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Examining Career Indecision of Anatolian High School Students by Academic Procrastination and Various Other Variables

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Abstract

This study investigated whether Anatolian high school senior students' career indecision differed by their genders, academic tracks, reasons for choosing the tracks, and levels of academic procrastination. Research data were collected from 372 students attending three Anatolian high schools. Career Decision Inventory (CDI), Academic Procrastination Scale, and Personal Information Form were used to collect data. Since the data were not normally distributed, they were subjected to analysis with the Kruskal-Wallis H test and Pearson Product-Moment Correlation Coefficient. According to the analysis results, there was no significant difference between students' CDI scores and its five subscales by their gender and academic tracks. Significant differences were observed between their CDI scores by choosing the tracks and between their CDI subscale scores other than internal and external conflicts and total scores by their academic procrastination levels. A significant positive relationship was found between students' scores of CDI and its subscales other than external conflicts and academic procrastination. Findings were discussed within the context of career counseling, and several recommendations were offered.

Keywords: Career indecision, academic procrastination, high school students

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Introduction

An essential element that determines individual's life standard is a career. Today's career concept assumes an important mediating role in deciding economic welfare and status within society. This makes the stage of choosing a career even more critical. Career choice is a lifelong, dynamic process involving challenging decisions and ambiguities (Amir, Gati, & Kleinman, 2008). Career choice in our age is increasingly getting more difficult and complicated (Gati, Krausz, & Osipow,1996; Kuzgun, 2000). In this sense, how individuals set career goals, which would meet both their own and others' expectations, and achieve these goals makes career choice a much more dynamic process (Di Fabio, Palazzeschi, Asulin-Peretz & Gati, 2013).

Making decisions about what to do after graduation from high school, especially about careers requiring university education, is important for high school students. Students need to make decisions about the job they will choose in consideration of their interests and talents, characteristics of jobs, requirements of the country's era, and conditions. Career counseling activities in schools are vital for such students as they contribute to improving career decision-making skills. Students must improve such skills to choose the right career, which will lead to successful generations (Çakır, 2003). For students who are not aware of their interests and talents and not informed of jobs and working conditions, it is complicated to decide about careers. It is expected that some students have difficulty in career choice and cannot choose which vocation to take up, leading to career indecision.

As a multi-dimensional concept, career indecision involves several factors. Factors affecting career indecision include lack of self-knowledge, lack of occupational knowledge, pressure from the immediate circle, and non-functional/irrational thoughts (Çakır, 2004; Gordon, 2007). The fact that individuals whose families have low socio-economic status consider the economic conditions and feel the urge to choose a specific job (Yıldırım, 2015), pay too much attention to recommendations of others rather than their own desired in the process of career choice (Çınar, 2011) may force them toward career indecision. Researchers have investigated the relationships between career indecision and some psychological variables in consideration of this multi-dimensional structure. Variables investigated regarding career indecision include non-functional thoughts (Hamamcı and Esen Çoban, 2007; Kleiman, Gati, Petterson, Sampson, Reardon and Lenz 2004; Peterson, Sampson, Saunders & Reardon 2000), perceived social support (Öztemel, 2013; Yıldırım, 2015), perception of self (Çınar, 2011), self-efficacy (Crana & Turdab, 2015; Germeijs &

Verschueren, 2006), problem-solving skills (Yaman, 2014), and non-functional career thoughts (Peterson, Sampson, Saunders & Reardon, 2000). Another concept that may be related to career indecision is the behavior of procrastination.

Studies show that indecisive individuals exhibit defensive and avoidant approaches and, therefore, procrastinate (Deveci, 2011; Gati, Krausz & Osipow, 1996). In studies that address indecision and procrastination together, it has been shown that these two concepts are strongly correlated (Bańka & Hauziński, 2015; Lauderdale, 2017; Lauderdale, Martin, & Moore 2019).

Many individuals may get nervous when they cannot deliver their expected responsibilities and, consequently, exhibit procrastination to get rid of such disturbing feelings. According to Steel (2007), procrastination is a planned act of delay performed by an individual although they know it will not be in their own best interest. Milgram (1991) stated that individuals show procrastination behavior in several domains of life, which affects their decision-making. Causing individuals not to cope with their surroundings and make them feel incompetent, procrastination leads to indecision in many parts of their lives (Milgram, Tal, & Levision, 1998).

It is observed in the literature that procrastination is classified as chronic and situational procrastination (Ferrari, O'Callaghan, & Newbegin, 2005). Chronic procrastination is about delaying the start of a task, having difficulty completing the task, and making this situation a habit (Diaz-Morales, Cohen, & Ferrari, 2008; Ferrari, Johnson, & McCown, 1995). Situational procrastination is described as delaying the start of a task in "certain domains of life," having difficulty completing the task, and making this situation a habit (Ferrari et al., 2005). In this sense, procrastination in educational settings is academic procrastination, which refers to situational procrastination. Academic procrastination is described as tending to delay tasks such as doing homework, completing projects, and preparing for exams on various levels, accompanied by anxiety (Day, Mensink, & O'Sullivan, 2000; Rothblum, Solomon,& Murakami 1986). Since academic procrastination causes problems, it is a type of procrastination often investigated by researchers (Milgram, Gehrman and Keinan, 1992).

Research has shown academic procrastination to be correlated with several variables such as increased level of academic stress (Sharma and Kaur, 2011; Tice and Baumeister, 1997), lower satisfaction with academic life (Balkıs, 2013); lower academic achievement (Dietz, Hofer, & Fries, 2007; Fritzsche, Young, & Hickson, 2003; Sweitzer, 1999; Wang &

Englander, 2010); following ineffective learning strategies (Chissom & Iran-Nejad, 1992); increased levels of depression and anxiety (Saddler & Sacks, 1993; Senecal, Koestner, & Vallerand, 1995; Soloman & Rothblum, 1984), lack of motivation (Brownlow &Reasinger 2000; Franziska, Manfred, & Stefan, 2007, Lee, 2005), and difficulty in time management (McCown, Petzel, & Rupet, 1987).

Academic procrastination is a concept that involves the factor of indecision (Düşmez, 2013). Research results have shown that decision-making difficulty leads to academic procrastination (Eerde, 2003; Uzun Özer, 2009). It is also noted that individuals who show academic procrastination also delay decision making (Bańka & Hauziński, 2015; Ferrari et al., 1995; Ferrari, Crum, & Pardo, 2018). As stated by previous research results, there is a connection between decision-making styles and procrastination (Balkıs, 2007; Uğurlu, 2013). The inability to decide is one of the strongest predictors of academic procrastination (Afzal & Jami, 2018). Hence, publications are addressing the relationship between academic procrastination and decision-making processes. However, no study addressing the relationship between academic procrastination and career indecision, which is the research's dependent variable, was observed in the literature. There is a limited number of studies that rather correspond to subscales of career indecision. For instance, regarding the anxiety, which is a factor affecting the internal conflicts subscale of career indecision, it has been shown that state anxiety does not significantly predict academic procrastination (Aydoğan, 2008; Kandemir, 2012).

On the other hand, as for parenting styles that affect the external conflicts subscale of career indecision, authoritarian parenting style has been significantly correlated with academic procrastination (Toprakyaran 2016; Yatgın 2014). Balkıs, Duru, and Buluş (2013) found irrational beliefs associated considerably with academic procrastination. In line with these findings, it is thought that academic procrastination may cause uneasiness, stress, and worry among students; these factors may adversely affect students in the process of career decision-making and create a difference in their levels of career indecision. It is anticipated that the answer to whether academic procrastination on different levels makes a difference in career indecision will guide professionals engaged in career psychological counseling about career choice and career planning.

As for the studies on other variables in this research, some studies have shown a difference in career indecision levels by gender (Aydemir, 2017; Gati, Krausz, & Osipow 1996; Gati & Saka 2001). While there are studies that state boys have more difficulty

making career decisions than girls (Gati, Krausz, & Osipow, 1996; Gati & Saka, 2001), other studies achieved contradicting results (Aydemir, 2017). Watson, Creed, and Patton (2003) found that male and female students' career indecision levels differed by grade levels in Australia and South Africa. It is thought that exploring whether girls and boys attending the Anatolian high schools, which admit students according to the achievement criterion, have differences about career indecision in career indecision will allow career psychological counselors and educators to evaluate all their educational and seminar activities about career choice in consideration of genders and to differentiate their education from this aspect.

Another variable which is assumedly related to career indecision is the academic track in high school. By the 11th grade, Anatolian high school students continue to study four tracks: science, social sciences, Turkish language–mathematics, and foreign languages. It was found that career indecision among high school students differed by the academic track and that students studying social sciences had the highest levels of career indecision. In contrast, studies learning foreign languages experienced the lowest career indecision (Yıldırım, 2015). Due to the small number of studies performed with the literature's academic track variable, whether career indecision levels differ by the academic track were included in this research.

Another variable of the research is why high school students chose their current academic tracks. As concluded in the literature, some students choose social sciences, science, Turkish language-mathematics, and foreign language to consider their interests and talents while others ignore their interests for several reasons in this process (Berdan, 2008; Beyhan, 2010; Öksüz 2001). Social Cognitive Career Theory suggests that interest in a particular field is an important factor in career decision making (Brown & Lent, 1996; Lent, Brown & Hackett, 1994). Vocational interests are addressed as patterns regarding liking, disliking, or being indifferent to various career-related activities (Özyürek, 2011). Horstman (2017) found career interests to be the most critical factor in career decision making among high school students. In light of these findings, it is thought that exploring whether choosing the academic track as the first stage of career choice by one's vocational interest will create a difference in understanding the career indecision.

Accordingly, this study aimed to investigate whether Anatolian high school senior students' career indecision differed by their genders, academic tracks, reasons for choosing the tracks, and levels of academic procrastination. Another purpose of the research was to identify the relationship between academic procrastination and career indecision.

Method

This is quantitative research designed as a correlational survey study. Population and sample, measures, data collection process, and information on the analyses are presented below.

Study group

The accessible population of the research (Gay, Mills, & Airasian, 2010) was 7926 students attending seven Anatolian high schools under the District Directorate of National Education in a district on the European side of İstanbul. The research sample was composed of 215 (42%) girls and 157 (58%) boys (372 in total) studying the final year at three Anatolian high schools, which were chosen from among these seven high schools with the convenience sampling method. Before starting to collect data at the designated schools, administrators of the schools were interviewed **in December 2018** to obtain institutional permissions. It was decided in which classrooms and when the application would be performed. The data collection process was conducted with the volunteered students after the briefing on the research. According to the 2019 YKS (Higher Education Institutions Exam) statistics from ÖSYM (Student Selection and Placement Center), 14.7% of students who took the exam were already attending a university. One cannot say that all such students participated in the exam again due to career indecision. However, according to YÖK's (Council of Higher Education) choice research dated 2018, the most decisive factor in university and department choice was employment opportunities by 25.86%. Therefore, it is understood that students made their choices of higher education in terms of career and had to revisit their career choices when necessary. Hence, senior students were chosen as a research sample as they were the group who would prefer a university the soonest. Three hundred seventy-two high school senior students who volunteered and were reached were randomly selected to consider their academic tracks (Science, Turkish language-Mathematics, Foreign Languages). There were no students from the social sciences track and few students from the foreign language track because students of the research sample were successful in TEOG (Transition from Primary to Secondary Education) exam and were inclined to the academic track of science. Of the participant students, 162 (43%) chose the science track, 171 (46%) chose the Turkish language-mathematics track, and 38 (11%) chose the foreign language track. The majority (333; 89%) of the students chose their tracks by their interests and plans. 39 (11%) of them were found to have selected their tracks under their families' and teachers' guidance and their friends' influence.

Measures

Research data were collected with two scales and a personal information form. Required permissions were obtained from the developers of the two scales.

Career Decision Inventory (CDI)

This five-point, 30-item Likert scale was developed by Çakır (2003) to measure high school students' career indecision levels. The following are the five factors and their eigenvalues achieved in the construct validity of the scale performed with principal component analysis and Varimax rotation: internal conflicts (IC) (3.24), lack of self-knowledge (LSK) (2.63), lack of occupational and field knowledge (LOFK) (2.54), irrational beliefs about career choice (IBCC) (1.90), and external conflicts (EC) (1.83). Five factors of the scale explain 40% of the total variance (Çakır, 2003). Çakır (2003) found Cronbach's Alpha internal consistency coefficient of the scale to be 0.85. The correlation coefficient obtained with the test-retest method in the follow-up test applied to 45 students five weeks later is 0.83. Higher scores mean career indecision, while lower scores mean career decidedness. The internal consistency coefficient of the scale was recalculated for this study and found to be 0.92. Some of the items of the career decision inventory are given below: "I do not know which is the most suitable career for my personality.", "I do not have enough knowledge about choosing a field and occupation.", "My knowledge is not sufficient about training required careers of my interest.", There are very few occupations I know of.", and "Opinions of the people in my life confuse me about my choice of field and occupation."

Academic Procrastination Scale (APS):

This five-point Likert scale developed by Çakır (2003) to measure high school students' academic procrastination levels is composed of 19 items. With principal component analysis and Varimax rotation, a two-factor academic procrastination scale consisting of 19 items involving the term "academic procrastination," was obtained. One of these factors is called "procrastination," and the other is called "regular studying habit." Eigenvalues of these factors are 7.69 and 1.36, respectively. The variance explained by the first factor was 37% before rotation, and 42% after rotation, the scale can be used with one factor. Thus, Çakıcı (2003) states that APS can be used as a one-factor scale. Based on this statement, the scale was used with one factor in this study. As seven of the items are positively worded, they are reverse-scored. Cronbach's Alpha reliability coefficient was found to be .92 for the whole scale, while the test-retest correlation coefficient was found to be .89 in the follow-up test

performed 17 days later. The scale's score range is 19-95 points, and higher scores refer to higher levels of academic procrastination (Çakıcı, 2003).

Cozby (2009) suggests that researchers may want an independent variable to have different levels when investigating the relationships between dependent and independent variables. In this study, mean and standard deviation values were utilized to divide students into groups of low, moderate, and high procrastination levels for academic procrastination, which is the independent variable. This method is also observed in other studies (e.g., Esen and Çelikkaleli, 2008; Namlu, 2004). The mean score (55) and standard deviation (14) of the students in the academic procrastination scale were utilized to divide them into three groups. Accordingly, the academic procrastination level of the students who scored between 41 and 69 points, which correspond to one standard deviation below and above the mean, was accepted to be moderate, the level of the students who scored 40 points and below was accepted too low, and level of the students who scored 70 points and above was accepted to be high. The internal consistency coefficient of the scale was recalculated to be 0.89 for this study. Some of the exemplary items of the scale are as follows: "Whenever I start to study, other things to do come to my mind.", "I often have breaks to do something, talk to someone, drink a cup of tea or coffee, etc. when studying.", "I deliver my homework/projects timely.", "I postpone doing my homework/projects on the deadline for insignificant reasons."

Personal information form

The researcher developed the personal information form to collect data on the independent variables of the research. It is composed of three questions that ask students' gender, academic tracts, and reasons for choosing the tracks.

Procedure

In consideration of the academic tracks of students attending three different Anatolian high schools, the data were collected with the personal information form and two scales at class hours deemed suitable by the principal's office. School administrators and students were informed of the research purpose, and participation was based on volunteering. **The data were collected in December in the academic year of 2018-2019**.

The analysis of the research data was conducted on SPSS 19. For each analysis, normality of data was tested with the Kolmogorov-Smirnov (K-S) test, and homogeneity of data was tested with Levene's test. Since it was found that the normality was not met,

although the variances of the data were homogeneous, non-parametric analyses were utilized. Accordingly, the Mann-Whitney U test was performed to compare two groups for the variables of gender (girl-boy) and reason for choosing the track (interest-other reasons), and the Kruskal-Wallis H test was used in the comparison of academic tracks (science, Turkish language-mathematics, foreign languages) and academic procrastination levels (high, moderate, low) which have more than two groups. The difference was significant; groups were compared pairwise with the Mann-Whitney U test to understand the different sources. Moreover, the Pearson Product-Moment Correlation Coefficient was calculated for the correlation between career indecision and academic procrastination.

Findings

The findings of the research are presented in the order of research problems. Table 1 shows the Mann-Whitney U test results performed on participants' total and subscale scores of the Career Decision Inventory by their gender.

Table 1. *Results of the Mann-Whitney U Test on Participants' Total and Subscale Scores of Career Decision Inventory by Gender*

Scales	Gender	*N*	Mean Rank	Order Total	*U*	*p*
Total Score	Boy	157	185.78	29168.00	16765.50	.913
	Girl	215	187.02	40210.00		
IC	Boy	157	189.46	29745.50	16412.50	.650
	Girl	215	184.34	39632.50		
LSK	Boy	157	179.19	28133.00	15730.00	.262
	Girl	215	191.84	41245.00		
LOFK	Boy	157	189.23	29709.50	16448.50	.675
	Girl	215	184.50	39668.50		
IBCC	Boy	157	193.90	30443.00	15715.50	252
	Girl	215	181.09	38935.00		
EC	Boy	157	188.74	29631.50	16526.50	.724
	Girl	215	184.87	39746.50		

IC: internal conflicts; LSK: lack of self-knowledge; LOFK: Lack of occupational and field knowledge; IBCC: irrational beliefs about career choice; EC: external conflicts

As seen in Table 1, no significant difference was found in the Mann-Whitney U test performed on participants' total and subscale CDI scores by their gender. Accordingly, there were no significant differences between students' total CDI scores (U= 16765.00, p = >0.05) and internal conflicts (U = 16412.50, p = >0.05), lack of self-knowledge (U=15730.00, p = >0.05), lack of occupational and field knowledge (U = 16448.50, p = >0.05), irrational beliefs about career choice (U = 15715.50, p = >0.05), and external conflicts (U = 15730.00, p = >0.05) by gender. These findings indicate no difference in career indecision levels by gender. Table 2 shows the Kruskal-Wallis test results performed on participants' total and subscale scores of the Career Decision Inventory by their academic tracks.

Table 2. *Results of Kruskal-Wallis Test on Participants' Total and Subscale Scores of Career Decision Inventory by Academic Tracks*

Scales	Academic Track	*N*	Mean rank	*sd*	*Chi-square*	*p*
Total Score	A. Science	162	192.62	2	1.44	.486
	B. Turkish	171	179.24			
	C. Foreign	39	192.88			
IC	A. Science	162	196.96	2	3.40	.446
	B. Turkish	171	175.49			
	C. Foreign	39	191.29			
LSK	A. Science	162	195.54	2	2.80	.246
	B. Turkish	171	176.41			
	C. Foreign	39	193.17			
LOFK	A. Science	162	191.62	2	.745	.689
	B. Turkish	171	181.47			
	C. Foreign	39	187.28			
IBCC	A. Science	162	178.97	2	3.57	.168
	B. Turkish	171	187.17			
	C. Foreign	39	214.83			
EC	A. Science	162	179.27	2	1.52	.466
	B. Turkish	171	190.76			
	C. Foreign	39	197.83			

IC: internal conflicts; LSK: lack of self-knowledge; LOFK: Lack of occupational and field knowledge; IBCC: irrational beliefs about career choice; EC: external conflicts

As seen in Table 2, no significant difference was found in the Mann-Whitney U test performed on participants' total and subscale CDI scores by their academic tracks. The total CDI scores of the participants did not differ significantly by their academic tracks ($\chi 2$ (2) =

1.44; p >.05). Furthermore, there were no significant differences between students' scores of internal conflicts ($\chi 2$ (2) =3.40; p >.05), lack of self-knowledge ($\chi 2$ (2) = 2.80; p >.05), lack of occupational and field knowledge ($\chi 2$ (2)=.745, p >.05), irrational beliefs about career choice ($\chi 2$ (2) =3.57, p >.05), and external conflicts ($\chi 2$ (2) =1.52, p >.05), either.

According to the Mann-Whitney U test results performed on students' total and subscale scores of CDI, a significant difference was only found between their total scores (U = 5103.50, p < 0.05) by their reasons for choosing the tracks. No significant difference was found between students' scores of internal conflicts (U= 5282.50, p = >0.05), lack of self-knowledge (U = 5446,50, p > 0.05), lack of occupational and field knowledge (U = 5495.50, p = >0.05), irrational beliefs about career choice (U = 5362.50, p = >0.05), and external conflicts (U = 5394,50, p > 0.05). Considering the mean ranks by total scores, the students who chose their academic tracks for other reasons than their interests (222.14) were found to have higher career indecision levels than the students who chose their academic tracks by their interests (182.33). Table 3 presents the Kruskal-Wallis test results performed on participants' total and subscale scores of the Career Decision Inventory by their procrastination levels.

As seen in Table 3, the total CDI scores of the participants differed significantly by their academic procrastination levels ($\chi 2$ (2) = 13.82; p >.01). A pairwise Mann-Whitney U test was conducted on the groups to see between which groups the difference was. The results show that students with high and moderate academic procrastination levels were found to have higher career indecision levels than the students with low levels of academic procrastination. Regarding the subscales, the students' subscale scores of lack of self-knowledge in CDI differed significantly by academic procrastination levels ($\chi 2$ (2)= 13.37, p <.01). According to the results of the Mann-Whitney U test performed to find between which groups the difference was, it was observed that the students with high levels of academic procrastination compared to the students with moderate and low levels of academic procrastination and the students with average levels of academic procrastination compared to the students with low levels of academic procrastination were found to have higher scores of lack of self-knowledge. There were significant differences in students' scores of lack of occupational and field knowledge by their academic procrastination levels ($\chi 2$ (2)= 13.92, p <.01).

Table 3. *Results of the Kruskal-Wallis Test on Participants' Total and Subscale Scores of Career Decision Inventory by Academic Procrastination Levels*

Scales	Acad. Procrastination	*N*	Mean rank	*sd*	*Chi-square*	*p*	Significant difference
CI Total	A. Low	69	146.92	2	.001**	13.82	A-C
	B. Moderate	243	190.82				A-B
	C. High	60	214.51				
IC	A. Low	69	158.06	2	.051	5.94	
	B. Moderate	243	192.82				
	C. High	60	193.62				
LSK	A. Low	69	151.14	2	.001**	13.37	A-C
	B. Moderate	243	188.27				A-B
	C. High	60	219.98				B-C
LOFK	A. Low	69	148.40	2	.001**	13.92	A-B
	B. Moderate	243	189.64				A-C
	C. High	60	217.60				
IBCC	A. Low	69	154.30	2	.012*	8.83	A-B
	B. Moderate	243	190.64				A-C
	C. High	60	206.75				
EC	A. Low	69	164.89	2	4.32	.115	
	B. Moderate	243	193.87				
	C. High	60	181.49				

*p <.05; **p <.01

IC: internal conflicts; LSK: lack of self-knowledge; LOFK: Lack of occupational and field knowledge; IBCC: irrational beliefs about career choice; EC: external conflicts.

The Mann-Whitney U test results performed to find between which groups the difference showed that the students with moderate and high levels of academic procrastination were more lacking in occupational and field knowledge than the students with low levels of academic procrastination. Students' subscale scores of irrational beliefs about career choice in CDI differed significantly by their academic procrastination levels ($\chi 2$ (2)=8.83, p<.05). The Mann-Whitney U test results performed to find between which groups the difference

showed that the students with moderate and high levels of academic procrastination had higher levels of irrational beliefs about career choice than the students with low levels of academic procrastination.

Participants' scores of internal conflicts ($\chi 2$ (2)=5.94, p >.05) and external conflicts ($\chi 2$ (2)=4.32, p >.05) did not differ significantly by their academic procrastination levels. Accordingly, their internal and external conflicts about career choices did not vary by their academic procrastination levels.

Findings concerning the academic procrastination levels give rise to the thought that there might be a correlation between students' scores of the Career Decision Inventory and Academic Procrastination Scale. Hence, Pearson Product-Moment Correlation analysis was performed on the participants' total and subscale scores of CDI and their Academic Procrastination Scale scores, and the results are provided in Table 4.

Table 4. *Correlations between Students' Total and Subscale Scores of Career Decision Inventory and Scores of Academic Procrastination Scale*

		1	2	3	4	5	6	7
1.	Acad. Procrastination	1	,23**	,14*	,18**	,21**	,23**	,06
2.	CI Total		1					
3.	IC			1				
4.	LSK				1			
5.	LOFK					1		
6.	IBCC						1	
7.	EC							1

*p< .05; **p<.01,

IC: internal conflicts; LSK: lack of self-knowledge; LOFK: Lack of occupational and field knowledge; IBCC: irrational beliefs about career choice; EC: external conflicts

Discussion

According to the first finding of the research, there was no significant difference between students' CDI scores by gender. The mean ranks of the girls and boys indicate that their career indecision levels were near-identical. This finding coincides with the conclusions achieved in the literature (Akkoç, 2012a; Akkoç, 2012b; Çınar, 2011; Harman, 2017; Hartman, Jenkins, Fuqua, & Sutherland, 1987; Watson & Stead, 1994; Wilson, 2000; Yılmaz 2019). However, other findings contradict this finding (Bacanlı, 2012; Bacanlı, Eşici, & Özünlü, 2013; Karaca, 2013; Öztemel, 2012; Yaman, 2014). Studies are showing that certain concepts about careers differ by gender. For example, some of the studies on occupational maturity have achieved significant differences by gender (Akıntuğ & Birol, 2011; Kutlu, 2012; Orhan & Aydın, 2011; Orhan & Ültanır, 2011; Sahranç, 2000; Sürücü, 2005; Ulaş & Yıldırım, 2015; Ürün, 2010). Significant differences have also been found in studies on gender and career locus of control (Perry, Liu, & Griffein, 2011; Seymenler & Siyez, 2016; Şeker, 2013; Yılmaz, 2019). Significant differences between the said career variables by gender suggest that career indecision might also differ by gender. On the other hand, given that no significant difference was achieved between gender and career indecision, one can argue that there are similar limitations between female and male students about career choice and delivering the tasks of occupational development, which did not lead to any significant difference between career indecision levels in this research. It can also be inferred from this finding that the students, who were successfully admitted to Anatolian high schools after the exam, plan to continue their success throughout their education and have high prestige jobs regardless of gender in the future; therefore, experience career indecision on similar levels.

Another finding of the research is that there was no significant difference between students' career indecision levels by their academic tracks. Based on this finding, the students were found to have similar career indecision levels no matter which of academic tracks (science, Turkish language-mathematics, foreign languages) they had chosen. The reason why academic track was included in this research as one of the variables is that it is a strong determinant for high school students who plan to receive university education Alan (Şengün, 2013) and that there is a significant difference between academic track and career indecision (Yıldırım, 2015). Considering that the students with high levels of career indecision were studying in the social sciences track, this finding of the present study was achieved since no students from the social sciences track were included in the research. No

difference in career indecision levels by academic tracks seems to be understood as the participant students chose their academic tracks willingly. According to the Social Cognitive Career Theory that provides a theoretical framework for career interests and choices, individuals' career interests are shaped by their self-efficacy and outcome expectations (Lent et al., 1994; Lent & Brown, 2006). Career decision-making is described as the belief in successfully doing the tasks of self-assessment, future planning, and goal setting required in choosing a career (Taylor and Betz, 1983). This finding suggests that students have similar experiences in career decision making regardless of their academic tracks. This research result is in parallel with the study performed by Ogutu, Odera, and Maragia (2017), which found a relationship between self-efficacy and career indecision of high school senior students.

According to another finding of the research, the students who chose their academic tracks based on their interests had lower total scores of career indecision than those who decided their tracks for other reasons. It indicates that those who chose the academic tracks of their own accord experience less career indecision. On the other hand, no significant differences were found between students' scores of internal conflicts, lack of self-knowledge, lack of occupational and field knowledge, irrational beliefs about career choice, and external conflicts by their reasons for choosing their tracks. This finding coincides with the result achieved by Hamamcı and Çoban (2007). They found that their choices caused students' career indecision without sufficient knowledge of themselves, being aware of their interests and talents, and irrational thoughts.

Moreover, in support of this finding, Öksüz (2001) concluded that students who chose their academic tracks without recognizing their interests and talents increased their career indecision. Social Cognitive Career Theory suggests that career supports or career barriers perceived by individuals during their career development impact their self-efficacy and outcome expectations, therefore playing a role in their career interests (Brown and Lent, 1996). Based on these findings, one can think that various career supports helped the participants take their interests into account, and their academic track of preference positively affected their career decisions. Briefly, career barriers experienced by those who chose their tracks for other reasons caused them to ignore their interests, affecting their indecision.

As indicated by another finding of the research, the participant students had varying levels of academic procrastination. There were significant differences between their total

scores of career decision inventory and scores of lack of self-knowledge, lack of occupational and field knowledge, and irrational beliefs about career choice. On the other hand, there was no significant difference between the students' internal and external conflict scores with varying levels of academic procrastination. No finding was observed in the literature to support the considerable difference between academic procrastination and career indecision and its subscales of lack of self-knowledge and lack of occupational and field knowledge. Yet, the research result achieved by Uzun Özer (2009), who concluded decision-making difficulty to be a cause of academic procrastination, coincides with this finding. Moreover, studies showing that indecisive individuals exhibit defensive and avoidant approaches, and therefore, procrastination (Deveci, 2011; Gati et al., 1996) is also in parallel with the finding in question. The fact that the students with high academic procrastination levels had higher scores of career indecision than the students with moderate and low levels of academic procrastination can be explained with an increased level of uncertainty experienced by students who exhibit higher levels of academic procrastination during the challenging process of career choice. It is argued that the right decisions can be made about careers only if career development tasks are done in the process of career choice (Crites, 1969; Luzzo, 1999). Based on this finding, one can say that students with high levels of academic procrastination have difficulty doing various career development tasks.

The students with high academic procrastination levels compared to the students with moderate and low levels of academic procrastination and the students with average levels of academic procrastination compared to the students with low academic procrastination levels were found to have higher scores of lack of self-knowledge. Carney and Wells (1995) divided the decision-making process into seven interrelated phases and called the second one of these phases “self-evaluation.” According to this phase, self-evaluation involves self-knowledge. They stated that individuals who have a problem knowing themselves are not sufficiently aware of their interests, talents, and values. They have no adequate knowledge of what they want in terms of career and which skills their desires require. Based on this finding, one can think that the students with high levels of academic procrastination compared to the students with moderate and low levels of academic procrastination and the students with average levels of academic procrastination compared to the students with low levels of academic procrastination experienced limitations about their awareness of interests, talents, and values. They might also have difficulty making an effort to clarify their desires in terms of career. It is observed in the literature that there are several variables associated

with self-knowledge in terms of career. Paloş and Drobot (2010) state that increased attention and family expectations positively impact better self-knowledge of individuals, and Şenyiğit (2015) concluded that students' increased self-esteem and family self-esteem meant higher levels of self-knowledge. Considering the previous research results, one can argue that students with high academic procrastination levels might have limited self-esteem and low family attention levels.

The students with moderate and high academic procrastination levels were found to have higher scores of lack of occupational and field knowledge than the students with low levels of academic procrastination. Career choice is a process that requires continuity in acquiring occupational and field knowledge and investigating occupational fields about careers (Bandura, Barbaranelli, Capara and Pastorelli, 2001). It is thought that students with moderate and high levels of academic procrastination have limitations about doing such tasks.

A significant difference between the students' scores of irrational beliefs about career choice can be explained by the fact that the students with moderate and high academic procrastination levels had more irrational beliefs about academic procrastination than the students with low levels of academic procrastination. Haycock (1993) states that general procrastination is associated with irrational beliefs, while Solomon and Rothblum (1984) argue that academic procrastination is related to irrational beliefs. In consideration of these studies, one can think that students who exhibit academic procrastination behaviors come up with irrational beliefs when going through career choice, which requires time, attention, and interest.

Based on these findings, it can be argued that students who are inclined to academic procrastination postpone the tasks they have to do to know themselves and their future careers in career choice, which is of great importance for their future, therefore experiencing career indecision. In the study performed by Kandemir (2010) on students who exhibit academic procrastination behaviors, it was found that students had various levels of personality traits, achievement goals, academic self-efficacy beliefs, and self-esteem. In light of this finding, one can think that the students with moderate and high levels of academic procrastination in the research also exhibited such behaviors and traits in the process of career choice, which led to career indecision.

On the other hand, there was no significant difference between the students' internal and external conflict scores with varying levels of academic procrastination. Çakır (2003)

states that several contradicting situations, adverse feelings and thoughts of students cause indecision among students during career choice. Accordingly, it can be argued that the participant students had similarly contradicting situations, adverse feelings, and thoughts in career choice regardless of their academic procrastination levels. Çakır (2003) described the external conflict as the inability to strike a balance between one's desires and needs and the desires of their immediate circle. In line with this description, one can think that the students could not strike such a balance between others' expectations from them and their own wishes in the process of career choice regardless of their academic procrastination levels.

As the final finding of the research, a significant positive relationship was found between participants' total career decision inventory scores and scores of all subscales other than external conflicts. It is accordingly understood that career indecision increased as academic procrastination increased, and vice versa. As discussed in the case of the previous finding, research findings of indecisive individuals who exhibit more procrastination behaviors (Afzal & Jami, 2018; Deveci, 2011; Gati et al., 1996; Haycock, 1993; Uzun Özer, 2009) seem to support these correlations of the research. However, there is no significant relationship between academic procrastination and external conflicts characterized by pressure from family, school, and friends.

Conclusion and Recommendations

In this study, it was investigated whether Anatolian high school students' career indecision levels differed by their gender, academic tracks, reasons for choosing the tracks, and different levels of academic procrastination. Based on the findings, specific recommendations can be offered to school psychological counseling services so that high school senior students can cope with career indecision. Studies show that group guidance programs reduce career indecision (Çakır, 2003; Doğan, 2010; Kırdök, 2010; Şeker and Kaya, 2019). Moreover, Hamamcı and Hamurlu (2005) found that students who received career guidance services had lower career decision-making difficulty levels than students who did not receive such assistance. Accordingly, it would be useful to increase career guidance activities and training provided by school psychological counselors to help students with career indecision choose their academic tracks in line with their interests and talents. Furthermore, it is thought that bringing students in career days, conversation sessions, etc. together with individuals who chose their career by their interests and talents and have succeeded can help them reduce their career indecision.

According to another finding of the research, the students with high academic procrastination levels experienced more career indecision. They did not know themselves sufficiently, lacked occupational and field knowledge, and had irrational beliefs about career indecision. In light of these results, several group activities can be planned to enable students to be aware of academic procrastination behaviors' negative contribution to career indecision. Such group activities can be arranged to raise awareness about the fact that concepts such as perfectionism, fear of failure, and time management lead to procrastination and cause problems in doing career development tasks. Moreover, psycho-educational materials can be prepared and used with volunteer high school students in training where deficiencies that may be noticed in group activities are made up. It is critical to provide preventive services which support students' effective decision making at schools. Therefore, based on the relationship between academic procrastination and career indecision subscales, it is considered important that school psychological counselors inform families, teachers and students of the effects of academic procrastination and teach them procrastination coping styles.

A limitation of this study is that the sample was only composed of Anatolian high school students. There are other school types besides Anatolian high schools in Turkey. The concept of career indecision can be understood in more detail in research to be conducted with different school types. Another limitation is that the study was performed in one district of İstanbul. Expanding the research to other provinces and districts is considered useful. Another limitation is that there were no students from the academic track of social sciences where the study was carried out.

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