




Analysis of Relationships between High School Students' Career Maturity, Career Decision-Making Self-Efficacy, and Career Decision-Making Difficulties

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ABSTRACT

The study analyzed the relationships between high school students' career maturity, career decision-making difficulties, and career decision-making self-efficacy and aimed to investigate whether career maturity, career decision-making difficulties and career decision-making self-efficacy altered according to gender, type of school, and grade level. The study sample was composed of 665 high school students attending five different high schools in Bursa. The data collection tools included the Career Decision-making Difficulties Questionnaire, the Career Maturity Scale, and the Career Decision-Making Self-Efficacy Scale. Among quantitative research methods, a correlation model was applied. The analysis results revealed a weak but significant negative relationship between career maturity and career decision-making difficulties scale in terms of total scores and subscale scores. Additionally, there was a medium- and low-level significant negative relationship between the career decision-making difficulties scale total and subscale scores, and the career decision-making self-efficacy total and subscale scores. The subsequent analysis to describe the mediating role of career decision-making self-efficacy demonstrated that career decision-making self-efficacy had a partial mediating role. Furthermore, male students were found to have a more disadvantaged status than did female students in terms of career maturity. Based on the fact that students' career decision-making difficulties stemmed from the aspect of a lack of readiness, psycho education programs can be organized to determine the reasons for the lack of lack of readiness, find solutions, and provide the necessary information and skills. Future studies may focus on examining the reasons for the career maturity level differences.

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Keywords:

Career, career maturity, career decision-making difficulties, career decision-making self-efficacy

1. Introduction

The developments in today's world of work, changes in career-related paradigms, the global problems that require constant innovation and creativity might be important indicators for initial career choices and subsequent career development. Upon considering the number of students eligible to attend universities and the extant low employment ratios in Turkey, it becomes necessary to identify and address the problems associated with the career decision-making process. When Turkey's unemployment and employment rates are examined, it is then possible to understand why the right career choice and the correct career decision-making process are vital. Recent statistics reveal that Turkey's unemployment rate reached 13.2% (Turkish Statistical Institute [TUIK], 2020), which might indicate faulty decision-making or career development problems in choosing the right higher education department and profession.

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A career is a comprehensive concept, covering and affecting the entire life of an individual from childhood. A career choice is a critical task for adolescents in their stages of development (Super, 1990). Although career choice and career development start with pre-school, secondary education is central to career choice and career-shaping experiences, especially in Turkey, because students in Turkey take the Higher Education Exam (YKS) after secondary school education and can potentially opt to enroll in higher education institutions based on their scores. Considering career development periods and tasks, this secondary education period is critical for future career choice (Havighurst, 1956; Niles & Harris-Bowlsbey, 2013). Hence the need to identify the challenging factors (Gati et al., 1996) and required competencies (Sari & Sahin, 2012) in career decision-making and to determine whether students possess sufficient maturity to complete the required developmental tasks (Cakar & Kulaksizoglu, 1997) and make the right choices.

Career decision-making involves a process of interrelated continuity such as collecting certain information and making a career choice, having an education, and subsequently attaining employment after completing an education program. However, inadequate information as to the proper career choice might lead to career indecision (Sampson et al., 2004). Patton et al. (2003) found that a high indecision level had an entirely negative impact on adolescent career development. Adolescents who interact continuously with their surroundings are exposed to various career-related stimulators such as friends, family, teachers, school counselors, role models, and various informative programs and activities. However, those adolescents may suffer indecision as well due to the high number of options available in secondary education (Sampson et al., 2004), which might refer to talking about career decision-making difficulties.

Career decision-making difficulties can be expressed as challenges and distractions in the generalized decision-making process (Gati et al., 1996). Gati et al. (1996) created a model explaining career decision-making difficulties in terms of three dimensions. In the original model, career decision-making was considered a process involving different components and difficulties (Brown, 1990; Gati et al., 1995; Katz, 1966; Pitz & Harren, 1980). The model has three categories made up of a *lack of readiness*, a *lack of information*, and *inconsistent information*. A *lack of readiness* refers to difficulties related to a lack of motivation, a lack of information about the required steps, indecisiveness, and dysfunctional myths. A *lack of information* includes a paucity of information about oneself, a lack of information about extant occupations, and a lack of information about ways of obtaining additional information. The category of *inconsistent information* embodies unreliable information and internal and external conflicts.

Career decision-making difficulties are also related to other concepts concerning career development. In a study on university students, Osipow and Gati (1998) found that as career decision-making self-efficacy increased, students' career decision-making difficulties decreased. Hijazi et al. (2004), Bacanlı (2012), and Gati and Saka (2001) conducted a study on highschool students and established that high school students' difficulties in decision-making mainly stemmed from interactions with parents, friends, and teachers.

Adolescents who suffer from career indecision should have access to specific skills, competencies, and social support systems to aid in making an accurate decision. Career maturity is one of the essential concepts in career choice and career decision-making. Career maturity can be defined as completing career development tasks and developing problem-solving and coping strategies for addressing the difficulties experienced in making a career choice (Yesilyaprak, 2007). Super (1963) described career maturity as a multidimensional process and progress speed in the career choice path. Based on these definitions, it is suggested that career maturity can influence a series of decisions at a specific time. Thus, it should be considered a concept that can affect career choices during the highly critical career choice period. While career maturity is a significant factor in career development and career choice, various factors are also influenced. Career maturity includes several properties and variables such as gender (Bozgeyikli et al., 2010; Sekmenli, 2000; Uzer, 1987), type of school (Akbiyik, 1996), self-respect, self, personality development (Urun, 2010), parental attitudes, socio-economic status (Yazar, 1997), supervision (Harman, 2017; Sahranc, 2000), and perceived social support (Surucu, 2005). Additionally, career maturity involves and influences other concepts related to a career. Career decision-making, career choice, and problem-solving skills are seen to be causally associated with career maturity (Crites, 1971).

Self-efficacy plays an essential role in career decision-making. Especially central to Social Cognitive Career Theory, it is crucial for career counseling (Lent et al., 1994). According to Bandura and Adams (1977), self-

efficacy refers to the ideas related to essential attitudes and behaviors required for an individual to subsequently make a good career choice. This concept contributes to a deliberate career choice. Self-efficacy reflects choosing a career, receiving an education, getting employed, and information collection, perception, and interpretation steps (Betz & Hackett, 1981; Taylor & Betz, 1983). Betz (2000) stated that purposeful behaviors, plans for targets, a decision-making tendency, willingness, and self-efficacy are useful in career choice and subsequent excellent performance.

Additionally, career decision-making self-efficacy is regarded as a prerequisite for successful career decision-making (Creed et al., 2006). Studies found a negative relationship between self-efficacy career decision-making and subsequent career indecision (Betz et al., 1996; Creed et al., 2004; Guay et al., 2006; Nota et al., 2007). In career counseling, the concept of self-efficacy embodies the requisite behaviors in career choice and decision-making (information gathering, interpreting, and perceptions about the occupation) (Hackett & Betz, 1981; Taylor & Betz, 1983). Therefore, self-efficacy is a compelling factor in individuals' career choices and career development. It is required, therefore, to determine individuals' career decision-making self-efficacy and its impact on career decision-making difficulties.

Today, the growing rate of employment problems; and career choices based on employment needs rather than personal skills, interests, and values; the high number of options and information sources; excessive guidance emanating from the social environment make career choice and career decision-making a challenging task. It is crucial to identify high school students' career decision-making steps, determine factors related to decision-making, and offer efficacious and appropriate career guidance and counseling services. In the Ministry of National Education (MONO)'s recent regulations and plans, effective and productive career counseling services for students have been among the primary targets, which is a good indicator of the topic's importance. Because self-efficacy and career maturity are interrelated concepts and essential for career development, it is believed that career decision-making difficulties can be overcome based on changes in said two variables. Therefore, it is necessary to determine the factors affecting career difficulties. It is vital to describe the current status of career development among high school students in Turkey, as they play a role in contributing to national development, the building of a qualified labor force, employment, and innovations in the country. There are no studies in the existing body of literature discussing the relationships between career maturity, career decision-making difficulties, and career decision-making self-efficacy. Thus, this study contributes to the literature on the relationships between the cited concepts. Moreover, it is believed that the study results provide critical and necessary information about high school students' career development, all of which facilitates the transition to a career. In this sense, the practices and regulations based on the study results might contribute to students' career development, making it a functional item of research.

The study analyzes the relationships between high school students' career maturity, career decision-making difficulties, and career decision-making self-efficacy. Accordingly, the study aims to test the hypothesis model as shown in Figure 1. It searches for answers to the following questions:

1. Do high school students' career maturity, career decision-making difficulties, and career decision-making self-efficacy vary according to gender, school type, and grade level?
2. Is there a relationship between high school students' career maturity, career decision-making difficulties, and career decision-making self-efficacy?
3. Does career decision-making self-efficacy play a mediating role in the relationship between high school students' career maturity and career decision-making difficulties?

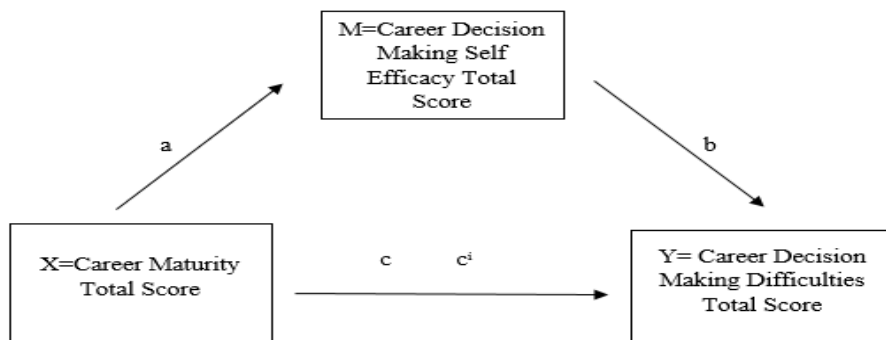


Figure 1. Model of the Mediating Role

The Direct effect of X on Y: c
 The Indirect effect of X on Y: c'

2. Methodology

2.1. Research Model

In this study, among the available quantitative research methods, the correlation model was used to evaluate the relationships between high school students ‘difficulties in career decision-making, career maturity, and career decision-making self-efficacy. Correlation research is research wherein the relationship between two or more variables is examined without intervening in any way. Correlational studies are important in that they are effective in revealing the relationships between variables, determining the levels of these relationships, and providing the necessary clues for higher-level research on these relationships (Buyukozturk et al., 2016).

2.2. Research Sample

The group consisted of 9th, 10th, 11th, and 12th graders in secondary education institutions in Nilüfer, Osmangazi, and the Yıldırım districts of Bursa city. There were two Anatolian high schools, one science high school, and two vocational and technical Anatolian high schools. Table 1 presents the distribution of gender, grade level, and type of school of the participants.

Table 1. Distribution of the Study Group by Gender, Grade Level, and School Type

Variables	Gender	N	%
Gender	Male	436	65.6
	Female	229	34.4
	Total	665	100
Grade Level	9th grade	185	27.8
	10th grade	178	26.8
	11th grade	229	34.4
	12th grade	73	11.0
	Total	665	100
School Type	Vocational and Technical Anatolian High School	247	37.1
	Anatolian High School	280	42.1
	Science High School	138	20.8
	Total	665	100

2.3. Data Collection Tools and Procedure

Personal information form. The researcher designed the personal information form, including information about students' gender, grade level, and school type.

The Career Decision-Making Difficulties Questionnaire (CDDQ). The instrument was developed by Gati and Saka (2001) for high school students and adapted by Bacanlı (2008). The scale consists of three subscales, and each subscale is divided into other subscales. The scale was deployed as it was originally prepared. Total scores can be calculated for subscales and the total scale. The three subscales are a *lack of readiness, a lack*

of information, and inconsistent information. The scale reliability was calculated with Cronbach alpha internal consistency coefficient. It was .45 for lack of readiness, .90 for lack of information, and .84 for inconsistent information (Bacanli, 2008). The current study was found to sum as .74 for lack of readiness, .60 for lack of information, and .95 for inconsistent information.

The Career Maturity Scale (CMS). The tool was developed by Kuzgun and Bacanlı (2005) for use with highschool students and consists of 40 items. Nineteen of the scale items present positive attitudes and behaviors for career maturity, whereas 21 reflect negative attitudes and behaviors. The items regarding negative attitudes and behaviors are reverse-coded. It can be noted that as the score obtained from the scale increases, career maturity increases similarly. The Cronbach alpha coefficient of the instrument was .89 (Kuzgun and Bacanlı, 2005). In this study, it was found to be .74.

The Career Decision-Making Self-Efficacy Scale (CDMSE). The scale was developed by Bozgeyikli (2004). It consists of three dimensions and 27 items, which involve a correct evaluation of personal and occupational characteristics (11 items), gathering occupational information (eight items), and realistic planning (eight items). (Bozgeyikli, 2004). The scale was initially developed for 8th graders, but a reliability study for the high school sample was subsequently conducted by Oztemel (2012) and Seker (2013). Because the validity studies of the scale for the high school sample were carried out in previous studies, they were not repeated in this study. The internal consistency coefficients of the scale were .89 for "a correct evaluation of personal and occupational characteristics," .87 for "gathering occupational information," .81 for "realistic planning," and .92 for the total scale (Bozgeyikli, 2004). The internal consistency coefficients of the scale by Seker (2013) were .85 for "a correct evaluation of personal and occupational characteristics," .76 for "gathering occupational information," .72 for "realistic planning," and .90 for the total scale. The internal consistency coefficients of the scale in this study were .78 for "a correct evaluation of personal and occupational characteristics," .82 for "gathering occupational information," .74 for "realistic planning," and .91 for the total scale.

2.4. Data Analysis

To determine whether the students' career decision-making difficulties total and subscale mean scores, career maturity score averages, and career decision-making self-efficacy mean scores differ according to gender, a t-test was performed, and a one-way analysis of variance was conducted to determine whether they also differ by grade level and high school type. The Pearson product-moment correlation coefficient was used to analyze the relationship between students' career maturity scores, career decision-making difficulties, and career decision-making self-efficacy. In addition, a mediating role analysis was conducted to determine the mediating role of career decision-making self-efficacy between career maturity and career decision-making difficulties. The SPSS Hayes Process Macro program was used to determine the mediating role. The Bootstrap sample number was one thousand in the analysis.

2.5. Ethical

After determining the institutions where the research was to be conducted, the necessary permissions were obtained from the Bursa Provincial Directorate of National Education (date: 01.03.2019 and number: 02/08). Before data collection, sample scales were taken to the institutions, and the necessary explanations were made to the relevant staff members for the study. After consultation with the institutions, the application was made by visiting the institution on the days and hours convenient to the institutions. Before the applications were made, detailed explanations about the purpose of the study were given to the students. A total of 948 students were reached, but 283 students' data were not included in the analysis due to incomplete or incorrect data. Consequently, analyses were made with 665 valid forms.

3. Findings

The descriptive analysis for high school students' career maturity, career decision-making self-efficacy, and career decision-making difficulties scale total scores and subscale scores are presented in Table 2.

Table 2. Descriptive Statistics for Variables

Variables	N	X	SD	Skewness	Kurtosis
CMS Total	665	122.10	5.86	-.05	.09
CDDQ Total	665	87.94	24.51	.40	.09
Lack of Readiness	665	29.26	5.68	-.05	.09
Lack of Information	665	28.92	12.05	.32	.09
Inconsistent Information	665	23.38	9.56	.36	.09
CDMSE Total	665	102.83	13.97	-.55	.09
Correct Evaluation of Personal and Occupational Characteristics	665	42.15	5.79	-.72	.09
Gathering Occupational Information	665	29.66	5.23	-.46	.09
Realistic Planning	665	31.01	4.43	-.46	.09
Total	665				

The skewness and kurtosis values in Table 2 were between +1.5 and -1.5, which indicates that the scale scores had a normal distribution. George and Mallery (2010) argued that skewness and kurtosis values between +2 and -2 indicate a normal distribution. Thus, the scale scores showed a normal distribution, and the resultant data are suitable for parametric analysis.

An independent samples t-test was applied to determine whether high school students' career maturity, career decision-making self-efficacy, and career decision-making difficulties total scores and subscale scores differed by gender, and the results are given in Table 3.

Table 3. t-Test Result by Gender

Variables	Gender	N	X	SD	t	p
CMS Total	Female	436	122.62	5.87	3.16	.00*
	Male	229	121.12	5.74		
CDDQ Total	Female	436	88.34	24.16	.57	.56
	Male	229	87.18	25.19		
Lack of Readiness	Female	436	29.61	5.36	2.10	.03*
	Male	229	28.59	6.20		
Lack of Information	Female	436	29.08	12.11	.45	.65
	Male	229	28.63	11.95		
Inconsistent Information	Female	436	23.28	9.54	-.37	.70
	Male	229	23.58	9.63		
CDMSE Total	Female	436	102.63	14.36	-.51	.61
	Male	229	103.20	13.22		
Correct Evaluation of Personal and Occupational Characteristics	Female	436	41.98	5.96	-1.03	.29
	Male	229	42.46	5.47		
Gathering Occupational Information	Female	436	29.62	5.35	-.25	.80
	Male	229	29.73	5.00		
Realistic Planning	Female	436	31.02	4.47	.04	.96
	Male	229	31.00	4.38		

According to the independent samples t-test results in Table 3, the career maturity scale total score ($t=3.16$, $p<.05$) and the CDDQ lack of readiness subscale ($t=2.10$, $p<.05$) showed a significant difference by gender. The difference in the career maturity scale total score and the lack of readiness subscale score favored female students. There was no difference for gender in the CDDQ total score, the lack of information and inconsistent information subscale scores, the CDMSES total score, the correct evaluation of personal and occupational characteristics, gathering occupational information, and the realistic planning subscale scores.

One-way variance analysis was applied to describe whether high school students' career maturity, career decision-making self-efficacy, and career decision-making difficulties total scores and subscale scores changed for school type, and the results are presented in Table 4.

Table 4. One-Way Analysis of Variance Results by School Type

Variables	Source of Variance	Sum of Squares	df	Mean Square	F	p
CMS Total	Between Groups	74.86	2	37.43	1.08	.33
	In-group	22792.55	662	34.43		
	Total	22867.42	664			
CDDQ Total	Between Groups	9655.00	2	4827.50	8.20	.00*
	In-group	389327.94	662	588.10		
	Total	398982.94	664			
Lack of Readiness	Between Groups	25.38	2	12.69	.39	.67
	In-group	21409.08	662	32.34		
	Total	21434.47	664			
Lack of Information	Between Groups	2689.72	2	1344.86	9.49	.00*
	In-group	93772.80	662	141.65		
	Total	96462.53	664			
Inconsistent Information	Between Groups	1627.08	2	813.54	9.10	.00*
	In-group	59130.59	662	89.32		
	Total	60757.67	664			
CDMSE Total	Between Groups	856.18	2	428.09	2.20	.11
	In-group	128792.28	662	194.55		
	Total	129648.47	664			
Correct Evaluation of Personal and Occupational Characteristics	Between Groups	101.43	2	50.71	1.51	.22
	In-group	22218.91	662	33.56		
	Total	22320.35	664			
Gathering Occupational Information	Between Groups	31.98	2	15.99	.58	.55
	In-group	18158.23	662	27.42		
	Total	18190.22	664			
Realistic Planning	Between Groups	199.55	2	99.77	5.12	.00*
	In-group	12882.30	662	19.46		
	Total	13081.85	664			

* $p < .05$

As seen in Table 4, the CDDQ total score ($F=8.20$, $p < .05$), the lack of information ($F=9.49$, $p < .05$), and the inconsistent information ($F=9.10$, $p < .05$) subscale scores showed a difference for school type. Moreover, there was a difference in the CDMSES, realistic planning subscale ($F=5.12$, $p < .05$). The Tukey test among Post Hoc tests was performed to specify the school type with a significant difference, and the CDDQ total score demonstrated a significant difference between Anatolian high schools, science high schools, and technical high schools. Additionally, it is possible to mention that a lack of information and inconsistent information subscales of the CDDQ were significantly in favor of Anatolian high schools. In terms of the realistic planning subscale score of the CDMSES, science high school students had more problems realistic planning than other high school students.

One-way variance analysis was applied to determine whether high school students' career maturity, career decision-making self-efficacy, and career decision-making difficulties total scores and subscale scores changed for grade level, and Table 5 shows the results below.

According to Table 5, the CDDQ total score ($F=4.42$, $p < .05$), the lack of information ($F=3.97$, $p < .05$) and inconsistent information ($F=4.32$, $p < .05$) subscale scores, and the CDMSES total score ($F=3.17$, $p < .05$), correct evaluation of personal and occupational characteristics ($F=2.78$, $p < .05$), and gathering occupational information ($F=3.58$, $p < .05$) subscales demonstrated a significant difference for the grade level. Then, a Tukey test was applied to determine the group with a significant difference. The CDDQ total score showed a significant difference between the 9th, 10th, 11th, and 12th grades. Based on this result, it was determined that 10th- and 11th-grade students had problems in the sub-dimension of lack of information compared to 9th graders. Tenth graders scored higher in the inconsistent information subscales than did other students. For

career decision-making self-efficacy, 11th graders had higher scores than did other grade levels. For the subscale of gathering occupational information of the CDMSES, there was a significant difference in favor of 11th graders.

Table 5. One-Way Analysis of Variance Results by Grade Level

Variables	Source of Variance	Sum of Squares	df	Mean Square	F	p
CMS Total	Between Groups	204.13	3	68.04	1.98	.11
	In-group	22663.28	661	34.28		
	Total	22867.42	664			
CDDQ Total	Between Groups	7845.53	3	2615.17	4.42	.00*
	In-group	391137.41	661	591.73		
	Total	398982.94	664			
Lack of Readiness	Between Groups	134.91	3	44.97	1.39	.24
	In-group	21299.55	661	32.22		
	Total	21434.47	664			
Lack of Information	Between Groups	1708.96	3	569.65	3.97	.00*
	In-group	94753.56	661	143.34		
	Total	96462.53	664			
Inconsistent Information	Between Groups	1169.07	3	389.69	4.32	.00*
	In-group	59588.60	661	90.14		
	Total	60757.67	664			
CDMSE Total	Between Groups	1840.10	3	613.36	3.17	.02*
	In-group	127808.36	661	193.35		
	Total	129648.47	664			
Correct Evaluation of Personal and Occupational Characteristics	Between Groups	279.00	3	93.00	2.78	.04*
	In-group	22041.34	661	33.34		
	Total	22320.35	664			
Gathering Occupational Information	Between Groups	291.51	3	97.17	3.58	.01*
	In-group	17898.70	661	27.07		
	Total	18190.22	664			
Realistic Planning	Between Groups	140.24	3	46.74	2.38	.06
	In-group	12941.60	661	19.57		
	Total	13081.85	664			

*p<.05

A Pearson correlation test was performed to determine the relationships between high school students' career decision-making difficulties and career maturity. Table 6 demonstrates the results.

Table 6. Correlation Results Between Career Decision-Making Difficulties and Career Maturity Scale

Variables		CMS Total
CDDQ Total	r	-.27**
	p	.00
	N	665
Lack of Readiness	r	-.16**
	p	.00
	N	665
Lack of Information	r	-.25**
	p	.00
	N	665
Inconsistent Information	r	-.26**
	p	.00
	N	665

*p<.05

Table 6 shows a negative and low-level significant relationship between the CDDQ total score and CMS ($r = -.27, p < .05$). In other words, as career maturity scores increased, career difficulties in decision-making decreased, or vice versa. A significant relationship was found between all CDDQ subscales and the CMS total scores. A significant low-level relationship was revealed between the lack of readiness ($r = -.16$), a lack

of information ($r=-.25$), and inconsistent information ($r=-.26$) subscale scores and the CMS total score ($p<.05$).

A Pearson correlation test was applied to describe the relationships between high school students' career decision-making difficulties and career decision-making self-efficacy, and the results are given in Table 7.

Table 7. Correlation Results Between Career Decision-Making Difficulties and Career Decision-Making Self-Efficacy

		Correct Evaluation of Personal and Occupational Characteristics	Gathering Occupational Information	Realistic Planning	CDMSE Total
CDDQ Total	<i>r</i>	-.31**	-.28**	-.22**	-.30**
	<i>p</i>	.00	.00	.00	.00
	<i>N</i>	665	665	665	665
Lack of Readiness	<i>r</i>	-.09*	-.04	-.03	-.06
	<i>p</i>	.01	.27	.40	.08
	<i>N</i>	665	665	665	665
Lack of Information	<i>r</i>	-.35**	-.35**	-.26**	-.36**
	<i>p</i>	.00	.00	.00	.00
	<i>N</i>	665	665	665	665
Inconsistent Information	<i>r</i>	-.30**	-.26**	-.22**	-.29**
	<i>p</i>	.00	.00	.00	.00
	<i>N</i>	665	665	665	665

* $p<.05$

The analysis results suggested a medium and significant negative relationship between the CDDQ total score and the CDMSES total score ($r=-.30$) and the correct evaluation of personal and occupational characteristics($r=-.31$) subscale scores ($p<.05$). However, there was a significant low-level relationship between the CDDQ total score, the CDMSES gathering occupational information($r=-.28$), and the realistic planning($r=-.22$) subscale scores. There was significant relationship between the CDDQ subscale scores and the CDMSES subscale scores ($p<.05$), and a low-level significant negative relationship between the lack of readiness subscale scores and the correct evaluation of personal and occupational characteristics subscale scores. Besides, a medium-level negative relationship was found between the lack of information subscale scores and the correct evaluation of personal and occupational characteristics($r=-.35$), gathering occupational information($r=-.35$), and CDMSES total scores ($r=-.36$), and a low-level relationship was observed in realistic planning. There was a medium-level relationship between the inconsistent information subscale and the correct evaluation of personal and occupational characteristics, and a significant low-level relationship between gathering occupational information, realistic planning, and the CDMSES total scores.

The analysis was conducted on Process Macro (Model 4) to test the mediating role of high school students' career decision-making self-efficacy between career maturity and career decision-making difficulties, and the results are shown in Figure 2 and Table 8.

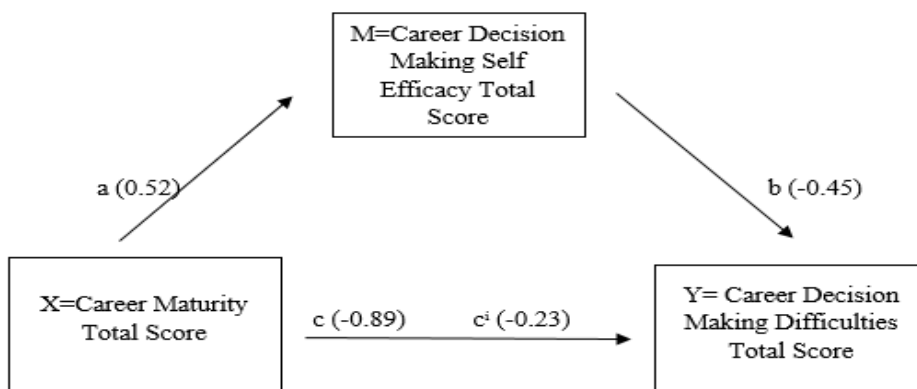


Figure 2. The Mediating Role Analysis Results

Paths a, b, c, and c' are presented in Figure 2 for the mediating role of career decision-making self-efficacy between career maturity and career decision-making difficulties. According to Figure 2, the standardized regression coefficient for path a was 0.52 ($p=.00$), -0.45 ($p=.00$) for path b, -0.89 ($p=.00$) for path c, and -0.23 for c'.

Table 8. Analysis Results Regarding the Mediating Role of Each Transaction Path

The mediating of career decision-making self-efficacy	Total Effect	Direct Effect	Indirect Effect	Bootstrap Confidence Interval	Mediating Effect Type
Career Maturity–Career Decision-Making Difficulties	-1.13	-0.89	-0.23	(-0.35) (-0.13)	Partial

The total effect of CMS on CDDQ total score was ($\beta=-1.13, t=-7.29, F=53.16$) -1.13 , and the direct effect was ($\beta=-.89, t=-7.07, F=53.61$) $-.89$ as shown in Table 8. The indirect effect of the CMS total score on the CDDQ total score was $-.23$, which indicates that the impact of career maturity on career decision-making difficulties decreased when the career decision-making self-efficacy variable was included in the analysis. Based on these results, it is possible to express a partial mediating role of career decision-making self-efficacy. The Bootstrap sample number was one thousand in the analysis. However, it was seen that the standardized bootstrap intervals do not contain zero. Thus, it can be suggested that the mediating role of career decision-making self-efficacy between career decision-making difficulties and career maturity was significant.

4. Conclusion and Discussion

The study revealed that female students had higher scores in the lack of readiness sub-dimension. Thus, it is suggested that female students felt less prepared for career decision-making. Similarly, Harman (2017) found that female students had higher scores in the lack of information and lack of readiness subscale scores. Oztemel (2013) indicated that a lack of information subscale of the CDDQ significantly predicted gender variables for high school students. There was no difference in the CDDQ total scores in terms of gender, which can be explained by the fact that high school students sometimes experience career decision-making difficulties regardless of gender. Because secondary education is the most critical step for students to proceed to future careers, it might lead to students' hesitation regarding career decision-making. In Turkey, where a collectivist culture is dominant, ascribed gender roles can be an obstacle for female students. Beliefs and discourses about women's ability to enter certain professions may cause female students to turn to certain professions by limiting their thinking in detail about their career choices. It might also lead students to have irrational ideas, experience high levels of indecision between choosing a given or desired career and display less motivation for occupation choice and career decision-making.

The study revealed that female students' career maturity scale scores were higher than those of male students. Therefore, it is possible to note that female students' career maturity or, in other words, competence in completing career development tasks is better than that of male students. Many similar studies (Bozgeyikli et al., 2010; Cakar & Kulaksizoglu, 1997; Ulas & Yildirim, 2015; Urun, 2010; Yon et al., 2012) demonstrated that female students' career maturity is greater than that of male students. Because females mature earlier than males in developmental terms, this leads to a higher cognitive maturity among females. In this sense, female students' higher-level occupational thoughts and structures might provide them with advantages. Besides, limited career options for female students due to Turkey's culture and social gender roles might have led students to decide in specific patterns and choose certain occupations, resulting in greater career maturity. Social gender roles might have developed female students' sense of responsibility. Those female students encouraged to help with family tasks from an early age possess a higher sense of responsibility and behave accordingly. Female students raised with a continuing sense of responsibility and self-efficacy to cope with life challenges might feel more responsible in career decision-making than male students.

In the study, there was no difference in the career decision-making self-efficacy total scores and the subscale scores for gender, which is supported by some other studies (Chung, 2002; Nauta & Kahn, 2007; Ulas, 2016). It is suggested that there was no difference in collecting information for a career, assessing, and identifying individual and career properties, and comparing them to make realistic career plans. Because high school

students are in a transitional period and are aware of the necessity to make a career choice, there may have been no difference between genders. In this sense, students of both genders experience the same career steps.

Another result of this study was that science high school and vocational and technical Anatolian school students had more difficulties than Anatolian high school students in career decision-making. Additionally, it is possible to indicate that Anatolian high school students had fewer difficulties in the lack of information and inconsistent information subscales of CDDQ. In terms of career decision-making self-efficacy, Anatolian and vocational-technical Anatolian high school students had higher scores in making a realistic planning subscale of the CDMSES. Atılgan (2017) and Öztemel (2012) found that vocational and technical Anatolian high school students experienced more career indecision than students in general high schools. Sen (2017) found that Anatolian high school students experienced more career indecision than science high school students and had a higher score in the CDDQ inconsistent information and lack of information subscales. Considering the current findings and the literature, there are specific differences. More severe difficulties experienced by science high school students in decision-making can be discussed from different perspectives. Science high schools help graduates to continue their education, mainly in science departments. Therefore, students in such schools might feel they are target-focused on a specific field, which might lead students to choose a career they do not desire or prefer unsuitable career options. Besides, both teachers' and parents' expectations from those students are high, leading students to meet these expectations.

Another point is the science high school students' low scores in the realistic planning subscale. Science high schools are for students with superior mathematics and science skills and performance, aiming to develop scientists. Upon analyzing the studies, it can be observed that high school students are considered specially gifted (Bozgeyikli et al., 2010; Kocak and Icmenoglu, 2016). The high levels of generalized and individual intelligence of those students might encourage them to think of opportunities they will not typically achieve or be given, leading them to possess unrealistic expectations. In other words, students might not make realistic career plans because they want to achieve the ideal. Meanwhile, vocational, and technical high schools aim to provide students with a certain general culture level, help them gain specific competence in certain occupations, and prepare for higher education institutions. As vocational and technical high school students are occupied with an occupation since the high school period, they might have a more realistic perspective for their future careers and maintain the current job.

Anatolian high school students can be viewed as a more disadvantaged group than other high school students because of their graduation with average grades. Hence, they consider academic success a criterion for career choice and career decision-making rather than personal desires and interests. Therefore, we can infer that Anatolian high school students strive not to experience a lack of information, to make correct decisions, and have less inconsistent information.

The study results indicated that 10th and 11th graders had more difficulties than 9th graders in career decision-making, which stemmed from the lack of information. It can be said that 10th graders experienced more problems in inconsistent information dimensions than other students. For career decision-making self-efficacy, it is possible to note that 11th graders had higher scores than did other grade levels. There was no difference in the grade level for career maturity. Sen (2017) stated that 12th graders had more inconsistent information than did 10th graders. Tansu (2011) suggested that vocational guidance service and grade level were significant predictors of high school students' career indecision. Seker (2013) concluded that 10th graders had higher subscale scores for correct evaluation of personal and occupational characteristics than did 11th graders.

Similarly, Urun (2010) found that students' career maturity showed no difference in the grade level. Tenth and 11th graders are expected to choose a specific field in secondary education. Those students might realize their lack of information. Because information is essential for a career choice, insufficient or missing information might make it more difficult for students. However, 11th graders might be stimulated to research the options and reduce their information deficit, which, in turn, might have increased those students' career decision-making self-efficacy.

Another result of the study was the negative relationship found between students' career maturity level and career decision-making difficulties. In addition, increased career decision-making self-efficacy similarly

contributed to a reduction in students' career decision-making difficulties. Some studies found similar findings (Bullock-Yowell et al., 2014; Harman, 2017; Mutlu, 2011). The lack of information for career decision-making, resolving the career-related ambiguities, motivations, and the refinement of wrong ideas about career choice is associated with students' career maturity and can change with career decision-making self-efficacy. These two variables can be acknowledged as advantageous for career choice. Both career decision-making self-efficacy and career maturity seem important for students to complete career development and career choice tasks and take the necessary responsibilities. Hence, it can be inferred that these two competencies play a role in career decision-making difficulties.

The study's last finding was the partial mediating role of career decision-making self-efficacy between career decision-making difficulties and career maturity. Lee et al. (2012) determined that commitment to parents, friends, and teachers affected career maturity, and career decision-making self-efficacy had a mediating role. Jin et al. (2009) carried out a study on graduate students and found the mediating role of career decision-making self-efficacy in the relationship between the five-factor personality model and career commitment. Both career maturity and self-efficacy in career decision-making are influential in difficulties in career decision-making. With the analysis of the mediating role, the shared effect between two different variables was examined. Career maturity refers to the ability to complete development tasks; therefore, individuals who complete the development tasks can carry out the necessary research for careers and go on to choose career paths. In other words, they might experience fewer career decision-making difficulties. Similarly, since career decision-making self-efficacy involves various career development competencies and career choice, it seems to offset career decision-making difficulties.

5. Recommendations

This study was carried out to determine the variables explaining high school students' career decision-making difficulties. Based on the study results and findings, several recommendations are offered for researchers. Future studies can discuss variables such as the socioeconomic status and the issue of family support in a career choice that might influence career decision-making difficulties. When the students' feedback was reviewed in this study, it was understood that students wanted to express themselves verbally, especially about career decision-making difficulties. Accordingly, qualitative studies can be performed to deal with high school students' career decision-making difficulties from a different perspective. The study found that science high school and vocational and technical Anatolian high school students had more career decision-making difficulties than Anatolian high school students. Different studies can be carried out to describe the high school student's career decision-making difficulties in different types of high school, and a new classification of attendant difficulties can be made in detail.

As a result of this study, a negative relationship was found between career decision-making difficulties and career decision-making self-efficacy and career maturity. In this sense, some suggestions were made for practitioners. Psycho education programs might include information and skills to improve career decision-making self-efficacy and maturity. Because students' career decision-making difficulties stem from a lack of readiness dimension, psycho education programs can be developed considering the lack of readiness dimension, determining the reasons, and identifying solutions. It was observed that 9th graders had fewer career decision-making difficulties than other grade levels. School counselors can organize occupation guidance and career counseling seminars for both students and teachers. Practitioners should plan group counseling activities about career self-efficacy decision-making and career maturity. As a result of the study, the male students were found to be in a more disadvantaged position than female students in terms of career maturity. Studies can be conducted to analyze the reason for the difference. Besides, students experienced difficulties in the lack of readiness dimension. Future studies can investigate the reasons for experiencing difficulties in this subscale of the career decision-making scale.

6. References

Akbıyık, Y. (1996). *Vocational maturity levels of students attending vocational high schools* [Unpublished Master's Thesis]. Gazi University, Social Sciences Institute, Ankara.

- Atılğan, S. (2017). *Career decision competence expectancy of prediction of anxiety and stress in high school students* [Unpublished Master's Thesis]. Selçuk University, Konya.
- Bacanlı, F. (2008). *Career decision-making difficulties of Turkish adolescents*. Counseling international perspective: Global demands and local needs. April 25–27, İstanbul (Oral Presentation).
- Bacanlı, F. (2012). Relationships between career decision making difficulties and irrational beliefs about career choice. *Turkish Psychological Counseling and Guidance Journal*, 4(37), 86–95.
- Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research*, 1(4), 287–310.
- Betz, N. E. (2000). Self-efficacy theory as a basis for career assessment. *Journal of Career Assessment*, 8(3), 205–222. <https://doi.org/10.1177%2F106907270000800301>
- Betz, N. E., & Hackett, G. (1981). The relationship of career-related self-efficacy expectations to perceived career options in college women and men. *Journal of Counseling Psychology*, 28(5), 399–410. <https://psycnet.apa.org/doi/10.1037/0022-0167.28.5.399>
- Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the career decision-making self-efficacy scale. *Journal of Career Assessment*, 4(1), 47–57. <https://doi.org/10.1177%2F106907279600400103>
- Bozgeyikli, H. (2004). Meslek kararı verme yetkinlik ölçeğinin geliştirilmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11, 221–234.
- Bozgeyikli, H., Dogan, H., & Isıklar, A. (2010). Examination of the relationship between gifted students' career maturity levels and their perceived social support levels. *Erciyes University Journal of Social Sciences Institute*, 1(28), 133–149.
- Brown, D. (1990). Models of career decision making. In D. Brown & L. Brooks (Eds.), *Career choice and development* (2nd ed., pp. 395–421). Jossey-Bass.
- Bullock-Yowell, E., McConnell, A.E., & Schedin, E.A. (2014). Decided and undecided students: career self-efficacy, negative thinking, and decision-making difficulties. *NACADA Journal*, 34(1), 22–34. <https://doi.org/10.12930/NACADA-13-016>
- Buyukozturk, S., KılıçCakmak, E., Akgun, O. E., Karadeniz, S., & Demirel, F. (2016). *Bilimsel araştırma yöntemleri* (22. Baskı). Pegem.
- Cakar, M. & Kulaksızoglu, A. (1997). Lise son sınıf öğrencilerinin mesleki olgunluk düzeyleri ile denetim odağı düzeylerinin karşılaştırılması. *Atatürk Education Faculty Journal of Educational Sciences*, 9(9), 113–131.
- Chung, Y. B. (2002). Career decision-making self-efficacy and career commitment: Gender and ethnic differences among college students. *Journal of Career Development*, 28(4), 277–284.
- Creed, P. A., Patton, W., & Bartrum, D. (2004). Internal and external barriers, cognitive style, and the career development variables of focus and indecision. *Journal of Career Development*, 30, 277–294.
- Creed, P., Patton, W., & Prideaux L. A. (2006). Causal relationship between career indecision and career decision-making self-efficacy: A Longitudinal cross lagged analysis. *Journal of Career Development*, 33, 47–65. <https://doi.org/10.1177%2F0894845306289535>
- Crites, J. (1971). *The maturity of vocational attitudes in adolescence*. DC: APGA.
- Gati, I., & Saka, N., (2001). High school students' career-related decision-making difficulties. *Journal of Counseling and Development*, 79(3), 331–340. <https://doi.org/10.1002/j.1556-6676.2001.tb01978.x>
- Gati, I., Fassa, N., & Houminer, D. (1995). Applying decision theory to career counseling practice: The sequential elimination approach. *Career Development Quarterly*, 43(3), 211–220. <https://doi.org/10.1002/j.2161-0045.1995.tb00861.x>
- Gati, I., Krausz, M., & Osipow, S.H. (1996). A Taxonomy of difficulties in career decision making. *Journal of Counseling Psychology*, 43(4), 510–526. <https://psycnet.apa.org/doi/10.1037/0022-0167.43.4.510>

- George, D., & Mallery, P. (2010). *SPSS for Windows step by step: a simple guide and reference 17.0 update*. (10th Ed). Pearson.
- Guay, F., Ratelle, C. F., Senécal, C., Larose, S., & Deschênes, A. (2006). Distinguishing developmental from chronic career indecision: Self-efficacy, autonomy, and social support. *Journal of Career Assessment*, 14(2), 235–251. <https://doi.org/10.1177%2F1069072705283975>
- Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18(3), 326–339. [https://doi.org/10.1016/0001-8791\(81\)90019-1](https://doi.org/10.1016/0001-8791(81)90019-1)
- Harman, E. (2017). *The predictive strength of career decision making difficulties on high school students' career maturity according to their levels of focus of control* [Master's thesis]. Cukurova University, Adana.
- Havighurst, R. J. (1956). Research on the developmental-task concept. *The University of Chicago Press*, 64(5), 215–223.
- Hijazi, Y., Tatar, M., & Gati, I. (2004). Career decision making difficulties among Israeli and Palestinian Arab high-school seniors. *Professional School Counseling*, 8(1), 64–72.
- Jin, L., Watkins, D., & Yuen, M. (2009). Personality, career decision self-efficacy and commitment to the career choices process among Chinese graduate students. *Journal of Vocational Behavior*, 74(1), 47–52. <https://doi.org/10.1016/j.jvb.2008.10.002>
- Katz, M.R. (1966). A model for guidance for career decision making. *Vocational Guidance Quarterly*, 15(1), 2–10. <https://doi.org/10.1002/j.2164-585X.1966.tb01148.x>
- Kocak, R., & Icmenoglu, E. (2012). Emotional intelligence and creativity as predictors of life satisfaction among gifted students. *Turkish Psychological Counseling and Guidance Journal*, 4 (37), 73–85.
- Koumoundourou, G., Tsaousis, I., & Kounenou, K. (2011). Parental influences on Greek adolescents' career decision-making difficulties: The mediating role of core self-evaluations. *Journal of Career Assessment*, 19(2) 165–182. <https://doi.org/10.1177%2F1069072710385547>
- Kuzgun, Y., & Bacanlı, F. (2005). *Lise öğrencileri için mesleki olgunluk ölçeği el kitabı*. Nobel.
- Lee, S., Lee, H., Song, H., & Kim, S. (2012). The relationship between attachment and career maturity: The mediating role of self-efficacy. *International Social Work*, 58(1), 153–164. <https://doi.org/10.1177%2F0020872812456053>
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. <https://doi.org/10.1006/jvbe.1994.1027>
- Lent, R.W, Brown, S.D., Talleyrand, R., McPartland, E.B., Davis, T., Chopra, S.B., Alexander, M.S., Suthakaran, V., & Chai, C.M. (2002). Career choice barriers supports and coping strategies: College students experiences. *Journal of Vocational Behavior*, 60(1), 61–72. <https://doi.org/10.1006/jvbe.2001.1814>
- Mutlu, T. (2011). *High school students' career decision-making difficulties* [Unpublished master thesis]. Hacettepe University, Ankara.
- Nauta, M. M., & Kahn, J. H. (2007). Identity status, consistency and differentiation of interests and career decisions self-efficacy. *Journal of Career Assessment*, 15(1), 55–65. <https://doi.org/10.1177%2F1069072705283786>
- Niles, S. G., & Harris-Bowlsbey, J. (2013). *Career development interventions in the 21st century*, 4th ed. Pearson.
- Nota, L., Ferrari, L., Solberg, V. S. H., & Soresi, S. (2007). Career search self-efficacy, family support, and career indecision with Italian youth. *Journal of Career Assessment*, 15(2), 181–193. <https://doi.org/10.1177%2F1069072706298019>
- Osipow, S. H., & Gati, I. (1998). Construct and concurrent validity of the career decision-making difficulties questionnaire. *Journal of Career Assessment*, 6(3), 347–364. <https://doi.org/10.1177%2F106907279800600305>

- Oztemel, K. (2012). Relationships between career indecision career decision making self-efficacy and locus of control. *GEFAD / GUJGEF*, 32 (2), 459–477.
- Oztemel, K. (2013). Perceived social support and gender as predictors of high school students' career decision making difficulties. *The Journal of Turkish Educational Sciences*, 11(3), 241–257.
- Patton, W., Creed, P.A., & Watson, M. (2003). Perceived work related and non-work-related barriers in the career development of Australian and south African adolescents. *Australian Journal of Psychology*, 55 (2), 74–82.
- Pitz, G. F., & Harren, V. A. (1980). An analysis of career decision making from the point of view of information processing and decision theory. *Journal of Vocational Behavior*, 16(3), 320–346. [https://doi.org/10.1016/0001-8791\(80\)90059-7](https://doi.org/10.1016/0001-8791(80)90059-7)
- Sahranc, U. (2000). *A study on some variables affecting career maturity levels of high school students depending on their locus of control* [Unpublished Master Thesis]. Hacettepe University, Ankara.
- Sampson, J.P., Reardon, R.C., Peterson, G.W., & Lenz, J.G. (2004). *Career Counseling and Services*. Brooks/Cole.
- Sarı, S.V., & Şahin, M. (2012). The role of hope and locus of control predicting career decision making self-efficacy on senior students. *Kastamonu Education Journal*, 21(1), 97–110.
- Seker, G. (2013). *Career decision making self-efficacy and career locus of control among high school students* [Unpublished Master Thesis]. Ankara University, Ankara.
- Sekmenli, T. (2000). *Lise 1. Sınıf öğrencilerinin mesleki olgunluk düzeyleri ile sürekli kaygı düzeylerinin bazı değişkenler açısından incelenmesi* [Unpublished Master Thesis]. Inonu University, Social Sciences Institute, Malatya.
- Sen, A. (2017). *The relationship of career decision-making difficulties with a-type personality features and emotional intelligence level* [Unpublished Master Thesis]. Hasan Kalyoncu University, Gaziantep.
- Super, D. E. (1963). Self-concepts in vocational development. In D. E. Super, R. Starishevsky, N. Matlin & J. P. Jordaan (eds.), *Career development: Self-concept theory* (pp. 1–16). College Entrance Examination Board.
- Super, D. E. (1990). A lifespan, life-space approach to career development. In D. Brown, L. Brooks and Associates (Eds.), *Career choice and development: Applying contemporary theories to practice* (pp. 197–261). Jossey-Bass.
- Surucu, M. (2005). *High school students' vocational maturity and perceived social support level* [Unpublished Master Thesis]. Gazi University, Ankara.
- Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22(1), 63–81. [https://doi.org/10.1016/0001-8791\(83\)90006-4](https://doi.org/10.1016/0001-8791(83)90006-4)
- Turkish Statistical Institute. (2020). <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=33787>
- Ulas, O. (2016). *Career decision-making self-efficacy: Testing a model* [Unpublished Master Thesis]. Hacettepe University, Ankara.
- Ulas, O. & Yıldırım, I. (2015). Predictors of career maturity among high school students. *Hacettepe University Journal of Education*, 30(2), 151–165.
- Urun, A. E. (2010). *The relationship between the self-esteem level and the vocational maturity of high school students* [Unpublished Master Thesis]. Balıkesir University, Balıkesir.
- Uzer, A. S. (1987). *Lise öğrencilerinin yükseköğretim programlarını tercihleri ile kendi yetenek, ilgi ve mesleki olgunluk düzeyleri arasındaki ilişkiler* (Unpublished doctoral thesis). Hacettepe University, Ankara.
- Yazar, A. R. (1997). *Genellisevemesleklisesiöğrencilerininmeslekiolgunlukdüzeylerininbazıdeğişkenlere göre incelenmesi* [Unpublished Master Thesis]. Gazi University, Ankara.

Yesilyaprak, B. (2007). *Eđitimde rehberlik hizmetleri* (15. Basım). Nobel.

Yon, K.J., Choi, W., & Goh, M. (2012). Career maturity growth curve and sex-role stereotypes of Korean adolescents. *Journal of Career Development*, 40(3), 203–222. <https://doi.org/10.1177%2F0894845312445515>