) and 3-6 ages (f: 3).

Table 4. *Prospective teachers' responses to the open-ended question "When does career planning start?"*

Theme	Categories	f	%	Examples of Prospective Teacher Statements
When does career planning start?	At birth	8	40	P.T-5: It starts when the person is born. P.T-7: It starts after the Birth of the individual.
	School	6	30	P.T-1: It starts from secondary school. P.T-6: It starts when we start to go to school. P.T-11: It starts with the school life. P.T-12: It starts at high school. Because those are the years that we shape our future. P.T-18: In high school, with the mathematic-science, verbal and equal weighted sections, vocational consciousness begins to form. P.T-15: I think it's during secondary school. Because the professional aptitude is shaped in that period.
	Occupation	4	20	P.T-10: It starts after you have a job. P.T-14: After I knew the professions, I had choices. P.T-19: It starts when you have to get a job.
	3-6 ages	3	15	P.T-8: The basis of this process is laid in kindergarten. P.T-9: It starts from the first childhood stage.

### 3.2.3. Elapsing time for career decision-making

Participants' responses to the question "how long does career planning take?" are analyzed and grouped into 3 categories (see Table 5) by frequency values as follows: lifelong (f: 13), throughout the career (f: 4), as long as interest, desire, and expectation continue (f: 3).

Table 5. *The views of the prospective teachers regarding the theme "How long does career planning take?"*

Theme	Categories	f	%	Examples of Prospective Teacher Statements
How long does career planning take?	Lifelong	13	65	P.T-2: Career planning is a process that continues from birth to death. P.T-13: As an individual is constantly improving herself/himself, her/his career can change according to the plan and career planning ends when the person is dead. P.T-9: It starts in childhood and continues throughout life. P.T-1: Career planning never ends.
	Throughout the career	4	20	P.T-10: Career planning starts when you have a job and ends when you retire. P.T-18: It covers the period of taking up a career and the subsequent periods.



As long as interest, desire and expectation continue	3	15	P.T-19: Career planning continues as long as you have enough time and motivation. P.T-6: It ends whenever we want. P.T-7: It ends when the individual has no expectations for life.
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### 3.2.4. Influence of career decisions on life

Participants' responses to the question "what aspects of your life were influenced by your career decisions?" are analyzed and grouped into 5 categories (see Table 6) by frequency values as follows: every aspect ( $f$ : 11), social circle ( $f$ : 5), financial and - morale satisfaction ( $f$ : 4), occupation ( $f$ : 3), and family ( $f$ : 2).

Table 6. *Prospective teachers' responses to "What aspects of your life were influenced by your career decisions?"*

Theme	Categories	$f$	%	Examples of Prospective Teacher Statements
What aspects of your life were influenced by your career decisions?	Every aspect	11	55	P.T-3,4,5,12,13,14,17,18,19,20: My career decisions influence every aspect of my life (Social circle, spouse, income status) P.T-2: It influences us in educational, psychological, social, health, and economical areas.
	Social circle	5	25	P.T-10: It is affecting my life socially. Because I can communicate with people.
	Financial and morale Satisfaction	4	20	P.T-1: It has affects in terms of respectability in a community and mood of an individual. P.T-11: It provides material and nonmaterial satisfaction in life.
	Occupation	3	15	P.T-8: It affects how much of my life I will devote to this profession. P.T-16: It affects the self-development of a person related to his / her profession. P.T-1: It influences the position I will be in the future in terms of career.
	Family	2	10	P.T-4: It has effects on family, marriage, spouse selection.

## 4. Conclusion and Suggestions

In this study, we aimed to determine prospective science teachers' self-efficacy levels of career decision-making. Participants (88 prospective science teachers) responded to CDSS (Ulaş and Yıldırım, 2016) and a questionnaire with four open-ended questions.

Findings revealed that participants, on the average, have had a high level of career decision-making self-efficacy. It is suggested that individuals with higher career decision-making self-efficacy are better able to prepare themselves for their careers and to persist in their career pursuits (Bandura et al., 2001). Likewise, related studies show that students with high levels of career decision-making self-efficacy have low levels of career instability (Taylor & Betz, 1983; Taylor & Popma, 1990) and have high career maturity levels (Lee, 2007). Individuals with high self-efficacy beliefs experience less career instability and make healthy career choices

(Lent & Brown, 2006). Pre-service teachers regard themselves competent the most in the “self-knowledge” dimension. This can be attributed to being aware of their personal qualities. At the very least, they consider themselves competent in the dimension of “creating a career plan.” In other words, it can be claimed that teacher candidates feel less competent in carrying out steps to reach their career goals. This suggests that they may need help from a guidance service. A recent study (Yerin Güneri, Owen, Tanrıku, Dolunay Cuğ, & Büyükgöze Kavas, 2016) revealed the career development needs of education faculty students’ as followings: getting information about the business world, getting support from the university for transition to the business life, getting to know themselves better, creating a career plan, and dealing with stress. Another study (Akoğlan, Kozak, & Dalkıranoglu, 2013) concluded that university students were not adequately guided in their career decision-making processes. Moreover, university students experience indecision in their career problems, especially regarding their career choices (Yıldız Akyol & Bacanlı, 2019). Research data shows that almost half of the prospective teachers want to continue their postgraduate education after graduation and one third of them want to work in the public sector and one fifth of them in the private sector (Ertem, Engin Demir & Gökcalp, 2017). In Turkey, finding a job after graduating from a university continues to be a mounting problem as the unemployment rate among the young population tends to be high for decades. That is also true for education faculty graduates, although hiring new graduates for public schools have been improving since early 2000’s. Therefore, the high level of proficiency of these teacher candidates in making career decisions in the current study indicates the importance of making appropriate career decisions for them. In this respect, we assert that prospective teachers with high levels of career decision-making skills will have advantageous employment opportunities upon graduation and make more appropriate decisions regarding their careers. In this framework, career decision-making self-efficacy is viewed as a causal antecedent to making a career decision. Therefore, effective career decision-making, firstly, involves the ability to accurately assess one’s own skills and preferences. Students who have never gone through the stages of career decision making will most probably have lower self-efficacy beliefs in career decision-making. Career decision-making self-efficacy levels of university students can be examined by using different variables (e.g. gender, class standing, department, education background) and reasons for students’ having specific career decision-making self-efficacy levels can be investigated.

In this research, according to the question "Who planned your career?", it is seen that prospective teachers and their families are predominantly effective in career planning. Individual career planning includes the steps of assessing one's own abilities and interests, examining career opportunities, and planning appropriate activities in line with the career goals (Gürüz & Yaylacı, 2005). In this respect, we can say that it is important for the individual to recognize himself/herself correctly and to become aware of his/her interests and abilities during the career planning stage. On the other hand, in a study conducted by Sağdıç and Demirkaya (2009) on the career planning of university students, it was concluded that students did not have a career plan and that there was a lack of consultants for the career planning. Some studies on the subject show that the family plays an important role in the career development of children (Mickelson & Velasco, 1998; Otto, 2000). There is a need for other individuals in career planning that help the individual to analyze herself/himself (Anafarta, 2001). In the study conducted by Khasawneh (2010), it was concluded that students were affected by their parents during the career planning stage. In the study conducted by Wolfe and Betz (2004), it was seen that the self-efficacy levels regarding the career decision-making of university students were significantly predicted by the family variable. Similarly, Salami (2006) stated in a study that the family was the most determinant factor in career choice, whereas Kniveton (2004) reported that individuals were directly or indirectly influenced by the family in career choices.

According to results of this research, one of the prospective teachers stated that her tutor was effective in this planning. According to the studies conducted by Chope (2005), Dick and Rallis (1991) it was stated that family, teacher and society factors were effective in high school students' career choices. In another study of African American high school students, parental and teacher support were positively related to career decision-making self-efficacy (Gushue & Whitson, 2006). In addition, prospective teachers expressed their views on this issue and stated that profession of an immediate family (e.g. parents and siblings) was effective in career planning. Some studies (Blau 1992; Conroy, 1997) have found a close relationship between father and child profession. In the light of this study, it can be said that the choice that the individual makes by revealing her/his abilities, interests and values enables her/him to create a good career planning process. It can be said that there is a need for education counselors to support prospective teachers in career planning during their undergraduate education.

As a reply to the question "When does career planning start?" the prospective teachers stated that career planning started at birth as well as school life and professional life. The career choice, which is thought to start with the professional life, is actually a process shaped from younger ages (Özdemir & Mazgal, 2012). According to Super (1990) Life-span, Life-space theory, career development is considered as a process starts at the moment the individual is born and ends at the time of death. Career development is a lifelong endeavor that starts in childhood and usually ends in old age after retirement from paid work (Kracke, 2011). Career development takes place over a person's entire life span, but there are specific developmental stages where people need more targeted interventions (Super, 1980). In this respect, we can say that career development is particularly important and effective for senior university students who are in the transition period from school to work.

In this study, prospective science teachers think that career planning lasts for a lifetime in response to the question "How long does career planning take?". Some prospective teachers stated that career planning continues lifelong, namely until the retirement, whereas others stated that career planning will continue as long as their interests, demands and expectations continue. Career life does not end with the decision of retirement. At the time of their professional life, some people decide to start a new career after their retirement (Gökdeniz, 2017). Ginzberg et al. (1951) state that career development ends in young adulthood. Super (1990) argues that career development is a lifelong process. Therefore, career development can be considered as a dynamic and lifelong process. In this study, career development was discussed within the scope of the Professional Development Theory of Ginzberg et al. (1951) and Super's life-span, life-space (Super 1957) theory.

In response to the question "What aspects of your life were influenced by your career decisions?", the majority of the participants stated that their career decisions affected every aspect of their lives. In fact, career development process varies from person to person. Factors such as gender, talent, personality, ethnicity, socio-economic status are important in a person's career development (Patton & McMahon, 2006). Career choices not only provide income for an individual, but also provide an opportunity to get job satisfaction and success, to choose a friend, to have a good social circle and working environment (Bakırcıoğlu, 2005). In a study conducted by Büyükbayraktar et al., the factors affecting the career life are listed as living space, job and career choice, psychological needs, professional opportunities (educational level, material factors, professional benefits), spouse selection, and leisure time/recreational activities (Büyükbayraktar et al. 2018). Personality, environmental factors and contextual supports have been bound to affect the career decision-making self-efficacy of high school students as well as their performance in relation to the career decision-making process (Charokopaki, 2012). The career chosen by the individual affects her/his success and satisfaction in the field of work, the amount of earnings, where she/he lives and her/his hobbies

(Aydemir, 1995). In the transition period from school to work, individuals make decisions in which they can both achieve job satisfaction and success and be happy in their lives. Therefore, we can say that career planning is a factor that covers a significant part of life and affects the quality of life. In addition, the qualitative part of this study was conducted with pre-service teachers who took the course "Career planning in science education". Considering that these candidates better understand the importance of career choice in individual life, it can be asserted that they will be aware of career awareness in their professional life. Therefore, the emphasis of career awareness in the 2013 science curriculum (MEB, 2013) and the '2023 Vision for Education' (MEB, 2018) documents proves the important and necessity of this study conducted with prospective science teachers.

#### **5. Conflict of interests**

The authors declare that there is no conflict of interest.

#### **6. Ethics committee approval**

The authors confirm that the study does not need ethics committee approval according to the research integrity rules in their country.

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