THE INVESTIGATION OF THE RELATIONSHIP BETWEEN CAREER AND TALENT DEVELOPMENT SELF-EFFICACY, SELF-ESTEEM, AND PERFECTIONISM IN GIFTED STUDENTS

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

THE INVESTIGATION OF THE
RELATIONSHIP BETWEEN CAREER AND TALENT
DEVELOPMENT SELF-EFFICACY, SELF-ESTEEM, AND
PERFECTIONISM IN GIFTED STUDENTS

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The study aimed to investigate the difference in career development self-efficacy in terms of gender and making occupational decision in gifted students. The other aim was to examine the predictive role of positive-negative perfectionism and self-esteem on talent development, work habits and values, and career exploration for gifted students. The sample of the study consisted of 275 participants (152 girls and 122 boys) from BİLSEMs in Istanbul. Demographic Information Form, Career and Talent Development Self-Efficacy Scale (CTDSES), Positive-Negative Perfectionism Scale (PNPS), and Rosenberg Self-Esteem Scale (RSS) were used as data collection tools in the study. Multiple Variance Analysis (MANOVA) was used to test whether the subscale scores of the CTDSES, namely talent development, work habits and values, and career exploration differ according to gender and making occupational decision. The findings of the study showed that there was a statistically significant difference only between work habits and value subscales of CTDSES in terms of gender. Moreover, career exploration subscale of CTDSES demonstrated a significant difference considering occupational decision. In addition, whether positive-negative perfectionism and self-esteem predict career and talent development self-efficacy was tested with Multivariate

Linear Regression analysis. It was found that positive perfectionism and self-esteem significantly predicted career and talent development self-efficacy. On the other hand, no significant results were found for negative perfectionism.

Keywords: Gifted and talented students, career development self-efficacy, positive-negative perfectionism, self-esteem.

ÖZ

ÜSTÜN ZEKALI ÖĞRENCİLERDE KARİYER VE YETENEK GELİŞİMİ YETKİNLİKLERİ, BENLİK SAYGISI VE MÜKEMMELİYETÇİLİK ARASINDAKİ İLİŞKİNİN İNCELENMESİ

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Bu çalışmada üstün zekalı öğrencilerin kariyer ve yetenek gelişimi özyeterliliğinin, mesleki karar vermeye ve cinsiyete göre farklılık gösterip göstermediği incelenmiştir. Ayrıca, üstün yetenekli öğrenciler için olumlu-olumsuz mükemmeliyetçilik ve benlik saygısının yetenek gelişimi, çalışma alışkanlıkları ve değerleri ve kariyer keşfi üzerindeki yordayıcı rolünü incelemek amaçlanmıştır. Çalışmanın örneklemini İstanbul'da BİLSEM'e kayıtlı 275 katılımcı (152 kız ve 122 erkek) oluşturmaktadır. Araştırmada veri toplama aracı olarak Kişisel Bilgi Formu, Kariyer ve Yetenek Gelişimi Özyeterliliği Ölçeği (KYGÖÖ), Olumlu-Olumsuz Mükemmeliyetçilik Ölçeği (OOMÖ) ve Rosenberg Benlik Saygısı Ölçeği (RBSÖ) uygulanmıştır. Üstün zekalılarda cinsiyet ve kariyer kararı verme durumu ile kariyer ve yetenek gelişimi özyeterliği ölçeğinin alt ölçekleri olan kariyer keşfi, yetenek gelişimi ve çalışma alışkanlıkları ve değerleri arasında anlamlı bir fark olup olmadığı Çoklu Varyans Analizi (MANOVA)ile sınanmıştır. Araştırmanın bulguları, sadece çalışma alışkanlıkları ve değer alt boyutlarında cinsiyete göre istatistiksel olarak anlamlı farklar olduğunu göstermiştir. Bununla birlikte, sadece kariyer keşfi alt boyutu, mesleki karar verme durumuna göre farklılık göstermiştir. Ayrıca olumlu-olumsuz mükemmeliyetçilik ve benlik saygısının kariyer ve yetenek gelişimi özyeterliliğini yordayıp yordamadığı Çoklu

Doğrusal Regresyon analizi ile sınanmıştır. Araştırma bulgularına göre olumlu mükemmeliyetçiliğin ve benlik saygısının kariyer ve yetenek gelişimi özyeterliliği alt ölçeklerini pozitif ve anlamlı şekilde yordadığı sonucuna ulaşılmıştır. Diğer yandan olumsuz mükemmeliyetçilik için anlamlı bir bulguya ulaşılmamıştır.

Anahtar Kelimeler: Üstün zekalı öğrenciler, kariyer gelişim özyeterliliği, olumlu-olumsuz mükemmeliyetçilik, benlik saygısı

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CTDSES	Career and Talent Development Self-Efficacy Scale
PNPS	Positive-Negative Perfectionism Scale
RSES	Rosenberg Self-Esteem Scale
MONE	Ministry of National Education

Chapter 1

Introduction

1.1 Statement of the Problem

In recent years, the importance of gifted education has been recognized, and more attention has been paid to this issue. Considering the potential that gifted and talented students have, it has been seen that the role of gifted children is crucial in the development of society. According to the United States Office of Education, the term "the gifted child" is described as a child who has the capability of performing high-level work thanks to his/her outstanding abilities and is determined by professionals in the field of giftedness (Enç, Çağlar, & Özsoy, 1975). The changing needs of gifted individuals and their different development from their peers have been an important research topic. Career development is also one of these issues as gifted individuals may encounter unique problems and some facilitating factors in their career development (Chen & Wong 2013; Sampson & Chason 2008; Jen, 2017). Therefore, gifted individuals need to think about their future, manage and understand the roadmap they will follow in the development process of their talents (Feldhusen, 2015). Education of gifted individuals taking their capacities into consideration and directing them to appropriate professions regarding their interests, abilities, and personality traits are vital for the future of the society to which they belong (Çağlar, 2004). In this direction, the career can be considered as follows.

Career means roles, experiences, works, and activities throughout one's life. According to Niles and Bowlsbey (2013), career is life way beyond work or occupation. Brown (2002) explained career development as an ongoing process that includes career decision which enables individuals to prefer their future professional life. According to Super, the career development process is fundamentally the process of developing and applying professional self-concepts (1957, 1963, 1990; cited in Philips, 2015). A person spends an average of 30-35 years with a chosen career; hence, career development and preference greatly

impact a person's life and lifestyle (Greene, 2002). It can be inferred that career development is a long-term and comprehensive process, not a periodical one.

Savickas and Super (1993) said that career-related patterns and notions start to develop during childhood. Also, these become stronger and more pronounced in puberty. Savickas (2013) indicated that in adolescence, the individuals have the tendency to make career choices regarding interests and abilities. As explained in the career development theories, primary and secondary school periods are the phases in which individuals acquire their attitudes and behaviors related to their career decisions and begin to develop beliefs at the point of decision-making (Savickas & Super, 1993). In these years, adolescents start to be aware of themselves better, accept themselves, form their identities and shape their personalities. These perspectives give importance to the middle school years of gifted children for the purposes of analyzing their career development.

Career development is such a crucial and complex aspect for gifted students that it needs thoughtful considerations. Career development of gifted students proceeds to differ from non-gifted students, and their career development starts earlier than their peers in preschool and middle school (Kerr & Vuyk, 2013; Mcmahon & Patton, 1997). Gifted students can experience the development process differently from their non-gifted peers, and their special situation makes their career development harder or easier by making it different (Sampson & Chason, 2008; Jen, 2017). According to Brown (2002), gifted students need to have more support about career-related subjects compared to non-gifted students. In this point, some special and distinctive characteristics of gifted individuals may lead to this difference such as having many options, high abilities, and competencies. Many factors which can be listed as family pressure, expectations of others, perfectionism, gender, multipotentiality, high intelligence, and high verbal skills can have an influence on gifted people's career development processes and career decision-making. (Achter, Lubinski, & Benbow, 1997; Chen & Wong, 2013; Emmett & Minor, 1993; Greene, 2002; Kass & Cavallaro, 2010; Jung, 2013).

According to Smith and Wood (2020), there is a common myth about gifted and talented students that because they are gifted, they can spontaneously create a meaningful career path. Abilities, interests, values, knowledge of the world of work, and knowledge of self-interact are experienced and combined through the

career development process (Smith & Wood, 2020). Thus, gifted individuals have got some distinctive characteristics in some patterns such as psychological, social, linguistic, and physical. From a general perspective, gifted students have got a wide range of knowledge and ability (Callard-Szulgit & Callard-Szulgi, 2012). According to Leung (1998), gifted and talented students are often assumed to become self-sufficient because of their abilities and intelligence and they are less likely to become aims of systematic career counseling intervention. On the contrary, gifted students may experience problems about career decision, career interests, career roles, and career identities in career development. Therefore, it can be inferred that the career efficacy of the gifted students is an important and notable subject.

To better understand the sufficiency of gifted students about career development, firstly, it can be started from concept of career and talent development self-efficacy. Career and talent development self-efficacy is a contributing factor in career development. The concept depends on Bandura's self-efficacy and Hackett and Betz's career self-efficacy which is a student's level of confidence and determination about career planning issues and goals (Turan, Çelik, & İskender, 2015). According to Yuen et al. (2010), career and talent development self-efficacy consist of developing one's own ability, acquiring work habit and value, and investigating career options.

Some studies on the career self-efficacy of gifted students are as follows. Abidin, Amat, Mahmud, Bakar, and Bakar (2019) found that most gifted students have high career decision-making self-efficacy independent of demographic variables such as gender and income. Some researchers also found that gender is not a determinant of the career development of gifted students (Ateş, 2019; Doğan, 2020; Kelly & Colangelo 1990; Kontaş, 2015). But some researchers revealed that gifted girls' career exploration and locus of control are higher than gifted boys (Ateş, 2019; Kontaş, 2015). Besides, according to some researchers, an important part of gifted students experiences career uncertainty in occupation and educational areas (Leung, 2007; Simpson & Kaufmann, 1981).

When it comes to other determining factors of career development for gifted individuals; perfectionism, early cognitive maturity, high emotionality, intellectual intensity, and social justice sensitivity are assumed to be effective in the career and

talent development of gifted individuals (Greene, 2002; Kass & Cavallaro, 2010). Considering the multiple potentials and perfectionism which are some of the career development characteristics, gifted students can face high expectations from family and environment, career indecision, low motivation, and success. Therefore, the importance of this period increases even more (Murat, 2018).

Some features, such as multipotentiality and perfectionism, are more prominent and distinctive for gifted individuals (Greene, 2002). Perfectionism is dissatisfaction with performance or behavior that is not high or is not perfect (Frost et al., 1990; Hollander, 1965). Perfectionism has been explained in different ways as unidimensional and multidimensional. Among one of the multidimensional approaches, Roedell (1984) divided perfectionism into two as positive and negative. Positive perfectionism revealed the energy to reach purposes, supplies positive results, and it motivates a person whereas negative perfectionism causes feeling of failure because of idealized high standards. Besides, negative perfectionism leads to anxiety and prevents one from making mistakes. (Kottman, 2000; Roedell, 1984; Terry-Short, Glynn Owens, Slade, & Dewey, 1995).

Perfectionists often experience failure, fear of unsuccess, and procrastination (Adderholt–Elliott, 1989; Callard-Szulgit & Callard-Szulgit, 2012). Additionally, highly perfectionist individuals feel approval requirements and are ambitious (Çalışkan, 2021). Perfectionist people assess their own worth regarding success level (Burns, 1980). In other words, when perfectionists fail to achieve a desired goal, they are less likely to respond with compassionate self-acceptance, but more likely to scold themselves with “should-do” statements. The consequences of such an approach are feelings of guilt and disappointment and self-punishment (Musch, 2013).

Greenspon (1998) stated that gifted individuals are more prone to perfectionism because they really have the potential to carry out tasks perfectly. Setting high standards according to their mental abilities and making multi-faceted efforts to reach these standards is natural and bring benefits rather than harm to gifted individuals (Silverman, 1993). Silverman (1997) pointed out that gifted individuals achieve success in their first attempt thanks to their being more forward-thinking than that of their peers.

According to Silverman (1997), perfectionism is a result of asynchronous development in gifted children. Due to their rapid mental development, they set standards for themselves well above their physical and social development. In addition, gifted individuals have older friends than themselves because of their high standard-setting tendency. Silverman (1999) claimed that although perfectionism is the least appreciated specialty of giftedness, it is an inevitable part of becoming gifted. However, considering perfectionist attitudes, while gifted students are more positive perfectionists, non-gifted ones are more negative perfectionists compared to one another (Altun, 2010; LoCicero & Ashby, 2000).

It has also been argued that an intense attempting for perfectionist attitudes are common reactions to a negative view of self-worth; that is, low self-esteem is inevitable for the perfectionist because even minimum negative feedback could be seen as unsuccess (Hollander, 1965; Horney, 1950 cited in Shafran & Mannsell, 2001). When it comes to interaction of self-esteem and career development, both are related to tasks in adolescent development process. One of the adolescent developmental tasks is understanding the relationship between self-construction, academic achievement, and career development. Since gifted adolescents need a different examination and support in terms of their career development characteristics and needs, the issue of self-construction, academic achievement, and career development is of particular importance for them (Eryılmaz & Mutlu, 2017).

Self-esteem means individual's subjective evaluation and personal evaluation about self-worth, self-respect, self-confidence negatively or positively (Sedikides & Gress, 2003). Abdel-Khalek (2016) added that self-esteem is relevant with individuals' opinions about their talents, competences, and interpersonal relations. Besides, self-esteem is a personality trait which is related to self-image and self-conscience. Self-esteem shows how people assume themselves talented, important, successful, and valuable (Coopersmith, 1967). Moreover, function of self-esteem is providing emotional feedback for self-sufficiency.

People's self-esteem is both a reason and a result of one's own career success, but empirical research for investigating the direction of these effects is insufficient. Besides self-esteem and career outputs are quite related with each other (Kammayer-Mueller, Judge, & Piccolo, 2008). In some research, career

development and self-esteem were found related (Kammayer-Mueller et al., 2007; Steitz & Wulff, 1999; Yücel, 2019). Especially, Steitz and Wuff (1999) stated that self-esteem and career self-efficacy is directly related to each other. Besides, positive and negative self-esteem determine people's self-value and may show self-fulfilling prophecy effect on career performance (Chen & Klimoski, 2003; Kammeyer-Mueller et al., 2008; McNatt & Judge, 2004).

The level of self-esteem determines how to act in response to the next threats (Bednar, Wells, & Peterson, 1989). For example, people with high self-esteem are more resilient to failure and more goal-oriented than people with low self-esteem (Di Paula & Campbell, 2002). The situations where self-esteem is decisive on people are as follows. High self-esteem leads to self-respect, feeling valuable, becoming confident about abilities, and feeling content (Pearlman, 1996; Rosenberg, 1965). Those with high self-esteem are productive, aware of emotions, autonomous, independent, open to innovations, active, relaxed, enterprising, and creative. They can manage feeling, motivate themselves, control relationships, develop empathy, take risks (Clarke, 1978; Erol, 2004; Pearlman, 1996; Sam, Sam, & Öngen, 2010). Low self-esteem is the important predictors of behavioral, emotional problems, and psychological distress (Mecca et al., 1989; Leary, Schreindorfer, & Haupt, 1995). Individuals with low self-esteem see the outside world from a negative perspective, and are extremely afraid of making mistakes (Çetinkaya, Arslan, Nur, Özdemir, Demir, & Sümer, 2006; Heatherton & Wyland, 2003). They are prone to become more anxious, shy, isolated, depressed, unhappy, and envious (Leary, Schreindorfer & Haupt, 1995).

Briefly, becoming gifted and talented makes the individual development and career process special. Self and perfectionism take an important place in career development process (Andrews, Bullock-Yowell, Dahlen, & Nicholson, 2014; Bandura, 2010). According to Musch (2013), it can be said that perfectionism, which is a characteristic feature of gifted individuals, and career development are interrelated and important issues in gifted adolescents. Although gifted people generally have positive attitudes towards their abilities, they may have low self-esteem due to lack of talent awareness, high expectations, and differentiation from peers (Karnes & Bean, 2009).

Although, in recent years, theories and research on career choice and development have expanded their fields of study to include individuals from diverse backgrounds, the gifted and talented individuals is a population that has not been adequately studied (Leung, 1998). These mentioned aspects make the problem statement of the present study significant. Therefore, this study aims to investigate self-esteem, perfectionism, and career development of gifted students and contribute to literature.

1.2 Purpose of The Study

One of the aims of the study was to investigate the difference on the subscales of Career Talent Development Self Efficacy Scale (CTDSES), namely talent development, work habits and values, and career exploration in terms of gender and making occupational decision. Another aim was to examine the predictive role of positive-negative perfectionism and self-esteem on the subscales of Career Talent Development Self Efficacy Scale (CTDSES) which are called as talent development, work habits and values, and career exploration.

Research questions:

- Is there a significant difference on the subscales of Career Talent Development Self Efficacy Scale (CTDSES), namely talent development, work habits and values, and career exploration in terms of gender and making occupational decision?
- Is there a relationship among total score of CTDSES and the subscale scores of CTDSES, namely talent development, work habits and values, and career exploration, positive-negative perfectionism, and self-esteem?
- Does positive-negative perfectionism and self-esteem predict the subscales of CTDSES, namely talent development, work habits and values, and career exploration?

1.3 Importance of Research

Gifted and talented individuals differ from the majority in terms of their abilities and potential. They can show different developmental characteristics in many areas such as physical, social, cognitive, and linguistic. So, career and talent

development is one of these development areas. All children should be provided with career education and support when they start school. Gifted children may need more special support and guidance in this regard. In order for gifted individuals to fulfill themselves and become beneficial to society at the rate of their talent, their development process requires special attention and interest. Gifted individuals need to go through an effective career development process in order to develop talents and demonstrate self. Because the giftedness is an area that has been revealed later and its importance is increasing today, more research is needed. As it is a field that is constantly developing, gaining importance, and attracting attention, with this research, it was aimed to understand the career and talent development of gifted individuals. It has been tried to be understood and determined by considering the career development, perfectionism styles and self-esteem levels of gifted individuals. In other words, the need to examine the career development of gifted individuals, whose importance is increasing day by day and need to be understood more, to reach new findings and to contribute to the literature has made this study important. It has been tried to be understood career development self-efficacy of gifted and talents students through considering perfectionism styles and self-esteem levels.

Adolescence period and middle school years is critical for career development of gifted children. Moreover, gifted students start to think about their career choices and determine their career goals earlier than their peers during in primary or secondary school period (Mcmahon, 1997). Perfectionism as one of the characteristics of gifted individuals and self-esteem can be related with career related patterns (Lin, Wu, & Chan 2015; Slaney, Ashley, & Trippi, 1995; Steitz & Wulff, 1999; Stoeber, Mutinelli, & Corr, 2016). Besides, Kırdök (2018) stated that literature needs more studies that consist of different variables, especially in childhood career development and perfectionism as childhood career development researches remain insufficient.

Careers and giftedness were studied in some researches previous years (Bozgeyikli, Doğan, & Işıklar, 2010; Kerr, 1983; Leung, 1998; McCormick & Wolf 1993; Mendez & Crawford, 2002; Schroer & Dorn, 1986). Some studies on career development on giftedness take part in the literature (Ateş, 2019; Doğan, 2020; Kelly & Colangelo, 1990; Kontaş, 2015; Leung, 2007; Sürücü et al., 2015),

but there are few studies on career self-efficacy of gifted individuals (Abidin, Amat, Mahmud, Bakar, & Bakar, 2019). Therefore, there are inadequate studies on career development self-efficacy of gifted students. Moreover, the studies on the career development of gifted students in Turkey are extremely limited (Sürücü, Kontaş, & Bacanlı, 2015). Thus, this study will contribute to the field of career development of gifted students by examining the relationship between the career development self-efficacy of gifted secondary school students and the variables of self-esteem and perfectionism.

Since perfectionist attitudes are associated with gifted individuals, many studies have been conducted on this subject (Baker, 1996; Bellamy, 1993; Chan, 2007, 2009, 2012; Frost, Marten, Lahart, & Rosenblate, 1990; Kline & Short, 1991; Kramer, 1988; Mazzocco, 2007; Parker & Mills, 1996) but there are no studies on the relationship between career development and perfectionism in gifteds. Similarly, many studies are come across about self-esteem of gifted individual and especially they compare the gifted and non-gifted individual's self-esteem level (Amini, 2005; Coşar-Ciğerci 2006; Field et al., 1998; Janos, Hunf, & Robinson, 1985; Leana-Taşcılar & Kanlı, 2014; Lea-Wood & Clunies Ross, 1995; Nicpon et al., 2012; Pereira, 2002; Vialle, Heaven, & Ciarrochi, 2005; Topçu, 2015), but it can be noticed that no study analyzing these two variables which are self-esteem and career development has been found. Thus, through this present study, it was aimed to investigate perfectionism and self-esteem on career development of gifted students.

1.4 Definitions

Career: Career is a combination and sequence of roles which were played by a person during the lifetime (Super, 1980).

Career development: Career development is a continual and progress life period which consists of exploring activities, making decisions, and different roles (NACD, 2012)

Career development self-efficacy: Career development self-efficacy is a student's level of confidence and determination about the subjects and matters associated with subsequent career planning (Turan, Çelik, & İskender 2015)

Positive perfectionism: Positive perfectionism described as the orientation towards achieving positive results (Shafran & Mansell, 2001).

Negative perfectionism: Negative perfectionism described as the tendency to avoid negative consequences (Shafran & Mansell, 2001).

Self-esteem: Self-esteem is defined as someone's measure of the self-worth (Reasoner, 2005).

Chapter 2
Literature Review

2.1 Gifted and Talented Students

The characteristics and developments of gifted and talented students who are equipped with superior potential and abilities have started to attract more attention. Recognizing the concepts of gifted and talented can be the first step towards understanding the gifted persons and their development. Generally, ‘‘talented’’ (high ability in a special field) and ‘‘gifted’’ (cognitively high ability) definitions are used interchangeably (Davis & Rimm, 2004). On the other hand, Csikszentmihalyi and Robinson (1986) explicitly stated that the concepts which are talented, gifted, and perfect performance (prodigious) can be used interchangeably and indiscriminately to describe gifted individuals. Although the concept of “gifted and talented” evokes only high intelligence and skill in the first place, the definition of giftedness has got many different descriptions in the literature.

The traditional definition of giftedness depends on intellectual tests and inventories such as Stanford Binet (1916) or Weschler Intelligence Test (WISC-R) (1974) which measure general intelligence and these tests are also the most used intelligence tests in Turkey (Bildiren, 2018; Uyanık, 2007). Two-thirds of all people have an IQ (Intelligence Quotient) score of 85-115, which equates to the mid-range. Those with an IQ score of 130 or higher are considered gifted and 3% of the population falls into this group. A smaller percentage are very gifted individuals (IQ scores of around 150-160) are classified as a genius. Binet and Simon (1916) claimed that the Intelligence Scale doesn’t evaluate culture, education, or life experiences. Binet (1916) stated that the intelligence test does not give us exact intelligence measurement because the results cannot be superimposed and only provide classification or hierarchy among the various intelligences.

According to USA National Association for Gifted Children (2019), students who show higher performance or capability compared to other same age individuals can be defined as gifted and talented. In the Turkish Ministry of National Education Science and Arts Center Directive (MONE-SACD, 2019),

talented students were defined as students who learn faster than their peers in the academic field, creativity, art, and leadership capacity. Besides, they also perform better, understand abstract ideas, and like to act independently in their field of interest. UNESCO's International Bureau of Education (2013) stated that gifted learners are those whose potential is markedly above average in one or more of the fields like intellectual, creative, social, and physical in Glossary Curriculum Terminology. For developing their full potential, they need services and activities not normally provided by the school. On contrary, according to Gagne (2004), giftedness depended on inborn abilities which are not possible to be acquired with education. In Renzulli's theory (1978), it was stated that three conditions must be present in the definition of gifted:

a) having above-average talent,
b) high sense of responsibility, and
c) creativity.

As a result, although there are many definitions and views on giftedness that have common and different points, it is very difficult to talk about a definite and accepted definition (Karakuş, 2000). However, gifted, and talented students might be characterized as supreme individuals in case of capacity, performance, and effectiveness compared to their peers.

2.1.1 Theories of giftedness. Under these title, Renzulli's Three-Ring Conception of Giftedness, Tannenbaum's Psychosocial Classifications Theory, Howard Gardner's Theory of Multiple Intelligence and Giftedness, and Gagne's Differentiated Model of Giftedness and Talent were examined.

2.1.1.1 Three ring theory. In the Three Ring theory of giftedness, Renzulli (1978) presented a different definition of giftedness in which IQ (Intelligence Quotient) score is not included. Joseph Renzulli (1978) defined intelligence as the interaction of three areas such as above-average general or special abilities, creativity, and task commitment. Gifted behaviors depend on the combination of these three features. Having very high potential in all three of these areas is not compulsory to become gifted. However, the absence of any of these areas or being below a certain level prevents giftedness (Renzulli, 1990). According to three ring theory, general or special ability pattern includes that fast and easy learning, strong memory, and generalizing. The level of creativity pattern includes situations such

as openness, originality, and problem-solving skills and task commitment pattern includes situations such as motivation, high energy, responsibility, and setting own rules and standards (Renzulli, 1978).

2.1.1.2 Psychosocial classifications theory. According to the Psychosocial Classifications theory, Tannenbaum (1983) said that the values of societies determine giftedness behavior. In the same way, Tannenbaum (1983) divided talents into four categories: scarcity, surplus, quota, and anomalous abilities, considering social needs and values. Also, Stenberg and Zhang (1995) said that for labeling as gifted, a person must be valued by the society they live in. In the Sea Star Model of Giftedness, Tannenbaum (1993) stated that intelligence does not occur with a single factor, it is the sum of various factors. These five factors are general ability, specific ability, non-intellectual traits, environmental support, and chance (San, 2021). General ability represents the general intellectual competency. Specific ability means to be superior in a specific talent field. Non-intellectual traits are personality-related characteristics such as dedication, strong self-concept, and willingness. Environmental factors refer to social structures which are formative and supportive of emergences of giftedness. Lastly, the chance is opportunity and luck (Tortop, 2020).

2.1.1.3 Sternberg's triarchic theory of intelligence. Sternberg (1985) mentioned three different components, which are expressed as analytical ability, creative ability, and practical ability, in understanding special talent. In this context, individuals with analytical ability can divide a problem they encounter into parts, understand, and analyze each part. These analytical abilities can be measured through tests such as SAT (The Scholastic Assessment Test), WISC-III (Wechsler Intelligence Scale for Children-Third Edition), and ACT (The American College Tess), which are known as academic or standardized intelligence tests. People with creative ability have strong intuition and can develop creative products. However, it is stated that people with creative talent may not have high IQ. These people contribute to fields such as literature and art with their creativities. Practical ability includes the transfer and application of analytical and creative talent to daily life. It enables to solve the problems encountered in daily life (Sternberg, 1985; Sternberg & Clinkenbeard, 1995).

According to Sternberg's pentagonal implicit theory of giftedness, to labeled as gifted, the individual should meet five criteria as the excellence criterion, the rarity criterion, the productivity criterion, the demonstrability criterion, and the value criterion.

- Excellence criterion: Becoming superior in some areas compared to peers.
- Rarity criterion: Perfectly possessing a trait that is rare among peers.
- Productivity criterion: Individual's superior dimensions must lead to productivity or have potential productivity.
- Demonstrability criterion: Giftedness must be demonstrable via one or more valid tests and assessments.
- Value criterion: Performing superiority in a dimension that is valued by a society which the person belonged to. (Sternberg, 1995)

2.1.1.4 Gagne's differentiated model of giftedness and talent. Gagne (1985) revealed a theory of the Differentiated Model of Giftedness and Talent (DMGT) to determine the distinction of giftedness and talented definitions. Gagne (1992), who is against the use of the concepts of intelligence and talent interchangeably, argued that intelligence and talent are distinct concepts and should not be used interchangeably. Gagne (2004) stated that giftedness is having natural and innate abilities that are not due to education and says that this places the individuals in the top 10% of their peers. However, talent is formed through the systematic training of individuals in at least one knowledge and skill area and puts them in the top 10% of their peers. In other words, Gagne (2004) defined giftedness as genetic or potential capability and talented as systematically enhanced skills. However, Gagne (1992) explained three common points between giftedness and talent:

a) Both are normative because talented and gifted persons represented above average individuals compared to peers.
b) Both are represented as human ability and skill.
c) Both are used to define outstanding behaviors of non-normal individuals.

According to Gagne (2008), gifts (natural abilities) included two patterns as mental domains (intellectual, creative, social, and perceptual abilities) and physical domains (muscular and motor control abilities):

- Intellectual abilities referred to logic, memory, spatial, judgment, metacognition, and reasoning.

- Creative abilities referred to problem-solving, artistry, imagination, fictionality, and retrieval fluency.
- Social abilities referred to the perceptiveness, communication (empathy and tact), leadership, and persuasion.
- Perceptual abilities referred to detecting the stimulus through senses such as vision, auditory, smell, hearing, and touching.
- Muscular abilities referred to strength, speed, resistivity, power, and endurance.

Gagne (2008) also separated talents (competencies) into categories such as academics (mathematic, language, sciences), arts (creativity, visual, written and verbal performing), business operations (finance and distribution), social services, administration/sales, technical (agriculture, manufacturing) science technology (engineering, medical), sports and athletes, and games (video, cards, puzzles, and chess).

In the Differentiated Model of Giftedness and Talent, Gagne (2005) conceptualized a developmental process in which talents were transformed into gifts through formal and informal learning practices. If the development process remains poor or low quality, talents may not transform gifts. Therefore, the development process is an important and determining factor in the transformation of talents into giftedness. Gagne (2005) explained the Differentiated Model of Giftedness and Talent with four components such as intrapersonal catalysts, environmental catalysts, talent development process, and chance.

Intrapersonal catalysts are physical/mental characteristics, self-management, awareness, motivation, and the same variables. Self-confidence, personality, and motivation, which are included in personal catalysis, are determinative in the positive or negative continuation of the development process (Gagne, 2005).

Environmental catalysts also comprise physical conditions, teachers, educational and developmental programs, familial conditions, socio-demographic, and social conditions. Chance, one of the most important catalysts, is the factor that determines the gene s/he will receive from her/his parents for a specific talent. It is also the determinant of all external catalysts. For example, an individual cannot determine the socio-economic status and culture he grew up in (Gagne, 2005).

In the table given below, Gagne (2005) claimed that intrapersonal catalysts, environmental catalysts, and chance factors can become a trigger to the process of talent development. Individual catalysts, environmental catalysts, and chance catalysts, which were called as the catalyst trio, might shape talent development in two ways as direct impact or causal impact which means indirectly.

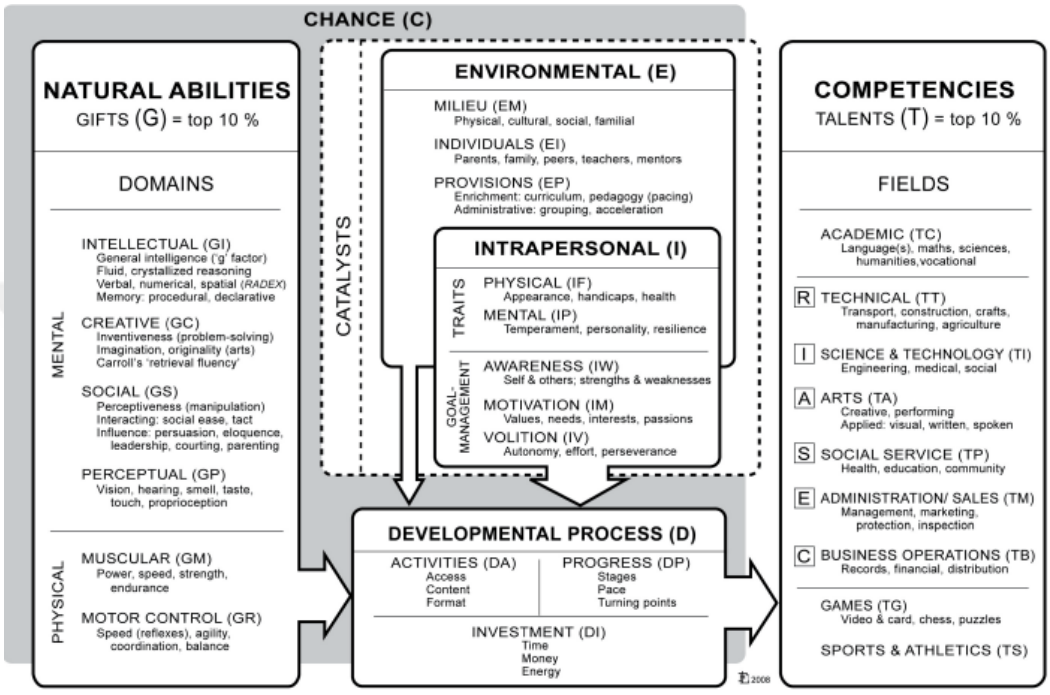

Figure 1: Gagne's Differentiated Model of Giftedness and Talent (2008)

Gagne (2009) stated that talent development process begins with the recognition and identification of the individual who is talented. Thus, the individual can reach a talent-based systematic developmental program. As seen in Figure 1, the developmental process consists of 3 patterns:

a) activities; accessing the activities, content, and format of activities.
b) process; stages and pace of progress and investments.
c) investment; time, money, and energy investment.

These three factors and their sub-factors might increase and decrease the speed of the development process as curves. In addition, the changes in these factors show different effects on each talented individual's development.

The period from the first identification of talented individuals to peak performance was defined by Gagne (2009) as progress. Thus, with the Differentiated Model of Giftedness and Talent, innate abilities or capabilities move

on as the “raw material” or the building part of talents. To conclude, talent development was described as a dynamic process in which congenital abilities are transformed into skills suitable and necessary for occupations (Gagne, 2003).

2.1.1.5 Gardner’s theory of multiple intelligence and giftedness. Multiple intelligences theory deals not only with normal individuals, but also the gifted, those with brain damage, and individuals from different cultures in the light of biology, neuroscience, anthropology, and psychometrics (Davis et al., 2011). There, intelligence was defined as not only verbal and numerical intelligence. Gardner (1999) described intelligence as the ability to create a product which is important for more than one culture or solve a problem. Gardner (1993) said that intelligence depended on biological, psychological, and cognitive specialties. The psychology of individual, personality traits, and genetic tendency were decisive in labeling intelligent. In other words, giftedness is the evidence of early developed biopsychological potential in a specific intelligence area.

Contrary to what is known, Gardner (1997) claimed that intelligence is constantly changing and growing. Besides, people have unique intelligence profiles. They can expose them with today’s multiple technologies and techniques. Davis et al. (2011) stated that while Gardner’s multiple intelligence theory described the total intelligence of people, it assumed that everyone has got whole types of intelligence, but in different superiority and inferiority. Individual differences can be seen in this regard around people. Gardner et.al. (2017) explained intelligence with eight talent areas which are that:

- Linguistic intelligence is the capability of using language for explaining thoughts and understanding others (Checkley, 1997). It consists of hearing, gesture, oral (speeches), and written language (books).
- Logical/Mathematical intelligence refers to the ability of calculate, problem solving, and specializing evident. It consists of mathematics and logic.
- Spatial intelligence includes identifying figures truly and perceiving objects with three dimensions.
- Bodily-kinesthetic intelligence is the ability of use and controlling the own body to make an object and overcome the obstruction.

- Musical intelligence represents hearing, reminding, noticing, composing, and producing patterns of audio material.
- Interpersonal intelligence is the capacity of identifying others' feelings, wants, opinions, and thoughts.
- Intrapersonal intelligence is the ability to be being aware of own feelings, wants, senses and thoughts.
- Naturalist intelligence is referred to understanding and recognizing the natural environment which consists of plants, animals, or climate.
- Spiritual intelligence is having queries about the existence of own and the universe. It is referred to as having questions which are needed to be answered about the meaning and purposes of own life.

Gardner (1993) mentioned that humans are born with whole intelligence types and subsequently if they haven't got genetic handicaps or brain complications, the intelligence can be enhanced and become blunt through environmental, genetic, and cultural effects. Gardner (1999) stated that certainly everyone has a talent area where they show low intelligence on, but it would not be accurate to indicate that everyone has an area of giftedness.

2.1.2 Characteristics of gifted. Gifted individuals have got high general ability fields compared to non-gifted individuals. According to Mooji (2012), while gifted children are 4-5 years old, they are 4-5 years ahead of their peers in psychological development, cognitive level, and social skills. According to Callard-Szulgit and Callard-Szulgit (2012), their attention period is long, they use the language fluently. Besides, gifted children are interested in colleagues and make prepare for them (Çağlar, 2004).

Besides, it is thought that gifted individuals are more successful than others academically and they can learn to read more easily and at an earlier stage (Jackson, 2003). Gifted students prefer social interaction, self-discovery, and social responsibility in the learning process (Kaplan Sayı & Yurtseven, 2022). Although gifted children find school hostile and boring (Galagher, 1985), gifted and talented students are very internally motivated to enhance their skills in their field of interest (Winner, 2000). Callard-Szulgit and Callard-Szulgit (2012) explain the gifted and talented children's common characteristics as follows:

a) They can easily express themselves without hesitation.

b) They are competent in a wide range of skills.
c) They often have an opinion on a situation.
d) They are proficient at remembering and presenting the information.
e) They are pleasured to cooperate with adults.
f) They have pleasant humor and are understanding.
g) They have a wide range of knowledge.
h) Sometimes they can be very intense in their emotions and behaviors.
i) They are perfectionists, self-critical, nonconformist, observant, creativity.

Despite these characteristics, it should be noted that there are individual differences. All of them are not valid for all gifted or talented individuals, but most of them might be encountered in gifted individuals (Ünlü-Baştuğ, 2019).

2.1.2.2 Personality characteristics. As with other characteristics, it can be mentioned that some personal characteristics make gifted individuals different from their peers, even if they are not observed in all gifted individuals. Commonly gifted children have an emotional dilemma. They can go from happy and engaging to angry, explosive, surly, and introverted (Fonseca, 2011). Besides, gifted children react very strongly and overly emotionally if they are rejected because of choices. On the other hand, Metin (1999) described them as polite and humble in their interpersonal relationships, they do not like arrogance. They respect the opinions of others. They are creative and can become self-critical.

According to Özbay (2013), gifted children like to take responsibility and fulfill it. They are very curious, inquisitive, and constantly ask questions. They are determined and stubborn on the issues they believe in. Kitano (1990) stated that traits such as perfectionism, inconsistency, a sense of being different, and hypersensitivity are attributed to gifted children and that these traits lead to social potential adjustment problems in gifted children. Briefly, gifted and talented children are perfectionists, hypersensitive, independent, self-controlled, and inquiring. Many but not all of them have such personality aspects when compared with non-gifted peers.

2.1.2.3 Cognitive characteristics. The cognitive development of gifted children is significantly more rapid than in other developmental areas. Compared to non-gifted peers, they are better at reaching generalizations, revealing relationships, and transferring information. They are also quite creative in

developing original ideas (Metin, 1999). They dislike routine repetitions, and they are multi-interested and can pay attention for long periods of time but can easily become bored with routine and uninteresting stimuli (Porter, 1999). Therefore, they may need new and interesting stimuli to keep their attention.

According to Tucker and Hafenstein (1997), they are very curious and pay attention to the subjects they are interested in for quite a long time. And they are also effective problem solvers and theoretical thinkers. While gifted individuals learn faster than usual, they have got powerful memory, long attention period, deep investigation in the interested area and problem-solving curiosity; since their memory is effective, they can easily learn what they see and hear (Long, 2000).

2.1.2.4 Social-emotional characteristics. Gifted individuals are oversensitive and have extra perceptions. They do not remain indifferent to what is going on around them and the opinions of others and show sensitivity (VanTassel-Baska, 1998; Machu, 2013). This emotional sensitivity might cause them to experience intense frustration and anger (Machu, 2013). Also, sensitivities of giftedness start to appear in the early years (Ataman, 2009).

According to Coleman (1985), gifted individuals may feel different from their peers because of their strange or kind looking. The fact that they have different levels of interest and perception from their peers causes this situation. Besides, Hallahan and Kauffman (1991) stated that gifted individuals tend to be happy and are popular social leaders among their peers. While there are gifted children who have difficulty in social adaptations, as well as those who are popular with their friends thanks to their leadership skills, who are the leader of the group and guide them (Metin, 1999). Sometimes, they can indicate lower performance to gain social acceptance from their friends. It might cause them to become unsuccessful (Winner, 1996).

Gifted individuals may experience a dilemma between happy and angry or introverted and explosive (Fonseca, 2011). While gifted students are less prone to neuroticism and psychosis than their non-superior peers, factors such as boring school, extreme sensitivity to events, high expectations of family, and inability to make friends can cause more intense stress than non-gifted peers (Bencik, 2006). In addition, high cognitive ability, high social needs, and emotional needs might make them more isolated from peers (Silverman, 1990). Gifted individuals may

show a tendency to choose loneliness in interpersonal relationships. Moreover, interpersonal incompatibility and low self-perception might be seen in gifted individuals (Özbay & Palancı, 2000). They might take the attention of adults and build good relationships with them and use adults as a good resource for self-regulation (Shore & Kanevsky, 1993). They can easily understand and interpret non-verbal cues and are prone to uttering mistakes they notice in their environment or in other people. While this shows that they are attentive and good observers, it also indicates that they are not shy (McCarney, 1987).

Gifted and talented children's expectations of friendship are different from their non-gifted peers (Gross, 2002). Yörükoğlu (1990) stated that they try to prove themselves through their intelligence, artistic or sportive abilities in friendship relationships. Briefly, the specialties of gifted children make them so unique which supplies facilitating and complicating the situation in social and emotional situations.

2.2 Career and Career Development

Career is a long-term life period that is chosen, maintained and changeable throughout life. Super (1980) described the career as the combination and sequence of roles which were played by a person during the lifetime. Philips (2015) stated that the concepts of profession and career can be confused in general, but represent different meanings. The differences in meaning can be explained by the fact that career is a set of simultaneous positions held throughout life, and professional career is an order and combination of lifelong occupational status (Super et al., 1957, cited in Philips, 2015).

Hoekstra (2011) defined career as the order of occupations which are carried throughout life. Niles and Bowslbey (2013) saw career as a way of life, instead of limiting the definition of career to the concept of work. Arthur, Lawrence, and Hall (1989) explain the career term as "the evolving sequence of a person's work experiences over time" in the Handbook of Career Theory. DeFillippi and Arthur (1996) presented two different definitions of career type such as conventional career and boundaryless career. Conventional career is professional progress and improvement in one or two company. Boundaryless career is also order of jobs which from more than one different working area.

The concept of career expresses the individual's unique adaptation and development while playing all the roles undertaken in society, as well as pre-occupation, during occupation, and post-occupation duties (Yeşilyaprak, 2018). When considering these definitions, career term refers to more than occupation, task, and job. Career covers the broader roles and works during life period. Career emerges from the interaction and alignment of people with lifelong roles.

2.2.1. Career Development. Career covers and represents a very important part of people's lifespan. Inkson (2007) stated that for most people, career is the meaning of life and people's identity. Career development is viewed as complicated and mutual combination of individual abilities, capacity, and interest on shaping personal behavior and life pathway with the effect of social, educational, economic, and cultural domains (Perrone & Van Den Heuvel, 1981). National Association of Career Development (2012), defined career development as a continual and progress life period which consist of exploring activities, making decisions, and different roles. For Inkson (2007), career development is the gradual assuming of career roles, but should not be understood here as a steady rise in status or the continuous emergence of intrinsic abilities.

According to Kuzgun (2015), career development consisted of the sequence of experiences, professional roles, life roles, pause, and regression in life. Career development includes the psychological and behavioral processes that an individual goes throughout his/her life, as well as the factors that shape his/her career (Ateş, 2019). Hoekstra (2011) mentioned that career development included two parts as internal process and external part. Internal process is identity formation and personality. Internal process consists of self and individual cognitive structure, values, motives, and goals; external part means the family, peer groups, schools, clubs, communities, life challenges, opportunities, results, status, and environmental variables. Besides external part starts to affect career development in early years. According to Savickas and Super (1993), career related development starts in childhood, empowered in puberty, and determines the career maturity. Savickas and Super (1993) added that career exploration typically starts in adolescence and continues until young adulthood (14 to 24 years).

Yayla (2011) stated that some variables such as socio-economic degree, age, and perceived academic achievement determine career development for children.

Moreover, Super (1990) stated that many elements such as social learning paths, personal characteristics, needs, values, and skills have an impact on career development. Broderick and Blewitt (2010) pointed out that according to Super's (2010) occupational development theory, people's interests and competencies determine their career goals.

2.2.2.1 A life-span, life-space approach to career development of Donald Super. Career development process is quite unique for every individual (Super 1990). Genetic factors such as gender differences, heritage, skills, and environmental factors like geography and socioeconomic variables are crucial elements in individuals' career journey. Super (1990) also added that personal necessities, values, abilities, and social learning experiences are also effective on career development. Super (1990) took career and career development into consideration as a lifelong process rather than restricted and finite period.

Super's (1990) theory depended on three domains consisting of life-span, life-space, and self-concept. While Super (1990) explained the life-span in 5 developmental stages, he associated the life-space with roles and the profession choice with the reflection of self-perception *(*Kuzgun, 2014, p. 82; Özyürek, 2013, p. 210; Niles & Bowsbey, 2013, s.48 cited in Ateş 2019).

Firstly, when it comes to life-span, Super et al. (1996) explained the five stages of career development were called as growth (0-14 ages), exploration (15-24 ages), establishment (25-44 ages), maintenance (45-64 ages), and disengagement (65+ ages). These developmental stages are not rigid and not restricted with exact ages. The career development process is flexible, therefore returns and recycling are possible between stages. Competencies and ability development are more decisive for determining the career development stages compared age. The stages and developmental tasks of the Super et al. (1990) are that:

Growth stage, which covers the age of 0-14, is the part where the individual's self, capacity, attitudes, interests, and needs begin to take shape. Since the birth, children develop perception and concepts about their own via interaction with the environment. In this way, individuals start to interrelate self and occupations. Growth stage consists of three age ranges as fantasy period (4-10 ages), interest period (11-12 ages), and ability period (12-13 ages). Fantasy period represents

desires and needs. Role playing and dreaming are common activities for this period. Interest period consists of vocational and liking activities. Ability period also covers ability and tasks skills. Capabilities become more determining in these years compare to hobbies and desires.

Exploration stage also represents 15-24 years of age. Exploration stage of career development process starts through adolescence and continue into young adulthood (14 to 24 years of age) characteristically (Kosine & Lewis, 2008). This stage contains try out, hobbies, provisional selections, and related skill development. Additionally, adolescents in exploration stage, compose their vocational self-concept with effects of school, society, family, mental, and physical growth. They recognized interests and be successful together. Towards end of the stage, they start to handle future more realistic. This stage is divided into three periods such as tentative (14-17 ages), transition (18-21 ages), and follow-trait (22-24 ages). In tentative period, adolescents make tentative choices and test their validity. In transition period, individuals try to use the concept of self by considering the reality when starting their career or vocational education. Lastly, in follow-trait period, individuals find a job and try to adopt self and vocational roles.

Establishment stage is ages between 25 and 44. These ages coincide with early adulthood and maturity. Getting a job and starting a family are the developmental tasks of this stage. Changing job is also possible in beginning of these years. Super (1990) divided this stage into two parts like trial (25-30 ages) and settlement (31-44 ages). In trial period, individuals try a few jobs to reach suitable working conditions and vocational satisfaction. In settlement period, people try to find safe job for staying long time.

Maintenance stage is represented between 45 and 64 years old. In this stage, individuals frequently focus on keeping their occupations and; hence, they improve and enhance themselves in their working fields.

Lastly, Super (1990) categorized disengagement stage into declination (65-70 ages) and retirement (71+ ages). In declination years, working pace declines drastically. Thus, part time jobs may be preferred more. In retirement, individuals leave their occupation or job and end their working life.

According to the Career Development Theory, concept of life-space represented people's all roles during life. In the career development process, the individual acquires some career-related experiences and assumes roles (Super, 1990). It is stated that the individual takes on nine different roles in the career development process. In chronological order, these roles are 1- child, 2- student, 3- interested in leisure time activities, 4- citizen, 5- employee, 6- spouse, 7- housekeeping, 8- parents, and 9- retired. These roles, which develop with the infancy period, can vary depending on the developmental periods. An individual plays these roles in social life and a person's career reflects the interrelationship of these roles. Career refers to the combination of these roles. So, people's career development represents their experiences. Also, career and chosen profession represents identities and self-concepts of people (Super, 1980).

One of the most fundamental concepts in Super's (2010) career development approach is self-concept. Because, while people choose the career ways, they present their selves. According to Super's approach, individuals begin to form a self-concept about themselves from birth. Super (1980) said that self-concept is formed through result of the interaction with the environment. It contains personal abilities, roles, and personality traits. The formation of a self-concept and a professional choice takes place in a life-long development process. In this process, many experiences about the self-occur through discovery (Murat, 2018). Thus, the person discovers their own abilities and interests and develops a self-perception through feedback from the environment. In addition, individuals' identification with important people around them also plays an important role in the development of self-perception (Super, 2010).

Super (2010) stated that self-concept developed by the individual and is decisive and a determinant factor for professional preferences. When choosing a profession, the individual starts to apply the self-perception that s/he has developed until now. According to the theory, people's characteristics such as interests, abilities, values, and self-concepts are different from each other. Also, people's self-concept can change over time. It should also be considered that each profession requires different personality traits and abilities. Therefore, individuals should choose the most appropriate profession for their characteristics and self-concepts. To achieve career satisfaction, career choice should be coherent with the

self-concept. (Chen & Wong, 2013; Super, 1990). Super (1963) also defined vocational self-concept under self-concept. It includes qualifications of the individual related to the occupation. According to Savickas and Super (1993), vocational self-concept also starts to develop in childhood term, become stronger during adolescence period. Moreover, vocational self-concept plays important role for career maturity in adolescent.

Considering that Super does not strictly separate the career development stages according to age, our sample group consists of students in the growth and exploration stages, in which self-esteem, career and talent development are the main characters in the career development period. That's why, we take into account the self-esteem, talent and career development self-efficacy of gifted and talented students in this age group. The sample group also mainly consists of students aged 14 and 15 years old.

2.2.3 Self-efficacy. Self which constitutes the subjective side of human is a reflective reference by a subject to the same subject (Zahavi, 2005). As part of the self, self-efficacy is individual's expectations and beliefs for their potential ability to achieve objective or perform intended behavior successfully (Bandura, 1977). Maddux (2002) described the self-efficacy as the belief about managing one's own capability and talent and showing necessary performance to reach goal or desired field. Bandura's (1977) self-efficacy theory based on social learning analysis, and he explained that personal self-efficacy expectations depend on four domains. These are performance accomplishment, vicarious experiences, verbal persuasion, psychological, and emotional states, which are the main sources of information for the individual's self-efficacy (Bandura, 1977; Maddux, 2002). Bandura (1977) distinguished self-efficacy expectation from outcome expectation while explaining it. Because, although both are inferential beliefs, outcome expectation is related to results and self-efficacy expectation is related to performance. This is the distinguishing factor for self-efficacy.

Performance accomplishment is the most influential domain around all domains of self-efficacy. Individual experiences and success affect the expectations directly. Repeated success improves the efficacy expectations while failures decrease it. In particular, the timing and conditions of failures in purposeful behavior are so influential in forming individuals' expectations of themselves.

When the developed self-efficacy is reached, it tends to generalize to other unsuccessful areas which are the same or different (Bandura, 1977). Additionally, Lent et al. (2002) stated that as an accomplishment is experienced, self-efficacy improves, and as failure is repeated, self-efficacy becomes prone to lessen (cited in Nalipay & Alfonso, 2018).

When it comes to vicarious experiences, it can be named as modelling. In there, Bandura (1977) stated that people are not only infer from their own experiences, but also from other people's activities through observation and referring social comparison. Vicarious experiences affect the expectation of personal efficacy, although not as much as direct experiences, because they are very frail and can change easily.

Verbal persuasion is also other determinant factor on self-efficacy. Verbal persuasion is common method for canalizing people's behaviors because of convenience and usability. People who are socially persuaded are more likely to put forth more effort when performing than others. However, this effect is limited and not as effective as individual performance experiences (Bandura, 1977).

Emotional arousal is the fourth emotional factor for the development of self-efficacy. When people do not feel stress, anxiety, or reluctance, they are more likely to expect success because of the performance-reducing effect of high arousal (Bandura, 1977).

Individuals scan, interpret, and integrate all information sources from these four factors. Later, they determine behavior selection and the necessary effort of performance. Individuals' self-efficacy will differ depending on how individuals will interpret these four different variables and to what extent their experiences have had an impact on (Bandura, 1977). Maddux (2002) stated that individuals' self-efficacy perceptions are the biggest decisive factors for choosing to target behavior.

2.2.4 Career development self-efficacy. While self-efficacy represents a general belief in performance, career self-efficacy refers to a narrower efficacy belief which is about career tasks. Based on Bandura's (1977) theory of self-efficacy, Hackett and Betz (1981) proposed the concept of career self-efficacy. Career self-efficacy is a student's level of confidence and determination about the

subjects and matters associated with subsequent career planning (Turan, Çelik, & İskender, 2015).

Fan, Hao, and Yuen (2010) explained the concept of career and talent development as a positive approach that means preparing students to strengthen and best use their skills in a particular area without limiting them to that area. Yuen et al. (2010) depended the career and talent development self-efficacy on three major sub-factor like talent development (developing own talent), work habits and values (gaining and applying work habits and values), and career exploration (exploring career possibilities and opportunity). Yuen et al. (2010) added that talent development starts in early school years, and it should become the main focus point of education and instruction activities in the middle school level. In these ages; strengths, weaknesses, choices, and interests of students can be specified most easily. They mentioned that especially, increasing positive beliefs about talents in students is quite vital during these years.

Buenconsejo and Datu (2020) remarked that career and talent development for secondary students covers the learning continuum about the understanding of individual strengths, skills, interests, and coaction with the world of work. Career and talent development self-efficacy was regarded as the students' self-awareness about their talents and the requirement like values and habits for work life.

2.2.5 Career and talent development in gifted and talented students.

The career development of gifted and talented students, like all development areas such as personal, social, and academic development, needs to be better understood. Career development is a key factor in the total development of adolescents and young adults. When it comes to career process of gifted and talented individuals, career development has been one of the main research topics in the social and emotional development of gifted education (Jen, 2017). The fact that they showed different development from their peers and therefore their changing needs to stand out as the main reason for this situation. Özcan (2017) explained effective factors on their choice are family, academic success, social responsibility, and demand for managing the world. Besides, gifted people define the having good career as having prestige and money to spend. According to Sampson and Chason (2008), being gifted and talented might make the career preference easier or harder because internal and external factors may affect their

career preference process. Special conditions of gifted students also make their career and talent development special.

Some studies with the career development of gifted students in Turkey are as follows. According to Abidin et al. (2019), the findings indicated that more than 60% of the participants' career decision making self-efficacy level are high regardless of age, gender, and family income status. In addition, a significant difference was found in favor of women in terms of career decision making self-efficacy.

Considering career preference of gifted individuals in Turkey, Doğan (2020) said that they mostly prefer professions which related to the field of medicine, they have sufficient information about the professions they prefer, they can list the necessary features for the desired profession, and they have sufficient knowledge about other vocations which are close to the profession they want to choose. Besides, they have a very good level of career and talent development self-efficacy score.

The results of the study in Konya, which examined the relationship between the career maturity levels of intellectually gifted students and their perceived social support, revealed that there is a moderate positive relationship between the career maturity levels of gifted high school students and their perceived social support levels from family, teacher, and friends (Bozgeyikli, Doğan, & Işıklar, 2010).

In Turkey, the career adaptability research was conducted with 15 gifted high school students from Science and Arts Centers. Considering which sub-dimension is the most effective on career adaptability, the sub-dimension of curiosity appeared in the first place. Around the sub-dimension of career adaptability, the dimensions of interest, future orientation, and trust respectively followed it (Murat, 2018).

When the career development of the 136 gifted and talented secondary school students (76 females and 60 males) aged 12-15 in Science and Arts Centers was examined, the curiosity/research scores of gifted female students were found to be significantly higher than the scores of male students. The time perspective scores of gifted students with medium income level were found to be significantly higher from gifted students with higher income level. The total scores of Childhood Career Development Scale, curiosity/research and planning subscale scores of the

students attending field of painting were found to be significantly higher than the scores of the students attending field of general intellectual ability in Science and Arts Centers (Sürücü, Kontaş, & Bacanlı, 2015).

During career and talent development process, higher verbal skills of the gifted students make them quicker and easier to learn career related information and make it easier. Moreover, for example, gifted and talented students reach career maturity more quickly because they are confident in their career choices sooner (Kelly & Colangelo, 1990). Their findings suggest that gifted students are ready to participate in career development tasks earlier than their non-gifted peers and early career guidance interventions are important for gifted students.

On the other hand, during career and talent development, gifted students face some difficulties and handicaps as multipotentiality, expectations of others, personality traits, early emergence, and foreclosure (focusing on early talent and ignoring others). They also assumed internal factors such as perfectionism, early cognitive maturity, high emotionality, intellectual intensity, and social justice sensitivity to be effective in career and talent development (Greene, 2002; Kass & Cavallaro, 2010).

Considering the factors that may negatively affect the career development of gifted students, multipotentiality is one of the determining factors on the career options of some gifted pupils (Sampson & Chason, 2008). Kerr (1990) described the multipotentiality as the ability to choose any amount of career choice due to having broad interest, tendency, and skills. The wide range of options due to multipotentiality makes the career decision process more complex. So generally, the career decision is delayed. Most of the gifted and talented students experience undecidedness about their career preferences (48.7%) and college major choices (36.3%). Career undecidedness is a common and usual situation in career exploration, but the number of undecided students is quite notable (Leung, 2007). On the other hand, narrow mindedness is also other career barrier because gifted individuals have got multipotentiality, they may focus one occupation and ignore other options (Emmett & Minor, 1993).

In the research that 687 adolescents from three academically selective high schools in Sydney (Australia), the relationship between multipotentiality and perfectionism was found negative; it means that gifted adolescents with

multipotentiality don't prone to become perfectionist. Explanations for the result of this study might be as followed. Firstly, gifted adolescents might distinguish that being perfect in many areas is not realistic or practical. Secondly, multipotential gifted adolescents may have less perfectionism compared to other gifted adolescents as they are not dependent on the only option (Jung, 2013).

Achter, Lubinski, and Benbow (1997) mentioned that gifted students are generally pushed in opposite or different directions by parents, teachers, and counselors who are aware of their clear abilities and interests. In other words, gifted students are not equally competent in every ability area. The study results suggest that even if gifted children have various interests, their weaknesses should be considered when guiding them. These high expectations of others are also another important point considering gifted children's career development because familial pressure might force gifted children's development (Greene, 2002; Sampson & Chason, 2008).

According to Emmett and Minor (1993), perfectionism is the biggest source of influence regarding the factors that shape the career decisions of gifted students. Due to fear of making mistakes or not being perfect, unhealthy perfectionists tend to avoid or delay their career plans. Therefore, gifted individuals might internalize plans of reliable authority like parents. Additionally, if they are expected to excel in a particular field, not taking career risks to avoid failure may hinder them from developing new interests and possibly other career opportunities (Greene, 2006).

Chen and Wong (2013) stated that gifted students, despite having high general intelligence and ability, confront a unique barrier that can affect their exploration experiences, career planning and development. However, the specialties of gifted and talented students are not enough to become equipped to act independently in the complicated career decision-making process (Greene, 2006).

2.3 Definition and Characteristics of Perfectionism

Perfectionism has been described several times in the literature, and it is combined with some sub dimensions. Hollender (1978), one of pioneers of perfectionism, defined it as the behavior of someone in a higher performance expectation than necessary in any situation. Hollander (1965) also stated that

perfectionism as faultless behaviors and added that there are attempts to achieve family acceptance through achievement.

Some of the definitions of this term and some views about it can be mentioned as followed. Freud (1959) defined perfectionism as an innate desire to be successful, claimed that perfectionism develops due to the superego. On the other hand, Elliot (1987) saw perfectionism as a learned motivation. Online dictionary of Turkish Language Association (TLA) explains the perfectionist as someone who is overly meticulous and tries too hard to reach perfectionism. Perfectionism is generally perceived as an unhealthy pattern (Parker & Mills, 1996). Patch (1984) described perfectionism as an effort to reach unreal perfection that pushes people to defeat and psychological problems. Sorotzkin (1985) explained perfectionism with cognitive distortions such as overly polarized thoughts, overgeneralizing, setting unattainable goals, and excessive moral self-evaluation, and associated it with many behavioral and emotional problems. According to Littauer, Glahn, Reinhold, and Brunson (1997), the definition of perfectionism is always wanting everything to be in harmony and setting high standards for oneself and others. Hess (1884) defined perfectionism as the quest for supremacy to reach the highest limit. Although, Frost et al. (1990) defined perfectionism as the setting of excessively high personal performance standards, also argued that it cannot be associated only with negative situations. Moreover, Hewitt and Flett (1991a) described perfectionism as a multidimensional characteristic tendency as self and social dimensions depend on self-evaluations and effort to reach over standards. In addition to the definitions mentioned above, perfectionism includes general goals, stereotypical demands, general acceptances, excessive expectations, and high ideals for performance and behavior.

Some perfectionist definitions and personal characteristics in the literature can be discussed as follows. According to Horney (1950), perfectionists who have got two typical purposes are trying to expertise in every field of life and striving to never get hurt. Horney (1950) claimed that perfectionist people tend to stress and limited in their experience of spontaneous emotion. Hollander (1965) stated that perfectionism is higher level request than needs for own and others. Despite this, when the needs are even met, perfectionists don't feel any accomplishment sense. Rice, Richardson, and Tueller (2014) stated that perfectionists' common

characteristics are high expectation for their performance, worrying about reaching and maintaining their personal criteria, and evaluation concerns. Burns (1980) claimed that perfectionist individuals evaluate their self-worth by level of achievement and productivity. Callard-Szulgit and Callard-Szulgit (2012) pointed out that perfectionist individuals face many obstacles to achieve perfection and they often fail. Their biggest problem is procrastination habit. In adulthood, they experience high level of anxiety while choosing a career path (Callard-Szulgit & Callard-Szulgit, 2012). Aderholt–Elliott (1989) listed the characteristics of perfectionist individuals as; fear of failure, the "all-or-nothing" mindset, paralyzed perfectionism, and workaholism. These characteristics are also personal characteristics that leads perfectionist individuals to success. According to Callard-Szulgit (2012), the characteristics of perfectionist individuals are as follows; clinging to small mistakes, desiring to control excessively, criticizing themselves and other people too much, having black or white life perspective, not being good at time management, not enjoying the process due to focusing on the result rather than the process, having difficulty in adapting to a team, procrastinating due to desire to hide the mistakes, isolating themselves from other people, not being open to criticism, and being very sensitive.

2.3.1 Classification of perfectionism. Under this title, Neurotic and Normal Perfectionism, Adaptive and Maladaptive Perfectionism, Three Types of Multidimensional Perfectionism, Six Types of Multidimensional Perfectionism, and Positive and Negative Perfectionism were examined.

2.3.1.1 Neurotic and normal perfectionism. One of the first theorists of perfectionism is Hamachek (1978) who divided perfectionists into two groups as neurotic and normal. Both types of perfectionism might cause the same symptoms, but a neurotic perfectionist experiences these symptoms more intensely and for a longer duration (Hamachek, 1978). For example, neurotic perfectionists generally aim to reach unreachable standards and performance. They don't loosen up their standards and evaluate their endeavor as insufficient. Self-criticism, shame, and guilty can be seen commonly while evaluating the actual performance with these standards.

Normal perfectionist individuals aim for a realistic target, and they like to work on the details. In some cases, this type of a perfectionist might be less sure

of themselves compared to neurotic perfectionists. Also, normal perfectionist individuals focus on how to work right, but neurotic perfectionist individuals act with the fear of failure (Terry-Short et al., 1995). Hamachek (1978) claimed that normal perfectionists may determine higher standards than their performance but if they could not reach satisfaction or accomplishment, they are able to relax their standards. Normal perfectionists can appreciate their abilities, became pleased with their successes, and increase their self-esteem (Missildine, 1963).

Hamachek (1978) attributed neurotic perfectionism to some parent-related factors in the individual's emotional resources. One of the reasons for this is that children do not receive the support and approval of their parents when they fail. Or the inconsistent acceptance and indecisive attitudes of the parents towards their children are other affective factors.

In the emergence of normal perfectionism, positive or negative modeling of close people is a decisive factor. In positive modeling, the child becomes close with the emotionally significant person. On the other hand, in negative modeling, the child becomes emotionally distant from the important person (Hamachek, 1978).

2.3.1.2 Adaptive and maladaptive perfectionism. In this approach, although perfectionism is divided into two dimensions, a different perspective is presented in terms of perfectionism types. Slaney, Rice, Mobley, Trippi, and Ashby (2001) investigated the perfectionism with two factors structured such as adaptive and maladaptive. They revealed the Almost Perfect Scale-Revised (APS-R) which is sampled on 809 students from three universities in United States of America. There, adaptive perfectionism is adaptable and represents the needs of the personal and organizational setting, it is the standards that the individuals set for themselves. On the other hand, maladaptive perfectionism is also discordant, and it stresses the discrepancy of individual performance expectation and existing individual performance.

According to Kottman and Ashby (2000), adaptive perfectionists determine high personal standards in academic, physical, or interpersonal areas. They aim to indicate their best performance or fulfill their whole capacities. When they fail to realize their potential, or fail to meet their personal goals, they may feel and express anxious or frustrated emotions. Maladaptive perfectionists may excessively

experience emotions such as sadness and anxiety because they are afraid of making mistakes and failing. Therefore, they may stay away from tasks in which they cannot achieve excellent results. Thus, if they can't get full points, they may even prefer to get zero points. When faced with imperfect results, they may overreact with anger towards those around them. They tend to blame others for mistakes and shortcomings. They are also very self-critical and focus on their imperfect qualities. Therefore, they are unsatisfactory. These people may experience eating disorders, depression, and suicidal ideation.

Both adaptive and maladaptive perfectionism symptoms can be found in the individual between middle to high levels. High level adaptive perfectionism has a negative effect on performance, but maladaptive perfectionism behaviors such as self-criticism and error anxiety may have a positive effect if they are seen on a moderate level. Maladaptive perfectionists experience more anxiety or stress due to discrepancy between their performance and high expectation standards, in reverse determining high personal standards for adaptive perfectionist don't cause the dysfunctional anxiety or pressure (Olszewski Kubilius et al., 1988).

2.3.1.3 Three types of multidimensional perfectionism. According to Hewitt and Flett (1989), contributed to literature via the development of 45 items Multidimensional Perfectionism Scale, there are three types of perfectionism. Self-oriented perfectionism (unrealistic personal performance expectation), other-oriented perfectionism (unrealistic performance for others), and socially oriented (the perception that others expect perfectionism).

Self-oriented perfectionism can manifest as self-clarity, self-direction, and self-limitation. Hewitt and Flett (1991b) explained that this type of perfectionism is primarily an effort to achieve perfection in one's effort and also arises from trying to avoid failures. They added that while self-directed perfectionism is accompanied by stress, depression, self-criticism, and self-punishment, others-directed perfectionism is accompanied by blaming others, absence of confidence, and hostility towards others.

Another dimension of perfectionism, other-oriented perfectionism, includes opinions and expectations about the abilities of others (Hewitt & Flett, 1991b). Such expectations and beliefs in the social environment can be challenging in interpersonal relationships. Other oriented perfectionism may lead to some

maladaptive difficulties in intimacy and successful interpersonal relationships (Hill, Zrull, & Turlington, 1997). On the other hand, the positive aspect of other-oriented perfectionism is that it may provide leadership skills and increase the motivation and performance of others (Hewitt & Flett, 1991b).

Finally, Hewitt and Flett (1991a) defined socially oriented perfectionism as a result of beliefs that society or important people expect high performance from the individual. Socially oriented perfectionism includes certain perceptions that the important people in their lives evaluate themselves rigidly and pressurize them to be perfect. These assumptions can lead to emotional states such as failure, fear of negative evaluation, procrastination, anger, anxiety, shyness, low self-esteem, loneliness, and depression (Flett, Hewitt, & De Rosa, 1996; Flett et al., 1991).

2.3.1.4 Six types of multidimensional perfectionism. Frost et al. (1990) took perfectionism through six dimensions such as concern over mistake, doubt of action, parental criticism, parental/familial expectations, personal standards, and organization. These six dimensions might be explained as follows.

'Concern over mistake', refers to negative interpretation of mistake. According to this type of perfectionist, making mistake is failure and they fear about losing respect from others because of their faults. Thus, they overreact to making mistakes. (Frost et al., 1990). 'Personal standards' lead to setting high personal performance standards and goals higher than other people's performance goals. They evaluate themselves according to these high-level standards.

'Parental/familial expectation' is also related with assuming that one's parent's hopes about excessive success. In addition, 'parental criticism' is explained as the fear that one will never be understood by his or her parents because of mistakes and that s/he will be punished or criticized because of behavior.

'Doubts and actions' revealed as a constant doubt about the correctness of one's work and checking it over and over again even in daily activities. Also, the sub-scale of 'Organization' explained as over emphasizing about becoming systematic, planned, and organized individual and try to realize that.

2.3.1.5 Positive and negative perfectionism. Hewitt and Flett (1991), Frost et al. (1990), and Slaney and Johnson (1992) developed the scales to investigate the perfectionism with multidimensional structure. On the other hand, according

to Slaney et al. (2001), even though the scales initially emphasized the negative side of perfectionism, it was seen that perfectionism had both positive and negative qualifications. Thus, Slade and Owen (1998) handled perfectionism in negative and positive categories. They thought that the results of actions might be more important than acts, and they associated with positive and negative perfectionism. According to them, positive perfectionism was associated with positive reinforcement to reach it, and negative perfectionism was correlated with negative reinforcements to get away from it. Similarly, Tery-Short et al. (1994) claimed that negative perfectionism is a function to avoid negative consequences, and positive perfectionism is a function to achieve positive results.

Shafran and Mansell (2001) described positive perfectionism as the orientation towards achieving positive results and negative perfectionism as the tendency to avoid negative consequences. Chan (2007) defined positive perfectionism as nonpathological, reasonable, healthy, and desirable whereas negative perfectionism with psychological tension, strictness, and pathology. While individuals with positive perfectionism try to find active solutions to problems, individuals with negative perfectionism have low coping and thinking skills under stress (Burns and Fedewa, 2004).

Roedell (1984) not only presented two types of perfectionism but also defined positive and negative types of perfectionism. Positive perfectionism refers to the energy which provides the determination and motivation for the work that will push individuals to achieve their goals. The negative type of perfectionism, on the other hand, causes the person to perceive himself/herself as failure despite exact achievements by setting high expectations. Kottman (2000) stated that the distinction of perfectionism as positive or negative is based on the way individuals perceive and deal with their personal needs and standards. While personal standards make positive perfectionist more motivated and desired, they make negative perfectionist relatively anxious.

Frost et al. (1993) conducted a comparison study on Multidimensional Perfectionism Scale of Frost et al. (1990) (six type) and Hewitt and Flett (1991) (three type). Results showed that negative perfectionism was related to socially prescribed perfectionism and subscales of the Multidimensional Perfectionism Scale which are concern over mistakes, parental criticism, parental expectations,

and doubts about actions. Positive perfectionism is related to self-oriented perfectionism, and personal standards and organization subscales of the Multidimensional Perfectionism Scale were correlated with positive aspects of perfectionism. However, the subscale of other-oriented perfectionism was not correlated with positive or negative aspects of perfectionism. However, according to Terry et al. (1995), other-oriented perfectionism was also related to positive perfectionism.

Considering whether the parenting style of children will be a positive or negative perfectionist, Enns et al. (2002) claimed that perfective parenting (perfectionist parents) named by Randolph and Dykman (1998) is a determinant point in the emergence of positive perfectionism attitudes. According to Stoeber and Otto (2006), harsh parenting which involves the absence of care, overprotection, or criticism is the trigger of negative perfectionism, while perfect parenting can be a premise for both positive and negative perfectionism.

2.3.2 Factors affecting perfectionism. When it comes to the determining factors of perfectionism, social media, unrealistic role models, and pressure from parents or peers can lead individuals to see themselves as at fault (Kahraman and Bulut-Pedük, 2016). In other words, social and environmental pressures, family pressure, media pressure, birth order, and unrealistic models are among the factors that cause perfectionism (Adderholt–Elliott & Golberg, 1987). Relatives, friends, teachers, school and cultural imposition, supervision, and evaluation are environmental factors that lead to the formation of perfectionist attitudes in children. Other environmental factors are bullying, violence, and racism in society and school (Flett et al., 2002; Herman et al., 2013; Miller & Vaillancourt, 2007). Adderholt and Golberg (1999) stated that perfectionism starts in childhood period. Children can learn perfectionism through interaction with their parents (Burns, 1980; Callard-Szulgit & Callard-Szulgit, 2012). Parental behavior such as high expectations of the family, conditional acceptance, excessive positive-negative feedback, and feedback on personality rather than behavior led to a perception of conditional value in the child. It also causes self-oriented and negative perfectionism when the child learns that he is valuable only when he reaches certain standards (Flett et al., 2002). On the other hand, if a warm, consistent, and accepting parental attitude is provided, perfectionism will emerge with more

positive dimensions (Morris & Lomax, 2014; Rasmussen & Troilo, 2016). The study of Kawamura et al. (2002) indicated that individuals who grew up in families with strict and authoritarian attitudes developed negative perfectionism.

Mısırlı-Taşdemir and Özbay (2004) revealed that as the critical perception of the family increases, the negative perception also increases. As children grow up in a perfectionist environment, the reward-punishment ratio in the family increases, and it becomes difficult for children to continue their actions, given the extreme standards they set for children. Parental expectations or parent role modeling can also trigger this situation. In this way, individuals can develop a perfectionist attitude toward compensation. Moreover, since having high standards is often supported and rewarded by society, perfectionist behavior patterns are reinforced (Ashby & Rice, 2002). In addition, if a person with a genetic predisposition to perfectionism is criticized for his/her mistakes, this critical attitude may push him/her towards perfectionism (Ashby & Rice, 2002).

2.3.4 Perfectionism in gifted adolescent. Although perfectionism is the least appreciated aspect of giftedness, it is an inevitable part of the experience of being gifted. Perfectionism needs to be assumed as a two-edged sword that has the potential for pushing an individual toward a unique magnitude or making them feel hopeless (Silverman, 1999). Perfectionism is one of the concerns of the parents and teachers of gifted individuals (Adelson & Wilson, 2009). Some of the previous studies on perfectionism in the gifted individuals are as follows.

When Parker and Mills (1996) compared the 600 academically gifted students and 400 peers from the general cohort, they didn't find any significant difference among them. There was only a little difference in the mean score of the two groups. They noted that these small differences, although seemingly insignificant, have some minor effects. Parker and Mills (1996) listed some points from the literature about the relationship between perfectionism and gifted children; firstly, gifted children are more perfectionistic than others; secondly, perfectionism causes unconformity; thirdly, gifted individuals have more potential risk factors for unconformity.

Some differences can be seen in the research on perfectionism in gifted people according to gender. There is some research on gifted and talented high school students, which resulted that girls are more perfectionistic than boys (Baker,

1996; Bellamy, 1993). Furthermore, Kramer (1988) found that among gifted 7th, 8th, and 9th-grade students, females were more perfectionists than males. Besides, in another study conducted at the high school level, while gifted girls were more perfectionistic than their non-gifted peers, no significant difference was found between the two groups in boys (Kline & Short, 1991).

On the other hand, Mazzocco (2007) reached no differences between male and female 6th grade mathematically gifted students. Likewise, Chan (2012) found no meaningful differences between female and male gifted adolescents in China. Moreover, in the other investigations about gifted students, Chan (2007) found that girls rated themselves as more positive perfectionists than boys and gifted students show a high tendency for positive perfectionism than negative. Also, Chan (2009) found boys more negative or maladaptive perfectionists than girls. Parker and Mills (1996) revealed interesting results by applying Multidimensional Scale (Frost et al., 1990) on gifted and talented students. Girls' points are higher than boys for the Organization subscale, Boys' points are higher than girls for the Concern Over Mistakes subscale, and no significant differences were found on the Parental Expectation subscale.

According to Kahraman and Bulut-Pedük (2016), the intelligence types of gifted students affect their level of positive perfectionism. According to the explanatory analysis of variance, the prediction level of positive perfectionism is 19% for verbal-linguistic intelligence and 13% for logical-mathematical intelligence. These types of intelligence are more related to perfectionism than other intelligence types. Besides, Kahraman and Bulut-Pedük (2016) added that gifted students' intelligence types are not determinative of negative perfectionism levels as they don't reach any significant results statistically. In this case, it can also be inferred that the multiple intelligence types do not affect negative perfectionism.

According to Greenspon (1998), gifted individuals tend to be perfectionists because they can do a job perfectly. Gifted students showed more reaction and surprise than their peers when they fail because they never think about the possibility of failure or see it as a very remote or low possibility (Roberts & Lowett, 1994). When gifted children encounter a situation that does not meet the expectations of their environment, they perceive it as their fault instead of seeing

it as a realistic and normal situation or limit (Roeper, 1982). When the higher goals set by gifted individuals exceed their developmental level, gifted individuals may reject themselves or feel unsuccessful (Saranlı & Metin, 2012). External factors such as labeling (genius, talented, intelligent, bright), the expectation of parents and the environment, and attitudes of friends and teachers constitute other important factors for gifted children to adopt a perfectionist attitude (Silverman, 1997). In addition, Mofield and Parker-Peters (2019) stated that gifted students avoid new learning experiences when they encounter failure. For gifted individuals, failure is often below the personal standards they have set for themselves and is the same as failure. Roeper (1982) stated that most gifted children are perfectionists and continue to do this in adulthood. In addition, they do not allow or justify failure in areas where they are particularly suitable and superior. They have the illogical idea that the probability of failure belongs only to someone else. As a result, researchers claimed that generally, gifted children are perceived as negative perfectionists (Leana-Taşcılar & Kanlı, 2014; Orange, 1997).

Roedell (1984) stated that gifted children are more prone to some developmental difficulties than their peers. Perfectionism is one of the developmental difficulties such as parental expectations, hypersensitivity, and role confusion for gifted adolescents, (Roedell, 1984). Silverman (1997) argued that the mental, emotional, or cognitive development of gifted and talented children changes at different rates, which is asynchronous development and one of the reasons for perfectionism. For example, asynchronous development is quite common, and this concept was used to describe the inconsistency between the cognitive, emotional, and physical development of gifted individuals such as intellectual skills are highly developed, but motor or social skills are lagging. (Morelock, 1992; Webb, Gore, Amend, & DeVries, 2007). The difference between the speed of cognitive development and social-physical development in favor of cognitive development caused perfectionism. Because gifted individuals have high intellectual development, even if they are low in some areas of development, their intellectual abilities lead to setting high and perfectionist personal standards (Silverman, 1997).

Although perfectionism is seen as a subtype of neuroticism, Parker (1997) argued that the perfectionism seen in gifted children is not neuroticism but an internal condition like conscience. Parker (1997) conducted a study with 820 intellectually gifted children and revealed that 32.8% of these children are not perfectionists, 41.7% are healthy perfectionists, and 25.5% have unhealthy perfectionist tendencies. Schuler (2000) found out that the level of perfectionism in gifted students in 7th grade is higher than normal peers in 8th grade. While 87.5% of students indicate the propensity of perfectionism and approximately 30% of gifted students were maladaptive perfectionists.

Roberts and Lovett (1994) also reached that gifted children indicate higher levels of self-oriented perfectionism compared to non-gifted peers in middle school degree. Research results showed that gifted students display higher standards of perfectionism and are more perfectionistic in adaptive ways compared to other students. Also, gifted individuals' high personal standards do not cause them distress or discomfort. As a result of the analysis, they reached that the assumption about gifted individuals being perfectionists can be true, but also that it is a misdirection which leads to difficulty and dysfunction (LoCicero & Ashby, 2000; Siegle & Schuler, 2000).

2.4 Definition and Classification of Self-Esteem

Self-esteem is the most important element of the self, it is also a basic feature that shapes many aspects of the self (Greenwald, Bellezza, & Banaji, 1988). William James (1890) explained that the self consists of psychologically desired qualities and claims. Looking at the root of the word, the concept of self-esteem originated in Greek language, and it refers to word reverence for self. In self-esteem, 'self' represents the belief, attitude, and value, while 'esteem' refers to worthiness towards oneself. According to Webster's dictionary, self-esteem is becoming pleasant about self. According to Rosenberg (1965), who was one of the pioneers of self-esteem, self-esteem is negative or positive attitude intended for the self. In high self-esteem, individuals can see themselves as very good or good enough, and both are different situations. In other words, while a person sees her/himself as higher than others, s/he may feel inadequate according to her/his

standards. Generally, self-esteem is defined as someone's measure the self-worth (Reasoner, 2005).

Maslow (1943, 1954, 1970) accepted self-esteem as one of the higher degree necessities in his theory of Need-Hierarchy. Maslow split the self-esteem, the first part was the demand for power, success, liberty, and self-confidence. The second part is for dignity, fame, attention, and approval. Maslow associated self-esteem with the need for prestige and love and said that not eliminating the lack of self-esteem can cause psychological disorders. Rollo May (1983) defined self-esteem as "being" which is more than an individual's self. Being means the whole and unique potential of individuals (cited in Becker, 1993).

Leary and Baumeister (2000) said that self-esteem is a fundamental and powerful psychological motivator. The intrinsic motivation provided by self-esteem encourages confrontation and taking risks to be authentic, rather than hesitating and staying away from challenges (Mruk, 1995). It is also an important aid for adjustment and success. But its main function is an unclear matter. Self-esteem refers to people's general or specific evaluations or judgments about their values. Due to being a subjective expression, self-esteem may represent the ability and accomplishment or not objectively. Essentially, the self-esteem reflects the person's perception for other's thought about oneself more than person's actual ability or goodness (Leary & Baumeister, 2000). In psychoanalytic theory, the sources of self-esteem were explained as the child's self-love, the opportunity to realize his/her own ego ideals, and the pleasure that comes from loving others (Çuhadaroğlu, 1986). According to Coopersmith (1967), the self-esteem is a confirmative personal judgment about oneself. It shows how people consider themselves as talented, important, successful, and valuable. According to Wang and Ollendick (2001), self-esteem is an evaluated part of the self because self-esteem includes the individual's self-evaluation and subsequent self-directed emotional affect. Hewitt (2002) stated that self-esteem is the mood that determines and interprets behavior in changing situations, considering experiences, and governs the function of directing or inhibiting. In other words, the self-esteem is described as an attitude towards self and it is associated with individual beliefs on social relationships, talent, capability, and long-term consequences (Abdel-Khalek, 2016; Heatherton & Wyland, 2003).

Self-esteem is a person's emotional evaluation of themselves and the level of certainty of this valuation. What matters in this definition is what is and isn't. The value expressed by self-esteem is a subjective evaluation maintained by the individual, not determined by others. This assessment may or may not be realistic and logical (Becker, 1993). According to Leary and Baumeister (2000), self-esteem is related with positive emotions and subjective wellbeing. Therefore, people look for self-esteem. When it increases, people become pleasant and feel positively. When self-esteem decreases or is threatened, people feel dissatisfied and negative. Even if self-esteem has no effect other than emotions, people may experience chronic anxiety about maintaining their self-esteem to avoid unwanted emotions and feel positive. But this explanation is not enough and satisfying (Leary & Baumeister, 2000). Bednar, Wells, and Peterson (1989) explained the function of self-esteem as always providing emotional feedback from oneself about self-sufficiency. It is positive when faced with a psychological threat and negative when avoided. The level of self-esteem determines how to behave in response to the next threats. High self-esteem increases coping skills, and low self-esteem increases avoidance. Low self-esteem indicates inadequacy and might lead to repeated insufficiency.

As there are different interpretations of the definition of self-esteem, there are different classifications of self-esteem. Firstly, Rosenberg (1979) mentioned a classification of selves: the extant self depends on how people perceive themselves, the desired self refers to what people want to become, and the presenting self which people reveal to others. According to Rosenberg (1979), everyone composes of pictures of the self, but no one recognizes the real self which he defines as the extant self. What we want to be and the standards and values we feel responsible for are two important parts of the ideal self. Also, presenting self might lead to inconsistency in self, and it manages self-esteem. Constantly presenting oneself differently and reinforcing behaviors that do not belong to the real self by others causes one to question one's skills, capacities, the self, and lowering self-esteem.

Mruk (1995) described self-esteem as experiences of an individual's competence and worthiness in coping with challenges in lifelong. As seen in the definition, two crucial terms make up Murk's definition of self-esteem. The first is competence which represents a behavioral component of self-esteem. Competence

is associated with accomplishment and desire. The second one is worthiness, and it depends on values and beliefs. Mruk (1995) said that worthiness is the process of internalizing the attitudes of others toward us. He stated that these two components are dynamically intertwined like “axes”, and he mentioned 4 types of self-esteem crosswise: high self-esteem (high competence, high worthiness), low self-esteem (low competence, low worthiness), Type I Narcissistic self-esteem (low competence, high worthiness), and Type II pseudo self-esteem (high competence, low worthiness).

Deci and Ryan (1995) classified the self as true self-esteem and contingent self-esteem. True self-esteem mirrors inborn capacity and core. Once individuals become honest toward themselves, they have healthy self-integration and high self-esteem. Also, contingent self-esteem is depending on standards that are settled by a person or others. It leads to being away from the real self and personal characteristics for unadopted standards. Contrary to this, true self-esteem is healthy and adaptive (cited in Leary & Baumeister, 2000).

In Sociometer theory, Leary and Baumeister (2000) talked about the public self and private self, which are quite intertwined in the details of self-esteem. The private self is about people maintaining a positive point of view about themselves, while the public self is about ensuring that the individual is viewed positively by other people. When it comes to sociometer theory, they said that humans fundamentally need for belonging and have motivation for shaping and keeping meaningful social attachment and relationship. In their sociometer theory, self-esteem is seen as an evaluative indicator or subjective monitor of the relations of individuals. This sociometer determines the degree of an individual's worth, significance, and closeness considering relationships. It checks the eligibility of an individual for participating in small groups and setting persistent and desirable relationships. In this context, low self-esteem represents the ineligibility of individuals to group membership and close relationships. High self-esteem means that an individual is desirable, appropriate, and worthy of social inclusion (Leary & Baumeister, 2000). The main function of the sociometer theory is to monitor the quality of the individual’s relationships and, in particular, the extent to which the people with whom he or she interacts attach importance to the relationship. Therefore, people always expect not only to be accepted but also to be considered

important and appreciated. When there is hesitation or doubt about this, the sociometer generates emotional distress as an alarm signal.

According to the Terror Management approach (Greenberg, Solomon, & Pyszczynski, 1986), the meaning self-esteem is being a worthy member of a meaningful system such as culture and self-esteem is accepted as cultural anxiety buffer in taking part in a cultural community integrally. While self-esteem is a universal requirement to reduce anxiety, the acquisition and maintenance of self-esteem are determined by social expectations at a given time. Therefore, while a behavior which is appreciated and increases self-esteem in one culture, the same behavior may cause humiliation and lower self-esteem in another culture. For example, drinking large amounts of alcohol for adolescents might be attractive in the United States, but it is not the same in every culture or may be viewed as derogatory. As it turns out, although it is generally accepted that the source of self-esteem must come from within, the standards for self-evaluation are culturally determined (Greenberg, Solomon, & Pyszczynski, 1997).

2.4.1 Factors affecting self-esteem. Since self-esteem is related to the individual and is a part of the individual, it can be affected by many factors. For instance, whether an individual's self-esteem is high or low is determined by whether the individual's thoughts are positive or negative. If the individual's thoughts about him/herself are positive, self-esteem is high, and if it is negative, self-esteem is low (Harter, 1983 cited in Kartel, 2014).

Murk (2016) listed some factors which affect self-esteem as genetic, parental factors (parental support, acceptance, expectations, style), birth order, modeling, gender, race, ethnicity, economic factors, culture, achievements, and failures. Permissive parent attitudes toward children didn't enhance self-esteem, but the mother's having a job, and the father's job stability influence the self-esteem of the children. Furthermore, family statuses such as family ethnicity, father's job, birth order, and family size are not related to the son's self-esteem (Coopersmith, 1967). Also, the father's stability in work can predict high self-esteem. While the mother's attitude did not affect self-esteem, it has been seen that the democratic father's attitude increases self-motivation and self-esteem (Erol, 2004). In addition, it was concluded that gifted girls have higher self-esteem than boys. Therefore, parents

have an important place and responsibility in the development of self-esteem in children (Wang & Ollendick, 2001).

Mutual support and open family relations play a crucial role in the development and general harmony of the child's self-esteem (Cornell & Grossberg, 1987). According to Reasoner (2005), children who are deprived of self-esteem showed more tendency for depending on their parents and they also set lower academic and occupational aims. According to Lingren (1991), school years, friends, and peer groups are also effective on self-esteem in middle school years. Being competent, praised, encouraged, and listened increase self-esteem, while being compared, criticized, and humiliated decreases self-esteem in childhood. In addition, it is widely accepted that increasing the self-esteem of one, especially children or adolescents, is quite utility for the person and society (Reasoner, 2005).

On the other hand, a study on 73 gifted 3rd, 4th, and 5th grade students in Science and Art Education Centers, revealed that self-esteem levels of gifted and talented pupils were affected by parents' social support, family income, and mother's education level. Besides, their self-esteem levels were not affected by gender, their father's education level and social support come from teachers and friends. In other words, there was a positive relationship between the social support and general social support scores that gifted and talented students perceive from the family and their self-esteem levels. Besides, another important finding was that there was no relationship between the social support scores of gifted and talented students taken from friends and teachers and their self-esteem levels (Albayrak Dengiz, 2014).

Kuru (2017) investigated the gender and self-esteem of 366 gifted students aged 10-14 from Istanbul Science and Art Centers. It was yielded that "social self-esteem", "academic self-esteem" and "total self-esteem" scores do not differ significantly according to gender. It is observed that there is a significant difference in favor of the girls between the scores of the family self-esteem sub-dimensions between the boys and girls with giftedness. Finally, it was concluded that the high level of self-esteem perception will increase the empathy tendencies of the children.

Yılmaz (2008) studied gifted students in 5th, 6th, 7th, and 8th grade in BİLSEM. It was yielded that there was a weak relationship among self-esteem,

academic self-efficacy, and autonomous family style of gifted students. It was found that there was a weak relationship between the self-esteem of gifted students and the value of coping with academic problems, academic planning, effort, self-perception, attitude towards the teacher, and motivation, and a very weak relationship between the attitude towards the school and the target value.

2.4.2 Characteristics of self-esteem. Some points can be mentioned about the characteristics of self-esteem and its effects on humans. In this context, self-esteem can be considered high or low self-esteem basically. Feeling good about the self, coping with difficulties and negative feedback, feeling valued, and respected in the outside world are the benefits of having high self-esteem (Heatherton & Wyland, 2003). People with high self-esteem respect themselves, find themselves valuable, and do not evaluate themselves as better or worse than others. They don't perceive themselves as perfect. They expect to grow and excel by knowing their limits (Rosenberg, 1965). Individuals with high self-esteem don't afraid of taking risks, they are confident about their abilities and generally feel happy (Pearlman, 1996). According to Clarke (1978), people who have high self-esteem care about themselves and other people, and they are also productive. They are autonomous, independent, open to innovations, active, relaxed, enterprising, and creative. They do not give up on difficulties (Sam, Sam, & Öngen, 2010). Erol (2004) claimed that students with high self-esteem are more aware of their emotions, can manage their emotions better, motivate themselves, develop empathy, and control their relationships.

On the contrary, people with low esteem see themselves differently and they have a tendency to be rejected and feel dissatisfaction about themselves (Rosenberg, 1965). Individuals with low self-esteem are prone to become more anxious, shy, isolated, depressed, unhappy, and envious compared the individuals with high self-esteem (Leary, Schreindorfer, & Haupt, 1995). Low self-esteem is an important predictor of behavioral problems, emotional problems, and psychological distress (Leary, Schreindorfer, & Haupt, 1995; Mecca et al., 1989). Moreover, individuals with low self-esteem see the outside world from a negative perspective, which shapes their perception of the environment. The link between low self-esteem and depression, shyness, solitude, and alienation depend on substantial evidence (Heatherton & Wyland, 2003). They do not want to engage in

new activities offered to them, they are extremely afraid of making mistakes, they may be nervous in exams, or they might also exhibit behaviors such as perfectionism (Çetinkaya, Arslan, Nur, Özdemir, Demir, & Sümer, 2006).

2.4.3 Self-esteem of gifted and talented students. Self-esteem is an important part of self for the gifted as well as for every individual but, becoming gifted does not mean that it is not important to pay attention to the special needs of the gifted group (Hoge & Rezulli, 1993). There is no consensus on the self-esteem levels of gifted students. Talented students with high self-esteem are good at developing empathy and self-motivation. Also, they can manage their feelings and relationships. It was concluded that the intelligence of these students helped effective defense mechanisms, and this facilitated overcoming difficulties. Thus, they had a more positive self-concept. In addition, it was revealed that gifted girls have higher self-esteem than boys (Erol, 2004). Considering self-esteem, gifted children generally have got a positive sense of their talents, but they feel less confident in their lower skills. Just like any other person, gifted children can have low self-esteem if they are not aware of their abilities or if they expect impossibly high standards of themselves. Besides, considering that creativity is one of the characteristics of gifted children, creative children tend to feel that they don't fit in with their peers. Despite their talents, they often experience low self-esteem (Karnes & Bean, 2009).

Some researchers claimed that gifted students have higher self-esteem than non-gifted students whereas other researchers argued that they have low self-esteem (Topçu, 2015). According to Bakır (2015), the self-concepts of gifted and talented youth are different from those of non-gifted. Some researchers have found that gifted and talented children's self-esteem develops earlier than other children (Bakır, 2015; Potter, 1999), and this situation accelerates them to realize that they are different from other children (Clarke, 1997). Moreover, while 61.7% of the gifted and talented high school students had high self-esteem, 38.3% had a moderate self-esteem score, and none of the students got a low self-esteem score (Toçoğlu, 2016).

In the comparative study of Bartell and Reynold (1986) on 145 academically gifted and non-gifted 4th and 5th students, no significant difference was found between gifted and non-gifted students considering self-esteem level. But gifted

boys show lower self-esteem and more depression than gifted boys. On the whole students, girls also show lower self-esteem and more depression than boys. Measurement of self-esteem and depression were also found strongly associated with each other.

It was found that there was no significant difference between talented and non-talented students in terms of self-esteem. The number of siblings, birth order, educational status of the parents, and monthly income did not have any effect on the self-esteem of gifted and non-gifted groups (Coşar-Ciğerci, 2006).

Kartel (2019) yielded that self-esteem scores of gifted and non-gifted groups were high and did not differ according to class level, gender, or family income level. A comparison of the two groups in the study, it was revealed that there was a positive difference in the self-esteem levels of gifted students compared to non-gifted students.

Bakır (2015) argued that gifted and talented young people's self-esteem increases when their talents are seen by everyone and as a result of their success and stated that being called gifted and talented increases their self-esteem. However, when gifted students fail, their self-confidence drops, and they look for deficiencies in other people, things, or the system to find excuses for their behavior (Machu et al., 2021).

The variables that affect the self-esteem level of gifted people are as follows. Gifted children feel good among individuals at their cognitive level, but they may think that their non-gifted peers and teachers have a negative point of view about them. Or gifted people are sometimes not understood by their peers. This causes some problems in their self-esteem. (Albayrak-Dengiz, 2014). Similarly, Palancı (2000) claimed that while gifted individuals have positive self-esteem about themselves, they think that others have negative opinions about them. For an individual to have positive self-esteem, their expectations must be realistic (Şirin et al., 2004, cited in Coşar-Ciğerci, 2006).

Harter (1986) said that the self-esteem of the gifted child is affected by the importance given to academic success. While high academic achievement expectation, peer bullying and exclusion of the family and the environment of gifted children negatively affect them psychosocially, this might also lead to a decrease in their self-esteem (Colangelo & Colangelo, 2003). Additionally, Erol

(2004) found positive relationship between gifted adolescents' school achievement and self-esteem. Besides, during adolescence period, a significant decrease was found in the gifted girls' academic success, self-esteem and career goals (McCormick & Wolf, 1993).

A child's giftedness may go unnoticed for reasons such as behavioral problems, physical weakness, or social immaturity. Accordingly, underestimation of the child's skill by the teacher can lead to a rapid decline in self-esteem. When their perfectionism interferes with their perception of failure, gifted children may have low self-esteem and exhibit an inability to solve problems (Roedel, 1984). Low self-esteem can be prevented or compensated by giving informational feedback instead of praise and judgment when giving feedback to children about their achievements (Porter, 2005).

2.5 The Role of Perfectionism and Self-Esteem on Career Development

After defining the concepts of perfectionism and self-esteem, the relationship between these two concepts and the career development of the individual can be explained as follows.

The career development process can be influenced by many factors like perfectionistic specialties, negative thinking, and self-efficacy (Andrews, Bullock-Yowell, Dahlen, & Nicholson, 2014). When we consider the emotional and behavioral functions of the perfectionist attitude, it can be said that it is a positive or negative, affective determinant of career development. According to Andrews et al. (2014), perfectionists grapple with negative thoughts and are taken negative expectations about their skills.

It seems possible that perfectionism might become associated with career-related factors such as career preference type, performance in the chosen career, productivity, pleasure, and adjustment to retirement (Slaney, Ashley, & Trippi, 1995). The relationship between personality traits such as perfectionism with the dimensions of career development in children is seen as a requirement to investigate the career development process (Kırdök, 2018). According to Stoeber, Mutinelli, and Corr (2016), perfectionism is a personality trait which might explain personal variation in pupils' career-planning attitudes. For example, positive perfectionism can be explained as a more accurate self-evaluation, having the

ability to exhibit consistent behaviors appropriate to own, the situation, and expectations (Ulas-Kılıç, Peila-Shuster, Demirtas-Zorbaz, & Kizildaget 2018). Besides, people who carry the more negative aspects of perfectionism, such as setting unattainable goals, are more likely to see additional difficulties in their career decision-making process (Andrews et al., 2014). In addition, perfectionist personality traits are also effective on individuals' future expectations and self-perceptions; it can be stated that this reflects negatively on their professional decision processes (Sarı, 2011).

Ulas-Kılıç et al. (2018) examined career decision-making self-efficacy with perfectionism perceptions, automatic thoughts, and GPA in 8th grade students. The results revealed that female students have got more career decision-making self-efficacy than male students. Moreover, positive perfectionism, automatic thoughts, and GPA had a statistically significant impact on career decision-making self-efficacy levels. However, negative perfectionism had no statistically significant impact on career decision-making self-efficacy levels. Additionally, during the development process at elementary, middle, and high schools, a significant decrease is seen in the self-regard and self-confidence of gifted girls, while their perfectionism levels, despair, and discouragement increase (Kline & Short, 1991).

The results of Kırdök's (2018) study demonstrated that while positive perfectionism was found a predictor of career development total score and six sub-dimensions of career development (curiosity/exploration, information, key figures, time perspectives, planning, and self-concept), no relationship was found between negative perfectionism and career development and sub-dimensions.

According to the results of the study, while perfectionism and negative career thinking were positively correlated, the relationship between negative career thoughts and career decision-making self-efficacy was found inversely (Andrew, Bullock-Yowell, Dahlen, & Nicholson, 2014). The relationship between career decision-making self-efficacy and adaptive perfectionism was found positive.

Ganske and Ashby (2007) reached some meaningful findings on 201 university students about perfectionism and career self-efficacy. Adaptive perfectionists' career decision-making self-efficacy levels are higher than maladaptive perfectionists and nonperfectionists. Besides, no difference was found

between maladaptive perfectionists and nonperfectionists in career decision-making self-efficacy.

Gnilka and Novakovic (2017) investigated potential gender differences in the mediating role of career search self-efficacy around two dimensions of perfectionism (adaptive and maladaptive) and career barriers perception. The study indicated that career search self-efficacy mediated the relationship between both dimensions of perfectionism and the career barriers to perfection for males but not for female students. For men, increasing perfectionistic strivings was related to significantly higher career search self-efficacy, which led to a decrease in the career barriers perception. On the other hand, increasing perfectionistic concerns was negatively related to career search self-efficacy, which caused more career barriers perceptions. There was no same significant relationship in this direction for women STEM students.

Musch (2013) found that adaptive perfectionists and maladaptive perfectionists showed greater career self-efficacy than non-perfectionists. Secondly, adaptive perfectionists indicated higher levels of vocational identity than maladaptive perfectionists and non-perfectionists.

When it comes to the relationship between self-esteem and career development, Giannantonio and Hurley-Hanson (2006) defined the general self-concept as encompassing an individual's skills, personality traits, values, self-esteem, and self-efficacy. In addition, in certain situations where career success is evident, career success may also have temporary effects on self-esteem degree (Kammayer-Mueller et al., 2007). Yücel (2019) stated that as self-esteem increases, career decision-making difficulty decreases, and it is statistically significant. Also, Steitz and Wulff (1999) found that self-esteem is directly related to Career Self-efficacy but not Career Indecision in female adolescents.

Lin, Wu, and Chan (2015) said that students with high self-esteem can select a major through compatible reasons with their self and they have had powerful learning motivation. These factors decrease the career uncertainty. Thus, students with high self-esteem experience lower career uncertainty.

According to Niles, Jacob, and Nichols (2010), career challenges turn into difficult life situations, which undermine self-esteem. Or it is also possible that those with low self-esteem have difficulty thinking about careers and

implementing and managing decisions. Therefore, it is accepted that positive career development fosters self-esteem generally, and low self-esteem might limit career opportunities and experiences. There is a strong and bidirectional relationship between career development and self-esteem.

Şekerli (2016) implemented Career Decision Making Difficulties Questionnaire, Career Development Questionnaire for Children, and Coopersmith Self-Esteem Scale-School Short Form on 400 8th grade students from seven middle schools. Research findings showed that students with high self-esteem, perception of academic success, and socio-economic level and those who have a decision about choosing high school experience fewer career decision-making difficulties.

Leana-Taşcılar and Kanlı (2014) worked on gifted and non-gifted students. There are 53 gifted and 31 non-gifted students in the 2nd and 3rd grades. They searched relationships around intelligence, positive–negative perfectionism, and self-esteem comparatively. In the total group, as a result, according to the gender variable, it is seen that the self-esteem levels of boys and the positive perfectionism levels of girls are higher. When the self-esteem and perfectionism levels of gifted and normally developing students were examined, it was found that gifted students had higher self-esteem levels, but there was no relationship between their perfectionism levels and intelligence.

Lin, Wu, and Chan (2015) reached the result that students with high self-esteem experience lower career uncertainty. These students can select a major via compatible reasons with them, and they have had powerful learning motivation. So, these factors decrease career uncertainty.

Findings on 128 African-American high school students indicated that career decision-making self-efficacy was found related to pupils' vocational identity and career exploration activities. According to the results, career decision-making self-efficacy had a significant positive relationship with vocational identity, and perceptions of barriers were significantly positively correlated with vocational identity (Gushue, Clarke, Pantzer, & Scanlan, 2006).

The Center of Human Resources Research at the Ohio State University conducted a 7-year study with 1765 young employees aged 18-21. Findings demonstrated that self-esteem has not affected only occupation searching and short-time performance, but also can affect an individual's career over years. Their

research consequences indicated that people's self-worth perceptions are significantly associated with external career achievement results (Mueller, Judge, & Piccolo, 2007).

According to Patton, Bartrum, and Creed (2004), in males, self-esteem affected career expectations, and orderly predicted career goals, career planning, and career exploration. In females, self-esteem predicted career expectations, directly affected career planning and career exploration, and did not affect career goals.

The results of correlational analysis between self-esteem and career identity on 416 junior nursing students in South Korea reached that career identity increased with increasing self-esteem. Besides, students' self-esteem in rural schools was significantly higher than urban school students (Cho & Lee, 2006).

Chiu (1990) applied Rosenberg Self-Esteem Scale on 10^{th} and 11^{th} grade high school students and the Self-Esteem Rating Scale for Children on their teacher in target high school. Both scales' results confirm that students with career goals have got more self-esteem compared to students without career goals. This difference can be predicted in both gender but was significant in only males. Likewise, Munson (1992) conducted a study on 51 high school junior class students and confirmed that pupils with high self-esteem indicate significantly more vocational identity. Also, for the value expectation variable, female students' scores are seen as higher at home and school.

Considering these views, it can be deduced that perfectionism is a distinctive part of the selves of the gifted. Super (1990) also assumed self-concept is important for career development. This point makes perfectionism and self-esteem the more significant component of career development. Therefore, perfectionism and self-esteem can be important variables and determinants for the career development self-efficacy of gifted students.

Chapter 3

Methodology

3.1 Research Design

The purpose of this study was to investigate the relationship among career and talent development self-efficacy, self-esteem, and positive-negative perfectionism, in gifted secondary school student; hence, a correlational research design was used to test the expected relationship among these variables. In correlational research design, the association among two or multiple variables is explored without manipulating them (Fraenkel & Wallen, 2005; Karasar, 2011).

In this study, gifted students' self-esteem, positive-negative perfectionism, and socio-demographic variables (gender, having occupational decision) were independent variables; talent development, work habits and values, and career exploration subscales of career and talent development self-efficacy scale (CTDSES) were dependent variables.

3.2 Setting and Participants

The population of the current study was 7th and 8th grade level students who attend Science and Art Centers (BİLSEM) in 7 different locations in Istanbul in the academic year of 2021-2022 and are diagnosed as gifted. Students go through some processes by the guidelines set by the Ministry of National Education before they are diagnosed with special abilities. Student admission procedures are carried out by BİLSEMs. Information about BİLSEM and the student admission process is briefly listed as follows:

The first BİLSEM in Turkey was opened in Ankara in 1993 and officially established in 1997 to support gifted children. Then the second BİLSEM was established in Istanbul. In BİLSEMs, the education of gifted students is carried out together with their gifted peers. While training these students, many different methods and approaches are used to improve their abilities (Akarsu, 2000).

The process of student admission to BİLSEM is carried out by the Ministry of National Education. This process is carried out in line with the official BİLSEM directive. The student admission process starts with the nomination of students by

the teachers according to the criteria of the observation form created by the ministry. In addition, an individual application can be made by the student's parent. Then the students take the group screening test with the central examination system run by the ministry. Students who meet or exceed a certain criterion are examined individually by the Ministry of National Education experts. Students who are identified as gifted have the right to attend to BİLSEM according to the fields they are talented in (Levent, 2011).

BİLSEM provides special education to preschool, primary, and secondary school students. BİLSEM implements a project-based, interdisciplinary, enriched, and differentiated education program, considering the abilities of the students. Some of the programs offered to students enrolled in BİLSEM are as follows. Integration program aims that students are first introduced to the mission, vision, and core values of BİLSEM. It is aimed that students get to know BİLSEM, teachers, other students, and the operation. Support education program based on basic skills that students need to develop. These skills are communication, collaboration, group work, learning to learn, problem-solving, scientific research, entrepreneurship, critical and creative thinking, effective decision-making, technology literacy, and social responsibility. Recognizing individual talents program aims that students discover their interests and talents through activities. It is aimed that students to decide in which areas they will improve themselves. Special talent development program provides students with in-depth or advanced knowledge, skills, and behaviors in a discipline by working interdisciplinary. Project generation aims that students produce a project with individual or group work under the supervision of a teacher. (Bildiren, 2011; MEB, 2016)

The sample of the study consisted of 275 (122 boys, 152 girls) 7^{th} and 8^{th} grade students who were going to BILSEM in 7 districts of Istanbul. Regarding the ages of the participants, 7.1 % of them (n = 19) were 11 years old, 65.8 % of them (n = 177) were 12 years old, 25.3 % of them (n = 68) were 13 years old, 1.9 % of them (n = 5) 14 were years old. Regarding the grade level of the participants, 81.8 % of them (n = 225) were 7^{th} grade, and 18.2 % of them (n = 50) were 8^{th} grade. Regarding the BİLSEM that the students participated, 14.9% (n = 41) from BİLSEM 1 (Bahçelievler), 4.7% (n = 13) from BİLSEM 2 (Basakşehir), 21.1% (n = 58) from BİLSEM 3 (Beşiktaş), 13.5% (n = 37) from BİLSEM 4 (Fatih), 14.2%

(*n* = 39) from BİLSEM 5 (Kadıköy), 21.8% (*n* = 60) from BİLSEM 6 (Üsküdar), 9.8% (*n* = 27) from BİLSEM 7 (Zeytinburnu). Regarding the occupational decision, 56.4 % of them (*n* = 154) reported that they made their occupational decision, and 43.3 % of them (*n* = 119) have not made their occupational decision yet. BİLSEMs classified gifted students in three ability fields: general ability, painting, and music. Regarding the field of ability, 85.1 % of them (*n* = 234) were gifted and talented in general ability, 4.4 % of them (*n* = 12) were gifted and talented in paintings, and 2.2 % of them (*n* = 6) were gifted and talented in music. Some students have more than one talent. 4.4 % of them (*n* = 12) were gifted and talented in both general ability and panting, 1.8 % of them (*n* = 5) were gifted and talented in both general ability and music, 1.1 % of them (*n* = 3) were gifted and talented in both painting and music, 1.1 % of them (*n* = 3) were gifted and talented in all fields. Besides, while 91.7 % of participants (*n*= 252) were gifted and talented in a single field, 8.3 % of participants (*n*= 23) were gifted and talented in at least two fields which are defined as multipotentiality. The findings of the socio-demographic characteristics of the participants were presented in Tablo 1.

Table 1

Socio-Demographic Characteristic of the Sample Variables

Variables		n	%
Gender	Boys	122	44.5
	Girls	152	55.5
Age	11	19	7.1
	12	177	65.8
	13	68	25.3
	14	5	1.9
Grade	7th	225	81.8
	8th	50	18.2
Occupational Decision	Yes	154	56.4
	No	119	43.3

Table 6 (cont.d)

Variables		n	%
Field of Ability	General Ability	234	85.1
	Painting	12	4.4
	Music	6	2.2
	General Ability-Painting	12	4.4
	General Ability-Music	5	1.8
	Painting-Music	3	1.1
	General Ability-Painting Music	3	1.1
BİLSEM	BİLSEM 1 (Bahçelievler)	234	85.1
	BİLSEM 2 (Basakşehir)	12	4.4
	BİLSEM 3 (Beşiktaş)	6	2.2
	BİLSEM 4 (Fatih)	12	4.4
	BİLSEM 5 (Kadıköy)	5	1.8
	BİLSEM 6 (Üsküdar)	3	1.1
	BİLSEM 7 (Zeytinburnu)	27	9.8

3.3 Procedures

This section includes data collection instruments, data collection processes, and data analysis methods used in the current research.

3.3.1 Data collection instruments. Participants were asked to fill out a survey package which included the Demographic Information Form and three measures which were called the Career and Talent Development Self-Efficacy Scale (CTDSE), the Positive-Negative Perfectionism Scale (PNPS), and the Rosenberg Self-Esteem Scale (RSES).

3.1.1.1 Demographic Information Form. In the Demographic Information Form developed by the researchers, there are questions about gender, age, class

level, whether a professional career decision has been made, and skill areas that lead to being diagnosed as gifted and talented.

3.1.1.2 Career and Talent Development Self-Efficacy Scale (CTDSES). The Career and Talent Development Self-Efficacy Scale was developed by Yuen et al. (2010) The results of their research were on 15,113 students in 7th and 9th grades in Hong Kong. Turan, Çelik, and İskender (2015) researched 1047 adolescents aged 13-18 in Istanbul and adapted them to Turkish culture. The scale is a 6-point Likert type and consists of 18 items. Here '1' represents a lack of confidence, and '6' represents overconfidence. The scale consists of three sub-dimensions: Talent Development, Work Habits and Values, and Career Discovery. Items 1, 4, 7, 10, 13, and 16 measure the skill development subscale. Items 2, 5, 8, 11, 14, and 17 measure work habits and values. Items 3, 6, 9, 12, 15, and 18 measure Career Discovery. In addition to giving separate scores for the subscales, the scale also gives a total score showing the career and talent development self-efficacy level. The possible score range of the scale varies between 18 and 108 points. High scores indicate that individuals have high levels of career and talent development self-efficacy. According to the reliability results, the internal consistency reliability coefficient and Cronbach alpha score were found to be α= .92. They found that the adjusted item-total correlations ranged from .49 to .67.

In the reliability analysis of this study, the Cronbach alpha score for the total score was found to be .91. In addition, the Cronbach α value for the skill development subscale was .81, .79 for the work habits and work values subscale, and .80 for the career exploration subscale. Adjusted item-total correlations were found to range from .40 to .68 in total, from .49 to .64 for ability development, from .42 to .69 for study habits and study values, and between .50 and .64 in total. Career research in this study. In the reliability analysis of this study, Cronbach's alpha score for the total score was found as .91. Besides, Cronbach's α value was found as .81 for the talent development subscale, .79 for work habits and work values subscale, and .80 for career exploration subscale. It was yielded that corrected item-total correlations ranged between .40 and .68 for total, between .49 and .64 for talent development, between .42 and .69 for work habits and work values, and between .50 and .64 for career exploration in this study.

3.1.1.3 Positive-Negative Perfectionism Scale (PNPS). PNPS was developed by Kırdök (2004) to measure the positive and negative perfectionism characteristics of pre-adolescent children studying at the second level of primary education. The first validity study was applied to 382 students, and the second validity study was applied to 648 students in secondary school. As a result of the exploratory factor analysis, there are 17 items in the scale and two factors with predetermined criteria. This scale is a 4-point Likert-type scale (1=Not at all suitable, 2=Not applicable, 3=Appropriate, 4=Completely appropriate). Items 1, 3, 5, 6, 7, 9, 11, 12, 14, and 16 measure positive perfectionism, and participants scored between 10 and 40. Items 2, 4, 8, 10, 13, 15, and 17 measure negative perfectionism, and participants scored between 7 and 28. The scale does not give a total score, and it does not contain reverse items. High scores from both subscales indicate high levels of positive and negative perfectionism. According to the reliability results, the Cronbach alpha internal consistency coefficient for positive perfectionism was .81; item-total score correlations ranged from .43 to .55. Cronbach's alpha internal consistency coefficient for negative perfectionism is .78, and item-total score correlations ranged from .48 to .55 (Kırdök 2004).

3.1.1.4 Rosenberg Self-Esteem Scale (RSES). RSES was developed by Rosenberg (1965) to measure self-esteem. It consists of 10 items, and participants were asked to rate their responses on a 4-point scale ranging from (1) “strongly disagree” to (4) “strongly agree”. Half of the items were reversely coded (i.e., 3, 5, 8, 9, 10), and half of them were normally coded (i.e., 1, 2, 4, 6, 7). Turkish validity and reliability studies RSES was conducted by Çuhadaroğlu (1986). The reliability coefficient of the scale was yielded as .75 by using the test-retest reliability method, which was performed at one-month intervals.

Although RSES was originally developed as a Guttman-type scale, it was mostly used as a Likert-type scale by many researchers (e.g., Hensley & Roberts, 1976; Reynolds et al., 1980). Moreover, Kahle (1976) suggested that RSES works better as a Likert scale. Hence, RSES was used as a Likert-type scale in the current study. The total score is calculated by summing the 10 items ranging from 10 to 40, and higher scores present a higher level of self-esteem.

Reliability analysis of the present study indicated that Cronbach's alpha was 86. It was also found that the corrected item-total correlations ranged between 0.37 and 0.73 for the whole scale.

3.3.2 Data collection procedure. Firstly, all instruments used in the study were submitted to Scientific Research Ethics Committee at Bahcesehir University, and the approval was obtained. Then, in order to conduct the research in BİLSEM, the permission was obtained from the Provincial Directorate of National Education in İstanbul. After all the approvals were taken, the schools were contacted via e-mail, phone, and in-person meetings requested. After meeting with the school administrations, the suitable day, hours, and time were determined with the school administrations for applying the scales. When it was required, support was received from the administrators, teachers, and school counselors to apply the questionnaire to the students.

The Demographic Information Form, the Career and Talent Development Self-Efficacy Scale, the Positive-Negative Perfectionism Scale, and the Rosenberg Self-Esteem Scale were filled in with the participation of volunteer students in the classroom environment. It took approximately 15 minutes to fill out the survey package. Only students from one of the BİLSEM voluntarily participated in the research via Google Form link. The school administrator shared the google forms link which consisted of online informed consent in the WhatsApp group and conveyed it to the students. First, the students were informed about the study and asked if they would like to participate. In the whole survey, approximately 5 students did not want to fill out the form. Filling out the questionnaire takes 15 minutes approximately. The data collection process was completed for 4 weeks in the first semester of the 2021-22 academic year.

3.3.3 Data analysis procedure. In the present study, Statistical Package for the Social Sciences 25 (SPSS) was utilized to conduct statistical analyses. First, preliminary analyses were conducted to detect any missing values and univariate normality. For the missing values, replace missing values according to mean was used. According to Tabachnick and Fidell (2013), skewness and kurtosis values are between -1.5 and +1.5, indicating that the data have a distribution close to normal. The skewness values indices ranged between -1.36 and .442, and kurtosis values indices ranged between -.528 and 3.915. To conclude, skewness and

kurtosis values of the variables in the present study indicated that normality assumption was violated (Tabachnick & Fidel, 2013). Therefore, Multiple Variance Analysis (MANOVA) and Multiple linear regression (MLR) was carried out using 2000 bootstrap samples to calculate the 95% bias-corrected and accelerated bootstrap confidence intervals.

Whether the subscale scores of the career and talent development self-efficacy scale (CTDSES), namely talent development, work habits and values, and career exploration differ according to gender and making the occupational decision was tested with Multiple Variance Analysis (MANOVA). One of the assumptions of MANOVA is to ensure the homogeneity of the variance-covariance matrices. The null hypothesis that the variance-covariance matrices are the same in the two groups was tested by using the Box's M test. If the statistical value is insignificant, it indicates that the assumption has been met. The results revealed that the assumption was met in the present study. Bonferroni correction was applied to reduce the probability of Type-1 error, and the significance value (p) was taken as .0125 instead of .05.

Moreover, three separate Multiple linear regression (MLR) was employed to explore the role of self-esteem and positive-negative perfectionism on the subscale scores of CTDSES, namely talent development, work habits and values, and career exploration. The deletion of outliers in the analysis makes the analysis more efficient. Mahalanobis and Cook Distance techniques are mostly used to determine outliers in the social sciences (Osborne & Overbay, 2004). The Cook value should not be greater than 1 (Cook and Weisberg, 1982) and it was found to be less than 1 in this study. For Mahalanobis Distance, the degrees of freedom in the $\chi 2$ table should be compared according to the number of independent variables (Tabachnick & Fidell, 2013). According to the $\chi 2$ table, the highest value should be 16.26, and it was found to be as 15.24. When the data were examined, it was yielded that there was no data above the α=.001 significance level. Moreover, the multicollinearity assumption was tested to apply the regression analysis. For this, the Variance Inflation Factor (VIF) and Tolerance values were checked. A VIF value less than 10 and a tolerance value greater than .10 indicate that there is no multicollinearity (Tabachnick & Fidell, 2013). As another multicollinearity assumption, the correlation between the variables was examined through Pearson

Product Moments Correlation Coefficient Analysis. If the correlation values are r<.85 and below, it is a sign that there is no multicollinearity (Kline, 2011). The correlation values were not at a level that could cause multicollinearity among the variables of the current study. Another assumption of regression analysis is that there should be no autocorrelation problem between consecutive observations or residual terms. Durbin-Watson values in the range of 1.5-2.5 (Tabachnick & Fidell, 2013) indicate that there is no autocorrelation problem in this study. As a result, MLR was utilized.

3.4 Assumptions

1) It was assumed that the research sample group represents the universe.
2) It was assumed that the students participating in the research voluntarily participated in the research and answered the questions sincerely and honestly.
3) It was assumed that the scales used in the research measure the desired characteristics.

3.5 Limitations

The research was carried out within the borders of Istanbul. Only the registered students continuing their education in BİLSEM were reached. Although it was tried to apply to different socioeconomic regions for the sample group, not all districts could be reached and only some BİLSEM students could be reached. While there were 21 BİLSEMs in total in Istanbul, this study was applied to 7 BİLSEMs. The study was limited to the 7^{th} and 8^{th} grade students who studied in Istanbul and continued to BİLSEMs (Bahçelievler, Beşiktaş, Başakşehir, Kadıköy, Üsküdar, and Zeytinburnu) in İstanbul in the 2021-2022 academic year.

Pandemic conditions have been compelling and obstructive in conducting face-to-face surveys with more students or in more diverse institutions. Despite the pandemic conditions, we tried to carry out the work face-to-face so as to reach more students and conduct the process more openly and sincerely. Out of 275 students, only 13 students from Başakşehir BİLSEM participated in the research

with online forms. Others answered the forms in the allotted time in the classroom environment.

The values measured in the self-report questionnaires and the resulting scores are based on the statements of the students and the analysis of the scales. Because the people participating in the research answer the questions with their current psychological state, this will affect the results of the research (Shulruf, Hattie, & Dixon, 2008). The validity of the results is true to the extent of the sincerity of the students and the construct validity of the scales. Participants were expected to answer four scales in approximately 15 minutes. In addition, the high number of questions in the questionnaires used and the prolonged response time may have reduced the willingness and motivation of the participants to answer the questionnaires (Walston, Lissitz, & Rudner, 2006).

Chapter 4

Results

4.1 Preliminary Analysis of the Study

In order to examine descriptive characteristics of the measures used in the present study, means, standard deviations, minimum and maximum values were computed for the subscales of the Career and Talent Development Self-Efficacy Scale (CTDSES), namely Talent Development, Work Habits and Values, and Career Exploration; the subscales of the Positive-Negative Perfectionism Scale, namely Positive Perfectionism and Negative Perfectionism; and the Rosenberg Self-Esteem Scale. The results were presented in Table 2.

Table 2

Descriptive Statistics for the Variables in the Study

Measures	N	*Min*	*Max*	M	*SD*	Skewness	Kurtosis
CRDSES-Talent Development	275	7.00	36.00	28.79	4.95	-1.243	2,851
CTDSES-Work Habits and Values	275	6.00	36.00	27.99	5.05	-1.066	1,829
CTDSES-Career Exploration	275	6.00	36.00	29.07	5.22	-1.337	3,126
CTDSES-Total	275	19.00	108.00	85.86	13.51	-1.363	3,915
Positive Perfectionism	275	11.00	40.00	27.63	5.83	-,195	-,378
Negative Perfectionism	275	7.00	28.00	15.96	5.17	,442	-,528
Self-Esteem	275	13.00	40.00	31.17	5.48	-,442	-,22

CTDSES: Career and Talent Development Self Efficacy Scale

As seen in Table 2, the average scores of the participants were found as follows; Career and Talent Development Self-Efficacy Scale (CTDSES) 28.79 ± 4.95 for the Talent Development sub-dimension, 27.99 ± 5.05 for CTDSES Work Habits and Values sub-dimension, 29.07 ± 5 for CTDSES Career Discovery sub-dimension Total score of .22 and 85.86 ± 13.51 CTDSES. The mean scores of the

participants were found as Positive Perfectionism at 27.63 ± 5.83, Negative Perfectionism at 48.00 ± 15.17, and Rosenberg Self-Esteem Scale at 31.17 ± 5.48.

4.2 Results Concerning the Subscales of Career and Talent Development Self-Efficacy by Gender

For the problem statement of "Do the subscales scores of Career and Talent Development Self-Efficacy Scale (CTDSES), namely Talent Development, Work Habits and Values, and Career Exploration differ in terms of gender?', One Way Analysis of Variance (MANOVA) in which the difference of the groups formed according to the independent variable was tested based on more than one dependent variable was applied. The results of Box's M statistic [Box's M=12.011; F $(_{6,\ 473086,6})$ = 1.977; p>0.01] revealed that the assumption of covariance equality between the groups was provided. The results were demonstrated in Table 3.

Table 3

Comparison of subscales of Career and Talent Development Self-Efficacy (CTDSES) by gender (*n=274*)

Variables	*Gender*	*N*	*M*	*SD*	*F*	*P*	n^2
CTDSES-Talent Development	Female	152	28.85	5.35	.070	.791	.000
	Male	122	28.69	4.41			
CTDSES-Work Habits and Values	Female	152	28.69	4.75	6.699	.010	.024
	Male	122	27.11	5.30			
CTDSES-Career Exploration	Female	152	29.37	5.43	1.290	.257	.005
	Male	122	28.65	4.94			

The results of One-Way Analysis of Variance (MANOVA), which was employed to investigate whether there was a gender difference in talent development, work habits and values, and career exploration indicated that there was no difference in the subscales of CTDSES, namely talent development [Wilks λ=.,962; *F* (1,274) = .070, *p*>.05, n^2=.000], and career exploration [Wilks λ=.962;

F (1,274) = 1.290, *p*>.05, n²=.005]. However, there was a significant difference in work habits and values [Wilks λ=.962; *F* (1,274) = 6.699, *p*<.05, n²=.024]. The work habits and values of gifted girls were found higher than gifted boys.

4.3 Results Concerning the Subscales of Career and Talent Development Self-Efficacy by Occupational Decision

The problem statement "Do the subscales scores of Career and Talent Development Self-Efficacy Scale (CTDSES), namely Talent Development, Work Habits and Values, and Career Exploration differ in terms of making career decision?', MANOVA was carried out. Box's M statistic [Box's M=9.131; F (6, 449467,19) = 1.503; p>0.01] indicated that the assumption of covariance equality between the groups was provided. The findings were presented in Table 4.

Table 4.

Comparison of subscales of Career and Talent Development Self-Efficacy (CTDSES) by Making Occupational Decision (*n=273*)

Variables	*Occupational Decision*	*N*	*M*	*SD*	*F*	*P*	n^2
CTDSES-Talent Development	Yes	154	29.11	5.40	1.402	.237	.005
	No	119	28.39	4.34			
CTDSES-Work Habits and Values	Yes	154	28.33	5.25	1.444	.231	.005
	No	119	27.58	4.80			
CTDSES-Career Exploration	Yes	154	29.73	5.60	5.449	.020	.020
	No	119	28.25	4.61			

The findings of MANOVA which was carried out for examining whether making occupational decision create a difference in talent development, work habits and values, and career exploration. It was revealed that there was no difference in the subscales of talent development [Wilks λ=.,978; *F* (1,273) = 1.402, *p*>.01, n²=.005], work habits and values [Wilks λ=.978; *F* (1,273) =

1.444, $p>.01$, $n^2=.005$]. However, there was a difference in career exploration [Wilks $\lambda=.962$; F (1,273) = 5.449, $p<.05$, $n^2=.020$]. The level of career exploration of gifted students who made an occupational decision was higher than the gifted students who haven't made the occupational decision yet.

4.4 Results on Positive-Negative Perfectionism and Self-Esteem as a Predictor of the Subscales of Career and Talent Development Self-Efficacy Scale, Namely Talent Development, Career Exploration, and Work Habits and Values.

Three separate multiple regression analyses were conducted to investigate the predictive role of positive-negative perfectionism and self-esteem on subscales of CTDSES, namely talent development, work habits and values, and career exploration. Before proceeding to the multiple regression analysis, the relationships among research variables, positive-negative perfectionism, self-esteem, career, and talent development self-efficacy, were tested with Pearson correlation coefficient analysis. Research findings were presented in Table 5.

Table 5

Correlation Table for the Relationships between Positive-Negative Perfectionism and Self Esteem of Gifted Students' Career and Talent Development Self-Efficacy and its subscales

	1	2	3	4	5	6	7
1. Career and Talent Development Self-Efficacy	1	.707*	.770*	.705*	.351*	.439*	-.032
2. Talent Development		1	.678*	.758*	.365*	.365*	-.067
3. Work Habits and Values			1	.660*	.290	.497*	-.029
4. Career Exploration				1	.318	.287*	-.008
5. Self-Esteem					1	.327*	-.493*
6. Positive Perfectionism						1	-.054
7. Negative Perfectionism							1

As can be seen from Table 5, there was a moderate and significant positive correlation between career and talent development self-efficacy and positive perfectionism (r= .439, p<.01). There was a moderate and significant positive correlation between talent development, a sub-scale score of CTDSES, and positive perfectionism (r=365, p<.01). There was a moderate and significant positive correlation between work habits and values, a sub-scale scores of CTDSES, and positive perfectionism (r=497, p<.01). There was a low and significant positive correlation between career exploration, a sub-scale scores of CTDSES, and positive perfectionism (r=287, p<.01). There was no significant relationship between Career and Talent Development Self-Efficacy Scale and its subscales and negative perfectionism (p>.01).

There was a moderate and significant positive correlation between career and talent development self-efficacy and self-esteem (r=351, p<.01). There was a moderate and significant positive correlation between talent development, a sub-scale score of CTDSES, and self-esteem (r=365, p<.01). There was no significant relationship between work habits and values, a sub-scale score of CTDSES, and self-esteem (p>.01). There was a no significant relationship between career exploration, a sub-scale score of CTDSES, and self-esteem (p>.01). There was a moderate and significant positive correlation between self-esteem and positive perfectionism (r=327, p<.01). Lastly, there was a moderate and significant negative correlation between self-esteem and negative perfectionism (r= -.493, p<.01).

Table 6 shows the results of multiple linear regression analysis conducted to determine the predictive role of positive-negative perfectionism and self-esteem, in predicting Talent Development, Work Habits and Values, and Career Exploration which are sub-scales of the Career and Talent Development Self-Efficacy Scale.

Table 6

Results of multivariate linear regression with bootstrapping to determine predictor variables of gifted students' Career and Talent Development Self-Efficacy subscales.

Variables	*B*	*Bias*	*Std. Error*	*p*	*Bootstrap 95% CI*	
					Lower	*Higher*
Talent Development (Constant)	14.012	.080	1.952	*.000*	10.159	17.798
Self-Esteem	.254	-.002	.055	*.000*	.152	.363
Positive Perfectionism	.243	-.001	.54	*.000*	.136	.348
Work Habits and Values (Constant)	12.743	-.017	1.568	*.000*	9.537	15.867
Self-Esteem	.133	.000	.051	*.007*	.038	.236
Positive Perfectionism	.399	.001	.047	*.000*	.305	.492
Career Exploration (Constant)	16.248	-.110	2.172	*.000*	11.817	20.075
Self-Esteem	.199	.004	.067	*.004*	.078	.340
Positive Perfectionism	.234	-.001	.056	*.000*	.124	.343

For talent development: R = .448, R^2 *= .201,* R^2_{ch} *= .247, F =30.942.*

For Work Habits and Values model: R = .515, R^2 *= .265,* R^2_{ch} *= .250, F = 44.305.*

For Career Exploration model: R = .372, R^2 *= .139,* R^2_{ch} *= .233, F = 19.808.*

To understand the interaction between variables multivariate linear regression was applied with bootstrapping to determine predictor variables of gifted students' talent development, work habits and values, and career exploration. The results of multivariate linear regression analysis revealed that positive perfectionism and self-esteem were significant predictors of talent development (R = .448, R^2 = .201, R^2ch = .247, F = 30.942), work habit and values (R = .515, R^2 = .265, R^2ch = .247, F = 44.305), and career exploration (R = .372, R^2 = .139, R^2ch = .233, F = 19.808). Self-esteem and positive perfectionism explained 20.1% of the variance in the talent development subscale of CTDSES. In the second model, self-esteem and positive perfectionism explained 26.5% of the

variance in the work habits and values subscale of CTDSES. Finally, the prediction rate of self-esteem and positive perfectionism were found as 13.9% for the career exploration subscale of CTDSES.

Chapter 5
Discussions and Conclusions

In this chapter, the findings related to career and talent development self-efficacy, positive-negative perfectionism, and self-esteem are discussed, and conclusions and recommendations are given.

5.1 Discussing the Findings on Career and Talent Development Self-Efficacy in Gifted Students by Gender

In the present study, the career and talent development self-efficacy average scores of girls were higher than boys. According to the results of the present study, there was no significant difference in talent development and career exploration by gender, but a significant difference was found in favor of girls in the work values and habits scale.

The literature can be looked at by considering the career development process from a broad perspective which includes career decision, career maturity, and career self-efficacy. Consistent with the findings of this study, regardless of whether being gifted or not, there were studies showing that girls' career and talent development self-efficacy scores were higher than boys (Abidin et al., 2019; Akbalık, 1994; Bayındır, 1999; Betz & Klein, 1996; Kontaş, 2015; Oğuz, 2008; Sapmaz, 2010; Saya, Kazak, & Doğan, 2009; Ulaş-Kılıç, 2008, Yayla, 2011; Yücel, 2019). On the other hand, some studies indicated that boys have higher career and talent development self-efficacy scores than girls (Aydın, 2014; Ateş, 2019; Bedoria & Maranon, 2019; Leung, 2007; Schroer & Dorn, 1986). Besides, Doğan (2020) found that the mean scores of male and female students were quite close to each other.

According to Kuzgun (2006), girls are more sensitive to the facts that prevent them from reaching their career goals and do not insist on high-level career goals. So, they give up on their goals quickly. Thus, girls seem more mature in terms of career development, as they make choices appropriate to their abilities and opportunities. The reason why girls have higher career and talent development self-efficacy scores than boys may be due to gender differences in social roles, upbringing, and family responsibility. The fact that girls maturate faster than boys

(Abidin et al., 2018; Bakar, 2017) and girls develop at puberty earlier than boys may also be the reason for this situation (Turan, 2013). Similarly, it was claimed that girls' career development or vocational maturity levels are higher than boys' and this difference is due to girls entering puberty earlier (Yayla, 2011).

Contrary to the results of this study, Leung (2007) and Ateş (2019) found a significant difference in career development in favor of boys. Although Betz and Klein (1996), Yayla (2011), and Kontaş (2015) found that although the average mean of girls is higher in the concept of career development, they also could not reach a significant difference in terms of gender.

Consistent with the present results, many researchers concluded that there is no significant difference in gender comparison in terms of career scores (Doğan, 2020; Bedoria & Maranon, 2019; Kağnıcı, 1999; Kelly & Colangelo, 1990; Schroer & Dorn, 1986; Zeren, 1999). As seen in the literature, most of the statistical differences were found in favor of the girls regarding career-related variables. Since there are only a few studies on career and talent development self-efficacy in gifted individuals, it can be mentioned to career and talent development self-efficacy in all individuals are as follows.

Turan (2013) found a significant difference in favor of female career and talent development scores. Yuen et al. (2010) yielded that girls indicated a higher level of work habits and values, but they indicated no significant differences in career exploration and talent development as the present study result. Moreover, Fan et al. (2013) revealed that girls' scores are higher than boys' in work values and career exploration, but only work habits and values scores were statistically and significantly higher than boys' in the 7^{th}, 8^{th}, and 9^{th} grades as the present study results. On the contrary, Bedoria and Maranon (2019) revealed that the level of boys was higher than girls about career and talent development self-efficacy, but the results yielded no significant difference between male and female high school students. However, girls are found significantly higher than boys only in the subscale of work habits and values as the present study results. Furthermore, Yayla (2011) revealed no significant differences in children's career development between boys and girls although the mean scores of girls were higher than boys.

Considering literature on specifically examining the career development of gifted, Ateş (2019) analyzed the career development of gifted middle school

students. When the scores of the gifted students in the Career Development for Children scale were compared according to gender, it was determined that there was no significant difference between the scores of the students. Only, information and locus of control subscale scores were higher in girls significantly. Doğan (2020) reached no significant differences between male and female gifted students regarding their career and talent development self-efficacy levels in middle school. Kontaş (2015) applied Career Development Scale for Childhood on 6th, 7th, and 8th grade gifted students and found no significant differences considering gender despite the average mean scores of girls were higher than boys. Only, the curiosity/exploration subscale score was found higher in girls significantly. Besides, Kelly and Colangelo (1990) claimed that gender differences do not affect the career maturity of gifted people. Consistent with the current results, according to previous studies on gifted students in middle school, general career development total scores did not change significantly according to gender, but some subscales showed significant results in favor of girls. Abidin et al. (2019) researched 2800 gifted 13-16 aged students' career decision-making self-efficacy considering demographic variables in Malaysian. The findings indicated that more than 60% of the participants' career decision-making self-efficacy levels are high regardless of age, gender, and family income status. In addition, a significant difference was found in favor of women in terms of career decision-making self-efficacy.

Leung (1998) analyzed the vocational identities of gifted high school students and found a significant relationship between genders and found that gifted boys develop more successful vocational identities compared to gifted girls. The result of the study on 227 gifted students (132 girls – 95 boys) aged 6-8 years old, indicated that gifted boys are prone to higher occupations in terms of prestige or education during adolescence. Although this situation may seem positive, gender-based preferences may cause adolescent boys to miss some career opportunities. Differently, gifted girls don't restrict their career options, unlike boys. Gifted girls also indicated higher gender-role flexibility than boys in their career aspirations (Mendez & Crawford, 2002). In this way, this difference may make gifted girls more successful in career development. On the other hand, Leung (2007) examined the career development of gifted high school juniors (136 boys and 230 girls) in terms of vocational identity and congruence. While occupational identity and

university choice concordance differ according to gender, it does not differ in career choice concordance. Gifted and talented boys showed higher occupational identity than girls. Their talents, interests, and goals were more specific and stable than girls. A significant decrease was observed in the academic achievement, self-esteem, and career goals of gifted girls during adolescence (McCormick & Wolf, 1993). Gifted boys have more clear interests, abilities, and aims whereas girls also face more barriers and challenges about role conflicts such as career roles and family roles (Leung, 1998).

When we look at the effect of some career development programs on gifted students considering the gender factor, Schroer and Dorn (1986) revealed that both before and after the Career Motivation Program, gifted girls were found more undecided about their career than gifted boys but there was no statistically significant difference between both genders. In addition, the finding of research on 48 gifted high school students showed that gifted girls increased their career aspirations from pretest to posttest due to brief one-day career guidance (Kerr, 1983). It means that intensive career guidance experience can change girls' attitudes toward their vocational future. The fact that those boys did not change their career aspirations is not surprising because they have already very high aspirations and had less room to boost them (Kerr, 1983).

Today, there may not be a gender differentiation in gifted secondary school students because of factors such as decreasing occupational discrimination by gender, the absence of gender differences in professional roles, and the increasing awareness of gifted students (Ateş, 2019). In addition, BİLSEM provides gifted students with equal career development and education opportunities, and they are exposed to less gender-based perceptions in a metropolis like Istanbul. These factors may have prevented gender differences from significantly affecting their career development. Most of the studies found significant results by gender and reached some differences in favor of girls. However, in previous studies on gifted students in secondary school, there was no significant difference between career development scales and gender, according to the results obtained from this study.

5.2 Discussion of Comparison Results of Career and Talent Development Self-Efficacy subscales by Occupational Decision

In the present study, there was no difference in the subscales of 'talent development' and 'work habits and values' of CTDSES considering an occupational decision. However, there was a significant difference in the subscale of career exploration of CTDSES considering an occupational decision. Considering career and talent development self-efficacy level, the mean score of students who make an occupational decision was 87.18, and the mean score of other students who didn't make the occupational decision was 84.24. Gifted students who made the occupational decisions indicated higher mean scores of career and talent development self-efficacy than other gifted students.

According to the results of the present study, nearly half of the gifted students (43%) experienced career indecision, and this was confirmed by Greene (2006) who stated that gifted individuals are not equipped to make complex career decisions independently. Besides, Leung (2007) declared that most gifted students are uncertain about their career-related and educational preferences. Similarly, Simpson and Kaufmann (1981) yielded that more than half of the gifted students changed their majors at least once and showed uncertainty about their career choices, and one-third of the gifted students changed their majors two or more times in university years. Leung (1998) examined the vocational identities of gifted high school students and found that approximately half of the gifted students (48.7%) did not have a temporary career choice. Moreover, the results indicated a significant relationship between the decision status and the vocational identity of gifted students.

In the same way, Taylor and Betz (1983) revealed that people with lower career decision self-efficacy were more undecided about their careers because students with lower career decision self-efficacy are less confident in their ability to complete tasks and behaviors necessary for effective decision-making. Moreover, Osipow (1999) claimed that career self-efficacy is an important concept to eliminate career indecision.

Some researchers found a positive association between career decidedness and career decision self-efficacy (Restubog, Florentino, & Garcia, 2010; Li, Ngo, & Cheung, 2019; Taylor & Popma, 1990) However, Taylor and Betz (1983)

reached a negative and moderate relationship between career indecision and career decision self-efficacy in college students. It also increases career confidence and decreases uncertainty in different career situations (Creed, Patton, & Prideaux, 2006; Restubog et al., 2010; Taylor & Betz, 1983) because people with high career decision self-efficacy, sense lower career obstacles and make more career (Blustein, 1989; Creed & Patton, 2003; Santos, Wang, & Lewis, 2018). As seen in these researches, the present study results were found consistent with the literature on the relationship between occupational decision and career exploration.

Kırdök (2018) stated that the secondary school years are an important period when students make their occupational choices, and their personalities develop in multiple ways. Career development starts earlier than adolescence period. In adolescence, they usually decide their vocational preference. Career choice refers to a dynamic process that presents various options and career change opportunities to gifted students (Maxwell, 2007). These situations further increase the need for career counseling and guidance for gifted students. Career guidance and career counseling are services that every student needs, but as stated, both have greater importance for gifted students (Ünlü-Baştuğ, 2019; Simpson & Kaufmann, 1981). Salamone (1982) stated that being vocationally undecided is a normal part of adolescence period. A common cause of career indecision is a lack of knowledge. Other reasons are having wide interests, multiple abilities, unclear goals, or financial handicaps. A deeper reason for being vocationally undecided is the inability to make decisions psychologically due to personality traits. According to Emmet and Minor (1993), gifted students are concerned about career decision-making due to multipotentiality, sensitivity, and perfectionism which also affect their whole life of them. Expectations of others, relationship pressure, not being ordinary like peers, sense of responsibility have led gifted people to be oversensitive. High abilities, future concerns, a sense of achieving, and congruence with self also formed perfectionism. Besides, because of multipotentiality, gifted try to keep open all options and it leads to career decision concerns. Briefly, career and talent development self-efficacy and occupational decision are related to each other. As in the literature, a significant portion of gifted people may experience occupational indecision.

5.3 Discussion of Correlation and Multivariate Linear Regression Results of Positive- Negative Perfectionism and Self-Esteem on Career and Talent Development Self-Efficacy Subscales

The results of the current study revealed that there was a moderate and significant positive correlation between career and talent development self-efficacy and positive perfectionism, a moderate and significant positive correlation between talent development subscale and positive perfectionism, a moderate and significant positive correlation between work habits and values subscale and positive perfectionism, low and significant positive correlation between career exploration subscale and positive perfectionism. Also, it was founded that no significant relationship between career and talent development self-efficacy and its subscales and negative perfectionism.

Moreover, the findings indicated a moderate and significant relationship between career and talent development self-efficacy total score and self-esteem; a moderate and significant positive correlation between sub-scales scores (talent development, work habits and values, and career exploration) of CTDSES and self-esteem. Furthermore, it was yielded that there was no significant relationship between career and talent development self-efficacy and its subscales and negative perfectionism.

In this study, the role of self-esteem and positive perfectionism on gifted students' career and talent development self-efficacy sub-scales which are talent development, work habits and values, and career exploration were investigated. It was found that talent development, work habits and values, and career exploration in gifted students were predicted by positive perfectionism and self-esteem significantly. Negative perfectionism was not a significant predictor of talent development, work habits and values, and career exploration.

Looking at the research results in terms of the relationship between career development self-efficacy and perfectionism, it is coherent with previous findings as follows.

Firstly, according to the study conducted with 8th grade students, there were statistically significant positive relationships between the variables of positive perfectionism and career decision-making self-efficacy but, there were no statistically significant negative associations between negative perfectionism and

career decision-making self-efficacy. Moreover, it was revealed that positive perfectionism, automatic thoughts, and GPA significantly predicted career decision-making self-efficacy, whereas the variable of negative perfectionism did not (Ulaş-Kılıç et al., 2018).

The findings revealed that the subscales of organization and personal standards of the Multidimensional Perfectionism Scale predicted significantly high school students' career decision-making self-efficacy (Frost et al., 1990; Slaney, 2001). Similarly, Kırdök (2018) investigated perfectionism and childhood career development in secondary schools, it yielded no correlation between negative perfectionism and childhood career development total score, while a positive correlation was found between positive perfectionism and career development dimension. Besides, positive perfectionism predicted childhood career development total score and its subscales. However, there was also no relationship between negative perfectionism and career development and sub-scales.

According to Gnilka and Novakovic (2017), for male university students, increasing perfectionistic strivings (positive perfectionism) and career-searching self-efficacy were in a positive relationship, which decreases the career barriers perception. On the other hand, increasing in perfectionistic concerns (negative perfectionism) and career search self-efficacy were in a negative relationship, which increases career barriers perceptions.

Several studies revealed that self-oriented perfectionism and other-oriented perfectionism were associated with positive perfectionism, and socially prescribed perfectionism was correlated with negative perfectionism (Eryılmaz & Kara, 2017; Frost et al., 1993; Terry et al., 1995). Stoeber, Mutinelli, and Corr (2016) claimed that self-oriented perfectionism indicated positive relationships with all three aspects which are career adaptability, career optimism, and perceived knowledge of the job market. Positive relationships were found between other-oriented perfectionism with career optimism and perceived knowledge. Also, socially prescribed perfectionism showed a unique negative relationship with career adaptability.

Eryılmaz and Kara (2017) found a significant relationship between career plans with self-directed perfectionism and trait anxiety. In other words, self-directed perfectionism and trait anxiety were found significant predictors of career

planning. Moreover, self-directed perfectionism, social perfectionism, and trait anxiety were significant predictors of career adaptability. Self-directed perfectionism, social perfectionism, and trait anxiety explain about 20% of the total variance of career adaptability. According to the results of the research, self-oriented perfectionism explains career planning and career exploration in a significant and positive way being consistent with present results.

Gati, Gadassi, Saka, Hadadi, Ansenberg, and Friedmann (2010) found that perfectionist individuals have difficulties in career development, but when perfectionism was examined in terms of positive-negative aspects of gifted individuals through their study, its positive effect was found. The results of the previous studies investigating the relationship between positive-negative perfectionism and career in the literature were in line with the findings of the current study.

Positive perfectionism is expressed as a normal and healthy part of perfectionism and is defined as the ability to reach pleasure from the result of intense effort (Stoltz & Ashby, 2007). Positive perfectionism generates positive reinforcement and direction to achieve positive results (Shafran & Mansell, 2001; Slade & Owen, 1998). Therefore, Bandura (1986) claimed that high expectations may increase performance levels, leading to greater performance accomplishments which may provide higher self-efficacy (cited in Locicero & Ashby, 2000). Individuals with more positive perfectionism traits (for example, setting high standards without negative self-evaluation) are less likely to approve of negative thinking about their talent and career development (Andrew et al., 2014). Kottman (2000) states that personal performance standards lead to willingness in positive perfectionists and anxiety in negative perfectionists. According to Zunker (2012), the anxiety levels of individuals lead to irrational beliefs about careers and to believe that they cannot successfully fulfill their career development tasks.

Secondly, there is no consensus on the self-esteem levels of gifted students in literature. While some studies argue that gifted students have higher self-esteem than students with normal intelligence levels (Field et al., 1998; Janos, Hunf, & Robinson, 1985; Leana-Taşcılar & Kanlı, 2014; Topçu, 2015); some studies argue that they have low self-esteem (Lea-Wood & Clunies Ross, 1995; Nicpon et al., 2012). Some studies did not find a significant difference between the gifted and

non-gifted groups (Amini, 2005; Coşar-Ciğerci 2006; Pereira, 2002; Vialle, Heaven, & Ciarrochi, 2005). It can be inferred that experiences, education, family, parents, opportunities, the environment they live in, expectations, and pressure of others may be effective in the emergence of this differentiation in these studies about gifted and non-gifted students. In addition, the self-esteem levels of gifted students in BİLSEM can be evaluated with the Big Fish Small Lake Effect (BFLPE) theory put forward by Marsh (1984). Participating gifted students in the current study are those who receive special education together with gifted students at BİLSEM. The self-esteem levels of gifted students may differ when they take education with non-gifted students. Therefore, when evaluating the self-esteem level of gifted students, it should be considered whether their peers are gifted or not.

Eryılmaz and Kara (2017) claimed that while individuals are making career exploration and career plans, they are also actually building their selves in a vocational perspective. Köknel (1998) stated that self-esteem is about knowing one's capacity, limits, and the features one has. The relationship between self-esteem to external career success is based on self-consistency, according to in which individuals try to revive behaviors corresponding to their self-esteem in their careers (Korman, 1976; Tesser, 1988). According to Mueller and Judge (2008), self-esteem can not only affect occupation research and short-term performance but also can have effects over years on career development. Erol (2004) stated that gifted people with high self-esteem can motivate themselves, overcome difficulties, and it is clear that they will be more successful. In light of the opinions in the literature, career development with high self-esteem in gifted individuals was significant as expected.

Present results on the relationship between career development and self-esteem are consistent with previous findings. For instance, self-esteem explained the career indecision of university students negatively and at a significant level (Aydın, 2014). Mueller, Judge, and Piccolo (2008) found a moderate significant relationship between self-esteem and career outcomes such as income and prestige. Yücel (2019) yielded that self-esteem and career decision-making difficulty have got a negative and significant relationship. Similarly; Lin, Wu, and Chan (2015) found that students with high self-esteem face lower career uncertainty. However,

Steitz and Wulff (1999) reported that self-esteem was directly correlated with career self-efficacy but not career indecision in girls. Niles, Jacob, and Nichols (2010) also reached the powerful and bidirectional relationship between career development and self-esteem.

According to Şekerli (2016), self-esteem significantly predicts career decision-making difficulties. 8th grade students with high self-esteem experience less trouble making career decisions. In other words, students with high self-esteem felt less insufficient in preparation for making career decisions.

Yücel (2019) investigated the predictive role of high school students' negative automatic thoughts and self-esteem levels on their decision-making difficulties at the point of career choice. Self-esteem negatively affects career decision-making difficulties found to be significantly predictive. As self-esteem rises career decision-making difficulty decreases.

Şenyiğit (2015) examined the relationship between vocational high school students' professional decision-making skills and self-perception and found a low significant relationship between self-esteem and vocational decision-making subscales. Students with high self-esteem indicated significantly higher vocational identity, which is related to decidedness and feeling of well-being (Holland, 1985). Considering the studies on career development and self-esteem, it seems to be in line with the current results. It can be concluded that self-esteem is an important stakeholder in career development.

Considering the effectiveness of career counseling and its practices on career development and self-esteem, Legum and Hoare (2004) evaluated the influence of a career intervention program on career maturity degree, self-esteem, and academic success for 27 middle school students from the risk group. In a study with a control group of 30 people, an increase was found students' career maturity degree, self-esteem, and academic success, but not significantly. According to Nalipay and Alfonso (2018), students' career and talent development self-efficacy can be enhanced via interventions which aim to boost their self-compassion and hope. In this way, Hashish (2019) declared that career awareness and education increase the students' career and talent development self-efficacy.

5.4 Conclusions

In this study, which examined the relationship between career and talent development self-efficacy, positive and negative perfectionism, and self-esteem in gifted students, the following results were reached:

- There was no significant difference in talent development and career exploration by gender.
- A significant difference was found in favor of girls in the work habits and values subscale.
- There was no difference in the subscales of talent development and work habits and values of CTDSES considering the occupational decision.
- There was a significant difference in the subscale of career exploration of CTDSES considering the occupational decision.
- There was a moderate and significant positive correlation between career and talent development self-efficacy and positive perfectionism.
- There was a moderate and significant positive correlation between talent development subscale and positive perfectionism.
- There was a moderate and significant positive correlation between work habits and values subscale and positive perfectionism.
- There was a low and significant positive correlation between career exploration subscale and positive perfectionism.
- There was a significant relationship between career and talent development self-efficacy and its subscales and negative perfectionism.
- A moderate and significant relationship was found between career and talent development self-efficacy total score and self-esteem.
- A moderate and significant positive correlation was found between sub-scale scores (talent development, work habits and values, and career exploration) of CTDSES, and self-esteem.
- There was no significant relationship between career and talent development self-efficacy and its subscales and negative perfectionism.
- It was found that talent development, work habits and values, and career exploration in gifted students were predicted by positive perfectionism and self-esteem significantly.

- Negative perfectionism was not a significant predictor of talent development, work habits and values, and career exploration.

5.5 Suggestions

5.4.1 Suggestions for researchers

1. In the study, how the perfectionism and self-esteem of gifted students predict their career development self-efficacy was investigated. It would be useful to investigate other predictors such as family, education, or teacher that may be effective in the career development of gifted people.
2. The same study can be applied in different developmental stages such as primary school, high school, and university, and can be compared and evaluated holistically as the relationship between perfectionism, self-esteem, and career development in gifted.
3. Although there are studies on the career development of gifted students in the literature, their number is insufficient. Therefore, more studies are needed to support the career development of gifted students.
4. In the study carried out, only the sample of Istanbul was studied, data can be collected from all over Turkey.

5.4.2 Suggestions for the practitioner

1. It should not be forgotten that gifted and talented students may still need support and guidance for career development despite their higher potential and abilities.
2. Since they can be competent in more than one skill area, an effective and professional career counseling service should be provided during career guidance.
3. When working with gifted students, studies can be conducted to develop positive perfectionism and self-esteem.
4. When working with gifted students in the educational environment, not only talent and skill development-based activities but also psychological development-based activities such as positive attitude and behavior should be included in their curriculum.

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