THE MEDIATING ROLE OF COGNITIVE CONTROL AND COGNITIVE FLEXIBILITY ON THE RELATIONSHIP BETWEEN PERFECTIONISM AND SOCIAL ANXIETY

DAMLA KÖROĞLU

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DAMLA KÖROĞLU

THESIS ADVISOR: ASST. PROF. DR. YASEMİN MERAL ÖĞÜTÇÜ

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ETHICAL DECLARATION

I hereby declare that I am the sole author of this thesis and that I have conducted my work in accordance with academic rules and ethical behaviour at every stage from the planning of the thesis to its defence. I confirm that I have cited all ideas, information and findings that are not specific to my study, as required by the code of ethical behaviour, and that all statements not cited are my own.

Name, Surname: Damla, Köroğlu

Date: 11.07.2023

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ABSTRACT

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Köroğlu, Damla

Master's Program in Clinical Psychology

Advisor: Asst. Prof. Dr. Yasemin Meral Öğütçü

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The study aimed to investigate the mediating roles of cognitive control and cognitive flexibility in the association between perfectionism and social anxiety. 300 people between the ages of 18-78 participated. Demographic Form, Liebowitz Social Anxiety Scale, Frost Multidimensional Perfectionism Scale, Cognitive Control and Flexibility Questionnaire were used and conducted online via Google Forms. Parallel mediation analysis was performed to test the mediating role of cognitive control and cognitive flexibility on the relationship between perfectionism and social anxiety. The results revealed that cognitive control played a significant mediating role in the relationship between perfectionism and social anxiety. However, cognitive flexibility did not exhibit a mediating role in this relationship. These findings contribute to our understanding of the underlying mechanisms linking perfectionism and social anxiety, highlighting the importance of cognitive control in this association. This study provides valuable insights for researchers, clinicians, and practitioners by shedding

light on the specific cognitive processes that may mediate the relationship between perfectionism and social anxiety. Such knowledge can inform the development of targeted interventions aimed at reducing social anxiety symptoms in individuals with perfectionistic tendencies. Further research is warranted to explore additional factors that may influence this complex relationship and to replicate these findings in diverse populations.

Keywords: Perfectionism, Social Anxiety, Cognitive Control, Cognitive Flexibility

ÖZET

SOSYAL KAYGI VE MÜKEMMELİYETÇİLİK ARASINDAKİ İLİŞKİDE BİLİŞSEL KONTROL VE BİLİŞSEL ESNEKLİĞİN ARACI ROLÜ

Köroğlu, Damla

Klinik Psikoloji Yüksek Lisans Programı

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Bu çalışmanın amacı, mükemmeliyetçilik ile sosyal kaygı arasındaki ilişkide bilişsel kontrol ve bilişsel esnekliğin aracılık rollerini araştırmaktır. 18-78 yaş aralığında 300 kişi çalışmaya katılmıştır. Çalışmada Demografik Form, Liebowitz Sosyal Anksiyete Ölçeği, Frost Çok Boyutlu Mükemmeliyetçilik Ölçeği, Bilişsel Kontrol ve Esneklik Ölçeği kullanılmış ve veri toplama işlemi Google Forms aracılığıyla çevrimiçi olarak gerçekleştirilmiştir. Paralel aracılık analizi, mükemmeliyetçilik ve sosyal kaygı arasındaki ilişkide bilişsel kontrol ve bilişsel esnekliğin aracılık etkilerini test etmek için kullanılmıştır. Sonuçlar, bilişsel kontrolün, mükemmeliyetçilik ve sosyal kaygı arasındaki ilişkide önemli bir aracılık rolü oynadığını ortaya koymuştur. Bununla birlikte, bilişsel esnekliğin bu ilişkide aracılık rolü göstermediği bulunmuştur. Bu bulgular, mükemmeliyetçilik ve sosyal kaygı arasındaki temel mekanizmaların anlaşılmasına katkıda bulunmakta ve bu ilişkide bilişsel kontrolün önemini vurgulamaktadır. Bu çalışma, araştırmacılar, klinisyenler ve uygulayıcılar için değerli bir içgörü sunarak mükemmeliyetçilik ve sosyal kaygı arasındaki ilişkiyi aracılık

edebilecek belirli bilişsel süreçleri aydınlatmaktadır. Bu bilgi, mükemmeliyetçi eğilimlere sahip bireylerde sosyal kaygı semptomlarını azaltmayı hedefleyen hedefe yönelik müdahalelerin geliştirilmesine katkı sağlayabilir. Bu karmaşık ilişkiyi etkileyebilecek ek faktörleri keşfetmek ve bu bulguları farklı popülasyonlarda tekrarlamak için ileri araştırmalara ihtiyaç vardır.

Anahtar Kelimeler: Mükemmeliyetçilik, Sosyal Kaygı, Bilişsel Kontrol, Bilişsel Esneklik

Dedicated to my dearest grandfather…

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LIST OF ABBREVIATIONS

CCFQ: Cognitive Control and Flexibility Questionnaire

CC: Cognitive Control

CF: Cognitive Flexibility

FMPS: Frost Multidimensional Perfectionism Scale

CM: Concern over Mistakes

PS: Personal Standards

PE: Parental Expectations

PC: Parental Criticism

D: Doubts about Actions

O: Organization

HMPS: Hewitt Multidimensional Perfectionism Scale

SOP: Self-Oriented Perfectionism

SPP: Socially Prescribed Perfectionism

OOP: Other-Oriented Perfectionism

LSAS: Liebowitz Social Anxiety Scale

SAD: Social Anxiety Disorder

GAD: Generalized Anxiety Disorder

SPSS: The Statistical Package for Social Sciences

CHAPTER 1: INTRODUCTION

Since birth, individuals are constantly surrounded by people who contribute to their growth and development. Human beings possess a fundamental inclination to establish and sustain stable, authentic, and positive connections with their environment. Engaging in diverse social situations and interacting with others represents a paramount mechanism for enhancing psychological, social, and physical well-being (Baumeister and Leary, 1995). Social anxiety disorder (SAD) is distinguished by the presence of intense anxiety or fear experienced in social situations where an individual is subjected to evaluation by others, encompassing interactions, performances, or situations involving observation (APA, 2013). Those with social anxiety commonly perceive themselves as falling short of others' expectations, leading to the potential triggering of anxiety during social interactions, or performance-related situations (Frost et al., 2010).

Perfectionism was delineated as the act of imposing higher standards of performance upon oneself and others, surpassing the level of performance necessitated by the given circumstances (Hollender, 1978). Individuals exhibiting perfectionism demonstrate a tendency to direct their attention selectively and excessively towards facets of their performance that can be construed as failures or deficiencies. As individuals mature, their behavior undergoes a continuous process of refinement, critique, correction, and reinforcement (Burns, 1980). All of these can reveal perfectionism in person, especially in situations including performance. Social anxiety and perfectionism include some common sources of triggering such as defining personal standards, and performance necessities, and several studies have shown a relationship between them (e.g., Antony et al., 1998; Brown et al., 1995; Juster et al., 1996; Levinson et al., 2015). An individual's capacity to adjust to ever-changing settings and their goal-directed activities depends on their cognitive control (CC) and cognitive flexibility (CF) (Gabrys et al., 2018). CC refers to the ability to block information that is not relevant while focusing on information that is currently relevant for a particular purpose (Morton et al., 2011). CF refers to the ability to change cognitive structures to adapt to changing environmental stimuli (Dennis and Vander Wal, 2009). CC and CF are quite new concepts compared to SAD and perfectionism. Although there are studies about

CC and CF that were investigated with anxiety, the number of studies on social anxiety specifically is limited (Demirtaş, 2021; Gabrys et al., 2018; Liao et al., 2019). In addition, perfectionism and CF were investigated together in studies but they are limited (Akkuş Çutuk, 2020; Hayatbini et al., 2021). Also, there were no studies investigating the relationship between perfectionism and CC. Therefore, this thesis aims to investigate the mediating role of CC and CF on the association between social anxiety and perfectionism. In the following, social anxiety, perfectionism, CC, and CF levels of participants will be discussed, and these concepts will be introduced in detail.

1.1. Social Anxiety Disorder

This section includes a detailed overview of the historical development, definition, symptoms, diagnostic criteria, epidemiology, etiology, and cognitive models of SAD.

1.1.1. History of Social Anxiety Disorder

Social Anxiety Disorder has a rich historical background that spans several centuries. During the 1870s, social anxiety symptoms were systematically cataloged alongside other phobias (Marks, 1985). During the 1900s, the designation "social neurosis" emerged as a descriptive term to denote individuals with severe shyness, characterized by marked social reticence and avoidance. Pioneering psychiatrist Pierre Janet first used the phrase "social phobia" in 1903 (Kagedan, 2017; Lépine and Lellouch, 1995; Raymond and Janet, 1903). The literature on social anxiety has significantly expanded during the last 50 years (Hofmann and DiBartolo, 2014). Psychiatrists often come across various types of social phobias where individuals experience fear and anxiety in particular situations such as eating, speaking, or blushing in front of others. (Marks, 1970). These fears are distinct from other phobias and have been studied extensively in the field of social psychology (e.g., Marks, 1970; Zimbardo, 1977). The recognition of social phobia as a distinct disorder in the DSM-III (APA, 1980) and its subsequent revisions have been considered significant milestones in the relevant scholarly literature.

Over time, there have been several revisions to the social anxiety diagnostic criteria. Marks and Gelder (1966) classified social anxiety within the category of phobic

disorders, specifically referring to it as the apprehension stemming from an amplified apprehension of being closely observed and evaluated by others during activities that involve performance or social interaction. Consequently, this apprehension gives rise to anxiety or avoidance behaviors. Subsequently, this description provided the groundwork for elucidating social anxiety in subsequent years (e.g., Heimberg et al., 1999). Symptoms resembling social phobia were encompassed within the classification of phobic neurosis in both the DSM's initial (APA, 1952) and subsequent editions (APA, 1968). However, researchers have shown that the diagnostic criteria for social phobia were deficient in empirical research supporting a valid diagnosis (Heimberg et al., 2014; Hidalgo et al., 2001). In some people, various social situations can lead to anxiety and panic (Liebowitz et al., 1985). Considering numerous criticisms, the DSM-III-R (APA, 1987) broadened the scope of the definition and introduced a generalized specifier to encompass individuals experiencing high levels of anxiety and fear across *many* social contexts. Nevertheless, this expansion has given rise to additional criticisms due to the ambiguity surrounding the interpretation of the term -*many*-. Such as according to the study by Hidalgo et al. (2001), while the DSM-III-R extended the scope of social phobia, it concurrently imposed a limitation by introducing an exclusion criterion for individuals who's social or performance-related fears were attributed to an Axis III disorder, such as stammering, or tremors associated with Parkinson's disease. In the DSM-IV (1994) and DSM-IV-TR (2000), the terminology shifted from "social phobia" to "social anxiety disorder," accompanied by the provision of more comprehensive diagnostic criteria (Bögels et al., 2010). Following extensive research conducted for the most recent edition of the DSM, SAD was categorized within the broader classification of anxiety disorders in the DSM-V (APA, 2013). The preceding classification was discarded, and individuals started to be assessed on a spectrum based on the intensity of their symptoms (Bögels et al., 2010).

1.1.2. Definition, Symptoms, and Diagnostic Criteria of Social Anxiety Disorder

According to DSM-V (APA, 2013), SAD is classified by significant anxiety or fear experienced in social situations where an individual is subjected to evaluation by others, encompassing interactions, performances, or situations involving observation. Social anxiety refers to the fear of being judged negatively by others and in public. Individuals with social anxiety have a perception that they are not meeting other

people's expectations, so social interactions or performance situations can have a triggering effect (Frost et al., 2010). Schlenker and Leary (1982) defined social anxiety as the experience of anxiety triggered by the anticipation or actual occurrence of personal evaluation in both real and imagined social situations. From an evolutionary perspective, social anxiety can be conceptualized as a manifestation of competitive anxiety, arising in situations where individuals perceive themselves as occupying a relatively lower position within a hierarchy of desirable attributes or facing the potential loss of status and control over social resources, such as approval, assistance, or support, due to the perception of possessing undesirable attributes. Therefore, social anxiety appears to undermine the individual's capacity to engage in competitive endeavors for resources and, in more severe manifestations, hampers the establishment of novel cooperative relationships (Gilbert, 2001).

Individuals diagnosed with SAD exhibit substantial variation in the severity, intensity, and specific social contexts that elicit anxiety (Butcher, Mineka and Hooley, 2014). Common social situations encompass encounters with unfamiliar individuals, participating in group discussions, initiating conversations, interacting with authority figures, engaging in work-related activities, consuming food or beverages while being observed, attending classes, engaging in shopping activities, appearing in public settings, utilizing public restrooms, and delivering public speeches (National Collaborating Centre for Mental Health, 2013). During interpersonal interactions, individuals with SAD may or may not exhibit observable signs of discomfort (e.g., blushing, avoiding eye contact); however, they consistently experience intense emotional or physical symptoms, or both, such as fear, accelerated heart rate, perspiration, trembling, and difficulty concentrating. Nevertheless, socially anxious individuals experience a fear that the outward indications of their anxiety will be perceived by others. As a result, they tend to refrain from actively participating in social environments (Stein and Stein, 2008).

According to the DSM-V (APA, 2013), for an individual to be diagnosed with SAD, the state of fear, anxiety, or avoidance in social contexts must persist for a minimum duration of six months and significantly impair their functioning. Moreover, the fear or anxiety experienced is disproportionate to the existent level of threat present in the social situation also extends beyond what is considered reasonable within the

sociocultural context. Heimberg et al. (2014) emphasized the significance of gathering information regarding the individual's living environment to ensure a precise diagnostic assessment. Clinicians are advised to document cases in which anxiety is restricted to public speaking or specific performance-related actions (APA, 2013). The current diagnostic criteria for SAD, as outlined in the DSM-V, are presented in the following table (Table 1).

Table 1. The Diagnostic Criteria for Social Anxiety Disorder (Source: American Psychiatric Association, 2013).

A. Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions (e.g., having a conversation, meeting unfamiliar people), being observed (e.g., eating or drinking), and performing in front of others (e.g., giving a speech).
B. The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others).
C. The social situations almost always provoke fear or anxiety. *Note:* In children, the fear or anxiety may be expressed by crying, tantrums, freezing, clinging, shrinking, or failing to speak in social situations.
D. The social situations are avoided or endured with intense fear or anxiety.
E. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
F. The fear, anxiety, or avoidance is persistent, typically lasting for 6 months or more.
G. The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
H. The fear, anxiety, or avoidance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.
İ. The fear, anxiety, or avoidance is not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.

Table 1. The Diagnostic Criteria for Social Anxiety Disorder (Source: American Psychiatric Association, 2013) (Continued).

J. If another medical condition (e.g., Parkinson's disease, obesity, disfigurement from burns or injury) is present, the fear, anxiety, or avoidance is clearly unrelated or excessive.
Specify if: Performance only: if the fear is restricted to speaking or performing in public.

1.1.3. Epidemiology of Social Anxiety Disorder

This section of the study will explore the epidemiology of SAD, investigating aspects such as the onset, prevalence, gender differences, comorbidity, and utilization of treatment.

Onset

The literature contains a substantial number of epidemiological studies focusing on SAD. Stein and Stein (2008) noted that SAD stands out as the prevailing anxiety disorder, often emerging in early life, with around 50% of individuals experiencing its onset by the age of 11, and approximately 80% experiencing it by the age of 20. Most individuals with social anxiety report the emergence of symptoms during the average age range of 10 to 13 years (Nelson et al., 2000). The findings indicate that SAD typically manifests during childhood or adolescence. Interpersonal encounters and the potential for negative evaluation within interpersonal interactions can transpire across all age groups (Bögels et al., 2010). Although, while SAD commonly initiates during early life, it often persists into adulthood and even continues to be present in old age (Stein and Stein, 2008). Certain individuals may recount a particular period linked to a specific event (e.g., experiencing instances of bullying or teasing). According to Hamilton et al. (2016), interpersonal stressors like peer bullying and parental emotional abuse have been proposed as potential predictors for the emergence of symptoms during adolescence. Some individuals may characterize themselves as having consistently exhibited shyness and perceive their SAD as a gradual yet significant intensification of their unease when interacting with or being approached by others. In contrast, some cannot recollect a period in their lives devoid of social

anxiety (National Collaborating Centre for Mental Health, 2013).

Prevalence

The prevalence rates of SAD exhibit substantial variation and are susceptible to numerous methodological factors, including the diagnostic criteria utilized, the diagnostic threshold applied, the assessment methodology employed, the number of situational probes included, and the specific prevalence period chosen by the researcher (Furmark, 2002). Despite these variations, SAD remains one of the most commonly occurring anxiety disorders. As an example, Judd (1994) presented findings indicating that in the United States SAD has a lifetime prevalence rate of 13.3%. According to Lecrubier (1998), SAD is considered one of the most prevalent mental disorders, with a lifetime prevalence rate of 14.4%. Kessler et al. (2005) conducted a study revealing that SAD exhibits a lifetime prevalence rate of 12%, surpassing the rates of other mental disorders such as post-traumatic stress disorder (7%), generalized anxiety disorder (6%), panic disorder (5%), and obsessive-compulsive disorder (2%). Furthermore, SAD was identified as the second most common mental disorder, following major depressive disorder, alcohol dependence, and specific phobia. Employing rigorous criteria and individual assessments, the lifetime prevalence rate in the United States was estimated to be 5%, while the annual prevalence rate was estimated to be 3% (Grant et al., 2005).

Ruscio et al. (2007) conducted a study revealing that the lifetime prevalence rate for SAD was 12.1%, while the 12-month prevalence rate was 7.1%. Among the individuals under consideration, the most prevalent social fears experienced over a lifetime are related to public speaking (21.2%) and speaking up in a meeting or class (19.5%). On the other hand, the least common fears reported are associated with using a bathroom away from home (5.7%) and performing tasks such as writing, eating, or drinking while being observed (8.1%) (Ruscio et al., 2007). Among the individuals under consideration, the most prevalent social fears experienced over a lifetime are related to public speaking (21.2%) and speaking up in a meeting or class (19.5%). In research conducted within the general population of Australia, the prevalence rate of SAD was found to be 4.2% within 12 months and 8.4% over a lifetime. (McEvoy et al., 2011). Based on the findings of Wittchen et al. (2011), the prevalence rates of

social anxiety in community studies varied between 0.6% and 7.9%.

Nevertheless, many studies investigating the epidemiology of SAD have focused on participants residing in affluent Western nations. Stein et al. (2017) utilized data from the World Mental Health Research Initiative to conduct a comprehensive study investigating the prevalence, trajectory, intensification, sociodemographic profiles, comorbidity patterns, and treatment approaches for SAD across high-income, middle-income, and low-income countries worldwide. Across different geographic regions, the prevalence rates of SAD varied, with rates ranging from 1.3% to 4.0% for the 30-day, 12-month, and lifetime periods. The findings of this study indicated a lower prevalence of SAD in countries characterized by lower income levels compared to countries with higher income levels. Furthermore, the study revealed that individuals from Africa and the Eastern Mediterranean exhibited the lowest likelihood of SAD, whereas the highest rates were observed in the Americas and the Pacific West (Stein et al., 2017). The prevalence of SAD tends to be higher among specific sociodemographic characteristics, including younger age, female gender, unmarried status, lower educational attainment, and lower income levels. While there are notable variations in the prevalence rates of SAD among different countries, several consistent patterns emerge, including early onset of the disorder, chronicity, impairment across various areas of life, and similar comorbidities with other psychiatric conditions (Acarturk et al., 2008; Stein et al., 2017).

The prevalence of SAD in the Turkish population is estimated to be 1.8%. (Erol et al., 1998). In the study conducted by İzgiç et al. (2004), the lifetime prevalence of SAD among university students was found to be 9.6%. Also, according to Gültekin and Dereboy (2011), in total, 20.9% of the participants reported experiencing SAD in the past year, while 21.7% reported having SAD at some point in their lifetime. Gültekin and Dereboy (2011) indicated that overall, 20.9% of the participants experienced SAD within the past year, while 21.7% had a lifetime history of SAD. A study conducted on Turkish children and adolescents examined the prevalence rate of SAD and its psychosocial factors, revealing a prevalence rate of 3.9% (Demir et al., 2013).

Gender Differences

Contradictory findings regarding gender differences in the prevalence of SAD have emerged from various community and clinical studies. Within community populations, females tend to demonstrate higher scores on assessments of social anxiety compared to males (Asher et al., 2017; Fehm et al., 2008; Furmark, 2002; Schneier et al., 1992; Xu et al., 2012). Turk et al. (1998) observed that in clinical samples, there was no significant disparity in the prevalence of SAD between males and females. However, variations were noted in the intensity of anxiety experienced in specific situations. Females reported higher levels of fear associated with attending parties, whereas males reported higher levels of fear associated with using public restrooms for urination. The examination of gender differences can be contextualized within the framework of conventional gender roles. According to the study conducted by Xu et al. (2012), females tend to experience higher levels of anxiety in professional contexts, such as job interviews, interactions with authority figures, and group speaking, whereas males exhibit higher levels of anxiety in dating situations. Conversely, several studies have indicated a higher prevalence rate of SAD among females across all age groups (Kessler et al., 2012; Ruscio et al. 2008). In the Turkish population, SAD is more prevalent among females. The lifetime prevalence rate for females is 9.8%, while for males it is 9.4%. In the past year, the prevalence was 8.9% for females and 7.1% for males (İzgiç et al., 2000).

Comorbidity

In adulthood, SAD is rarely observed as an isolated condition, as it often coexists with other mental disorders. The comorbidity rate ranges from 70% to 80%, with depression being the most associated disorder (Lecrubier et al., 2000). Individuals diagnosed with SAD have a higher likelihood of experiencing comorbid conditions, such as other anxiety disorders (up to 70%), mood disorders (up to 65%), nicotine addiction (27%), and substance abuse (approximately 20%) (Fehm et al., 2008; Grant et al., 2005). In clinical samples, individuals diagnosed with SAD often present comorbidities such as avoidant personality disorder, panic disorder, and generalized anxiety disorder, with nearly half of them also experiencing concurrent depression (Faravelli et al., 2000; Wittchen and Fehm, 2001). People with elevated degrees of social anxiety are more

prone to experiencing depressive symptoms, even in the absence of a clinical diagnosis (Beesdo et al., 2007). There is a higher likelihood that social anxiety contributes to an increased risk of substance abuse and nicotine addiction (Regier et al., 1998; Sonntag et al., 2000). The rise in nicotine addiction can be attributed to the alleviation of anxiety symptoms that nicotine provides when anxiety levels escalate (Sonntag et al., 2000). Furthermore, social anxiety has been identified as a potential risk factor for the development of Internet addiction in individuals (Weinstein et al., 2015).

Treatment Utilization

A limited number of individuals with SAD actively seek professional treatment for their condition (Fehm et al., 2008). Typically, individuals with SAD tend to receive support and treatment considerably later after the initial onset of the disorder (Fehm et al., 2008; Wang et al., 2005). The delay in seeking treatment for SAD can be attributed to various factors, including the perception that it is not a condition that can be effectively treated and the belief that it is an inherent and unchangeable aspect of one's personality (Davidson et al., 1993; Schneier et al., 1992). Undiagnosed social anxiety is more prevalent among patients with coexisting acute mental disorders, such as depression or suicidality, and should not be overlooked, as addressing it may play a role in achieving symptom remission. A higher occurrence of suicide attempts was observed among individuals with social phobia in general, with most of the increase attributed to cases comorbid with other disorders (e.g., depression) (Schneier et al., 1992). Untreated social anxiety symptoms in the early stages negatively impact the individual's quality of life. This constitutes a risk factor as it leads to a decline in functioning across multiple domains, including educational, occupational, familial, and social contexts (Aderka et al., 2012; Kessler, 2003), and other psychological disorders that may emerge in subsequent stages (Hofmann et al., 2012).

1.1.4. Etiology of Social Anxiety Disorder

Prominent models concerning SAD center on the biological, psychological, and environmental factors that elevate the susceptibility to social anxiety (Clark and Wells, 1995; Heimberg et al., 2010; Hofmann, 2007; Rapee and Heimberg, 1997). The models that explain the sustenance of SAD fail to elucidate the developmental process

of SAD or the underlying causes of the factors believed to perpetuate the disorder (Wong and Rapee, 2016). Although there has been a growing body of neurobiological research on social phobia over the last decade, the precise biological characteristics of the disorder remain inadequately comprehended (Tillfors, 2004). Therefore, gaining a comprehensive understanding of the origins of SAD is crucial (Hudson and Rapee, 2000). To enhance our comprehension of the developmental pathways of SAD, it is essential to explore both intrinsic and extrinsic factors contributing to its etiology, as detailed below.

Intrinsic Factors

To elucidate the impact of genetic factors in the development of psychopathologies, extensive research utilizing family, twin, and adoption studies has been conducted. Previous investigations examining SAD have demonstrated that individuals with first-degree relatives affected by SAD face a greater risk compared to those without such familial history, as an example child who have parents with SAD exhibit an increased probability of experiencing social anxiety themselves (Fyer, 1993; Lieb et al., 2000; Mancini et al., 1996; Stein et al., 1998; Tillfors et al., 2001). Twin studies offer additional support for a genetic vulnerability to SAD, as the rate of agreement or similarity is higher among identical twins compared to fraternal twins. In cases where one twin is affected, the likelihood of the other twin being affected is higher among monozygotic twins than among dizygotic twins (Kendler et al., 1992). Furthermore, these findings align with the outcomes observed in studies investigating shyness and social fears through twin and adoption research (Daniels and Plomin, 1985; Rose and Ditto, 1983).

The inclination towards SAD is believed to be influenced by temperament, which refers to the way a person's internal behavioral patterns are shaped by environmental factors (Sanson et al., 1987). Hence, the majority of temperament theories posit that behavioral tendencies attributed to temperament have a biological foundation (Saudino, 2005). In childhood, exhibiting behavioral inhibition is considered a potential risk factor for the appearance of social anxiety in adulthood (Hayward et al., 1998). If a child consistently demonstrates heightened sympathetic arousal and behavioral withdrawal in response to new stimuli or situations, it may indicate the

presence of behavioral inhibition as a characteristic temperament trait. Instances of behavioral inhibition encompass disruptions in ongoing activities, evasive behaviors, retreat from social interactions, seclusion, and hesitancy in engaging with unfamiliar individuals or objects (Mick and Telch, 1998). Essex et al. (2010) conducted a study investigating the temperament traits of children aged 1 to 9 years, revealing that half of the children exhibiting persistent high levels of behavioral inhibition during this period subsequently developed SAD during adolescence. Rosenbaum et al. (1991) indicated that parents of children exhibiting behavioral inhibition had a greater incidence of SAD compared to parents without this characteristic in their children. According to Hayward et al. (1998), adolescents characterized by high levels of behavioral inhibition displayed greater levels of social anxiety compared to their counterparts with low levels of inhibition. The relationship between behavioral inhibition and anxiety disorders, particularly social anxiety, is not fully understood, despite behavioral inhibition being considered a precursor (Tillfors, 2004). Moreover, family, twin, and adoption studies indicate that heredity plays a substantial role in the risk of social anxiety and related traits. However, the precise extent of their influence remains uncertain. Consequently, it is believed that hereditary factors interact with other variables in this regard. In essence, the genetic predisposition interacts with diverse environmental factors during different developmental stages, thereby becoming a crucial factor in either magnifying or diminishing the symptoms (Ollendick and Hirshfeld-Becker, 2002; Tillfors, 2004).

Extrinsic Factors

Considering that social anxiety commonly emerges during late childhood and early adolescence, the environmental factors during this period play a pivotal role in the occurrence of SAD. Before enrolling in school, children predominantly spend their time at home, interacting with their parents and other family members. However, after starting school, their social circle expands to include peers and teachers. As a result, the quality of relationships with parents, family members, teachers, and peers significantly influence their well-being and susceptibility to social anxiety (Rapee and Spence, 2004).

Parental attitudes and parenting styles constitute a highly influential aspect in the genesis of SAD. Risk factors for the development of SAD include parental attitudes characterized by control, overprotectiveness, rejection, neglect, emotional distance, insensitivity, criticism, and behavioral rigidity (Bruch and Heimberg, 1994; Bruch et al., 1989; Caster et al., 1999; Chavira and Stein, 2005; Neal and Edelmann, 2003). People diagnosed with SAD implied that their parents exhibited dismissive behaviors, were excessively protective, emotionally distant, and employed shame as a disciplinary strategy (Bruch and Heimberg, 1994; Hudson and Rape, 2000; Lieb et al., 2000). Furthermore, parents with social anxiety may inadvertently convey to their children, through their behavior, the belief that social situations are threatening and should be evaded. Children deprived of opportunities to develop relationships with peers and acquire necessary social skills (Hudson and Rapee, 2000) may experience heightened anxiety and fear of their surroundings (Brook and Schmidt, 2008). On the contrary, peer relationships are regarded as a possible predictor for the initiation of a SAD (Hudson and Rapee, 2000). Levinson et al. (2013) stated that multiple potential pathways exist that connect social anxiety and peer victimization: (1) experiencing peer victimization, whether in the past or currently, can lead to the growth or exacerbation of social anxiety symptoms over time; (2) individuals who currently exhibit greater levels of social anxiety may be more susceptible to teasing or victimization in the future; (3) individuals who report higher levels of social anxiety at present may be more inclined to recall and report past experiences of teasing, as their memories of such experiences may be influenced by their current psychological symptoms. Furthermore, the occurrence of negative social interactions between a bully and their victim, particularly when characterized by violence and trauma, can be regarded as a risk factor for the improvement of social anxiety (Brook and Schmidt, 2008). Additionally, a study conducted by Rapee and Melville in 1997 revealed that adults diagnosed with social phobia tend to have few childhood friends compared to individuals without the disorder.

The development of SAD is significantly influenced by early traumatic experiences. According to findings from Stemberger et al. (1995), 44% of individuals diagnosed with social anxiety have reported experiencing a traumatic event that occurred concurrently with the initiation or intensification of their symptoms. The study identified various traumatic experiences reported by individuals with SAD, including

speaking in front of a class, delivering public speeches, meeting someone for a date, engaging in inappropriate behavior at social gatherings, and being subjected to ridicule by others. In contrast, Bandelow et al. (2004) discovered a higher occurrence of traumatic childhood memories, including experiences such as domestic violence, parental separation, sexual abuse, and childhood illnesses, among individuals diagnosed with social anxiety compared to the healthy control group.

The etiology of SAD is explained by various theories, including biological, cognitive, and psychodynamic perspectives. Existing theoretical models concerning SAD and its clinical manifestation have primarily emphasized the significance of cognitive processes in the perpetuation of this disorder (Hofmann, 2007). Consequently, there has been an extensive exploration of the cognitive theory of SAD to gain a comprehensive understanding of its underlying causes.

1.1.5. Cognitive Theory of Social Anxiety Disorder

Theoretical frameworks concerning SAD and its manifestation in clinical settings have primarily emphasized the influence of cognitive processes in sustaining this condition (Hofmann, 2007). These theoretical models suggest that individuals with SAD develop distorted and negative mental perceptions of how they are perceived by others (referred to as the audience). These perceptions stem from underlying beliefs and assumptions about oneself and others, such as beliefs like "I am inadequate." or "Others will judge me harshly.”. The distorted perception of oneself in socially anxious individuals impedes their ability to accurately process feedback from others. This distorted representation triggers a series of additional processes and behaviors, such as self-focused attention and engagement in safety behaviors, which lend to the sustention of social anxiety (Meral and Vriends, 2021; Stopa, 2009; Vriends et al., 2017). Furthermore, individuals with SAD are believed to possess a biased perception of others, perceiving them as excessively critical and having unrealistically high standards of performance in social situations. Additionally, people with SAD perceive themselves as failing to meet these standards set by the audience. The theory suggests that the mismatch between individuals' actual and ideal selves leads to negative self-evaluations and a decrease in perceived self-clarity, contributing to the persistence of social anxiety (Stopa, 2009). The cognitive theories of social anxiety posit that

maladaptive social beliefs, distortions in processing social information, reliance on safety behaviors, and avoidance of anxiety-inducing social situations are fundamental factors underlying the disorder (Rapee and Spence, 2004). Upon reviewing the literature, it becomes evident that although researchers construct their models on similar theoretical foundations, there are discernible variations in their explanations. In the continuation of this title, the models that were constituted by Clark and Wells (1995), Rapee and Heimberg (1997) will be briefly explained, and then the focus will be on the model of Hofmann (2007).

Clark and Wells (1995) propose a hypothesis suggesting that socially anxious individuals activate an automatic fear response when they perceive the threat of negative evaluation. Their model consists of two main components: (1) the first component focuses on the experiences of socially anxious individuals when they enter an anxiety-provoking social setting, and (2) the second component pertains to their experiences before entering and after leaving the social environment. According to this model, when socially anxious individuals confront a feared social situation, a set of dysfunctional assumptions regarding themselves, others, and the world are triggered based on their previous experiences.

The cognitive-behavioral model developed by Rapee and Heimberg (1997) shares similarities with Clark and Wells's (1995) model. However, this model is based on the notion that socially anxious individuals highly value positive evaluations from others, despite their belief that evaluations will generally be negative. In contrast to the self-focused attentional process described in Clark and Wells's model (1995), Rapee and Heimberg (1997) propose that socially anxious individuals apportion their attentional resources to both self-image and potential external indicators of threat. The main dysfunctional process in this model is the comparison between one's mental representation of oneself and the perceived standards of the audience.

Hofmann (2007) proposed a cognitive-behavioral model of SAD (Figure 1) which posits that social apprehension is linked to holding unrealistic social standards and difficulty in choosing achievable social goals.

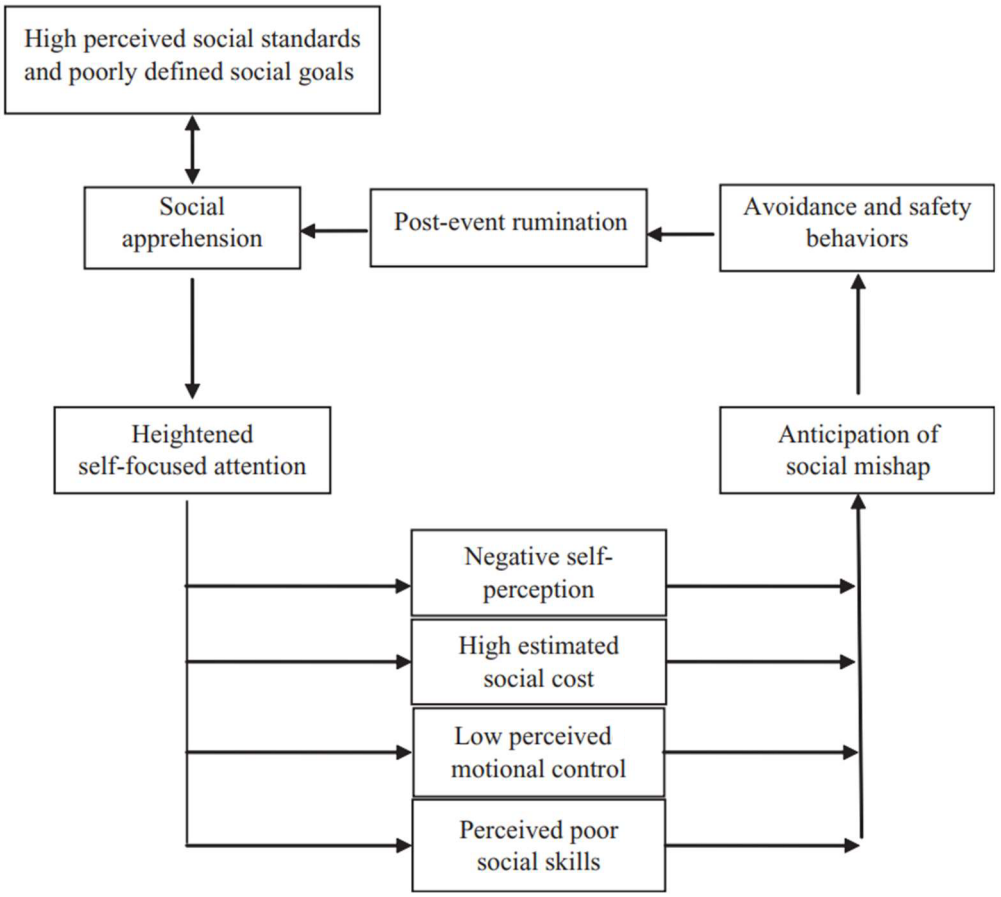

Figure 1. Psychological factors that sustain social anxiety disorder (Source: Hofmann, 2007)

According to this model, individuals diagnosed with SAD experience apprehension in social situations, partially due to their perception of high social standards, including expectations and social goals. Therefore, individuals encounter social anxiety before or during social interactions when they possess the motivation to create a desired impression on others, yet they harbor doubts about their ability to effectively achieve this desired impression (Leary, 2010). This amplifies individuals' levels of social anxiety and leads to increased self-focused attention (Hiemisch et al., 2002; Meral and Vriends, 2021), which initiates various cognitive processes. These people also tend to magnify the likelihood of negative social interactions and overestimate the potential negative consequences of such interactions (Hofmann, 2007). This aligns with the model proposed by Clark and Wells (1995), which suggests that individuals with SAD

hold the belief that they are at risk of displaying incompetent and socially unacceptable behavior, leading to severe negative outcomes. Furthermore, according to the model, individuals with SAD also perceive a lack of control over their anxiety responses in social situations. They hold a negative perception of themselves as social entities and perceive their social skills as highly deficient or insufficient to effectively handle social challenges. As a result, individuals with SAD anticipate unfavorable social outcomes and resort to avoidance or safety behaviors to avoid experiencing negative emotions. Subsequently, individuals tend to engage in post-event rumination (Mellings and Alden, 2000), a process characterized by prolonged reflection on social experiences. This cycle perpetuates and intensifies SAD, creating a self-reinforcing pattern. The drive to be accepted and valued by a social group seems to be an innate human motivation influenced by evolutionary factors (Baumeister and Leary, 1995). In line with this theoretical framework, research indicates that individuals with SAD demonstrate a mismatch between their perceived social standards and their perceived social abilities (Alden and Wallace, 1995; 1991). This disparity primarily stems from the individuals' tendency to underestimate their level of ability in comparison to the perceived social standard. It can be inferred that the comprehension of social standards is closely intertwined with self-evaluation and subjective experiences of social anxiety. Individuals with high levels of social anxiety exhibit an unsuitable cognitive approach when tasked with planning strategies to accomplish specific goals, particularly those that necessitate an implementation mindset. This mindset is considered inappropriate as it does not align with the necessary actions required to achieve the desired goal. In summary, individuals with SAD demonstrate deficiencies in establishing, defining, and attaining social goals (Hofmann, 2007). According to the cognitive model, when socially anxious individuals encounter social threats, they tend to redirect their attention internally and engage in a process of meticulous self-monitoring and self-observation (Hirsch et al., 2003). Based on a concise examination of the literature on information processing made by Hofmann (2007), it is evident that individuals experiencing SAD exhibit specific attentional biases towards social threat words and emotional facial expressions. These biases can potentially divert their attentional resources away from processing other types of information, including alternative threats, positive stimuli, and neutral stimuli. When socially anxious individuals face social threats, they perceive discrepancies between their abilities and the standards set by others, underestimating their capabilities. Moreover, individuals with SAD develop

negative self-representations based not on their self-perception, but on their perceptions of how potential evaluators or an audience perceive them in any given situation (Hofmann, 2007; Rapee and Heimberg, 1997). Therefore, negative self-perception plays a crucial role in sustaining SAD, and alterations in negative self-perception are strongly linked to the progress of treatment. The estimated social cost refers to a particular manifestation of dysfunctional beliefs regarding the potential consequences of social interaction. Like other maladaptive social beliefs, this distorted thinking can be addressed through cognitive interventions aimed at modifying these beliefs (Hofmann, 2007). The research findings indicate that individuals diagnosed with SAD tend to perceive a lack of personal control over events and hold the belief that external factors, rather than their actions, could influence and control outcomes (Leung and Heimberg, 1996). Most individuals with SAD demonstrate sufficient social skills; however, they experience inhibition in utilizing these skills within social contexts. Because socially anxious individuals tend to evaluate their performance in social situations more negatively compared to individuals without anxiety, even when considering objective differences in actual performance (Hofmann, 2007). Avoidance and safety behaviors play a crucial role in the model as they contribute to a positive feedback loop, as depicted in Figure 1. This feedback loop perpetuates anxiety in social situations, leading to a lack of improvement despite repeated instances of successful social interactions. Post-event rumination commonly occurs following an unsuccessful or ambiguously successful social interaction, particularly in situations where individuals perceive high social costs and hold negative self-perceptions due to anticipated catastrophic outcomes in social situations (Hofmann, 2007).

1.2. Perfectionism

Perfectionism was initially defined as the act of imposing higher performance standards on oneself and others, surpassing the level of performance required by the given situation (Hollender, 1978). Subsequently, Burns (1980) proposed that perfectionism encompasses a “network cognitions” comprising various elements, such as expectations, evaluations of events, self, and others. Burns (1980) characterized individuals with perfectionistic tendencies as individuals who establish excessively high standards, rigidly adhere to them, and tie their self-worth to the attainment of these standards. Like, Burn's definition, Hollender (1978) proposed that cognitive

processes, such as selective attention, play a role in the persistence of perfectionistic traits. This suggests that individuals with perfectionism tend to focus selectively and excessively on facets of their performance that can be interpreted as failures or inadequacies. Similar concepts are reiterated in later theories, wherein perfectionistic traits are considered clinically relevant when individuals' pursuit of exceptionally high standards intersects with heightened self-criticism (Boone et al., 2010; Kobori et al., 2009). Yiend et al. (2011) stated that clinical perfectionists establish unachievable objectives, struggle to attain them, internalize their failures on a personal level, and experience more pronounced adverse outcomes.

Perfectionism is considered a personality trait characterized by individuals' pursuit of exceptionally high goals and standards that may not be realistic. It also involves evaluating one's self-worth based on their performance and achievements (Stoeber and Childs, 2010). Researchers who study perfectionistic traits commonly emphasize the aspect of setting excessively high-performance standards as a prominent characteristic (Frost et al., 1990). Nevertheless, numerous researchers concur that along with setting and striving for high-performance standards, perfectionistic individuals also exhibit tendencies of uncertainty about their abilities and excessive concerns about making mistakes (Burns, 1980; Shafran and Mansell, 2001; Stoeber, 1998). Nonetheless, despite this general agreement, there are ongoing debates concerning the definition, dimensions, and mechanisms involved in the maintenance of perfectionism (Lo and Abbott, 2013). According to Brown et al. (1995), it was suggested that perfectionism contributes to the anticipation of unfavorable social interactions and intensifies social anxiety in individuals. Later in this section, the multidimensional aspect of perfectionism will be explained in detail.

1.2.1. The Multidimensional Concept of Perfection

Although perfectionism was handled from a one-dimensional perspective until 1990 and opinions were put forward that it is a personality trait with negative effects (Hamacheck 1978, Bums 1980), then the idea that one-dimensional thinking is insufficient to explain perfectionism began to prevail. Specifically, theories proposing that perfectionism, solely centered around a single aspect of personal characteristics such as the establishment of elevated performance standards, appear inadequate in

comprehending and elucidating the complexities of perfectionistic behaviors (Flett et al., 1994). Thus, at the beginning of 1990, perfectionism was tried to be defined based on a multidimensional concept. While a universally accepted definition of perfectionism remains elusive, researchers generally embrace a multidimensional approach and recognize the clinical relevance and significance of this construct (Yiend et al., 2011). Particularly, two comprehensive models of perfectionism, encompassing both interpersonal and intrapersonal dimensions, as assessed by the Multidimensional Perfectionism Scales (FMPS, Frost et al., 1990; HMPS, Hewitt and Flett, 1991), have emerged as influential theories in the field of perfectionism research. Empirical investigations centered on these conceptual frameworks provide additional evidence supporting the multidimensional nature of perfectionism in the context of clinical research.

The development of these two conceptual models of perfectionism in the early 1990s has provided researchers with valuable tools for enhancing their comprehension of perfectionism. These models introduced assessment instruments that specifically highlight the multidimensional aspects of the construct. The first of these models (Frost et al., 1990), known as FMPS, proposes a conceptualization of perfectionism that encompasses six dimensions: Concern over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), Doubts about Actions (D), and Organization (O). The component of Concern over Mistakes was defined as the presence of negative responses to mistakes, a tendency to perceive mistakes as synonymous with failure, and a belief that failure will result in a loss of others' respect. The component of Personal Standards setting was defined as the establishment of exceptionally high standards and the excessive significance attributed to these standards for self-evaluation. The component of Parental Expectations involved the inclination to perceive one's parents as establishing exceedingly high objectives and displaying excessive criticism. The Parental Criticism component pertains to individuals' perceptions of their parents as being excessively critical. The Doubts about Actions component refers to the tendency to feel uncertain or doubtful about the satisfactory completion of projects. Lastly, the emphasis on the significance of the order and the preference for Organization formed the final component (Frost et al., 1990). The second model, known as HMPS and developed by Hewitt and Flett (1991), expanded the understanding of perfectionism by incorporating both personal and

interpersonal aspects. This model comprises three dimensions: self-oriented perfectionism (SOP), socially prescribed perfectionism (SPP), and other-oriented perfectionism (OOP). The key distinction among these dimensions lies not in the behavior pattern itself, but rather in the target of the perfectionistic behavior (e.g., directed towards oneself or others) or the source to which the perfectionistic behavior is attributed (e.g., socially prescribed perfectionism). The SOP dimension focuses on critically evaluating one's behavior against excessively high standards set by the perfectionist. This dimension reflects the individual's drive to achieve perfection and their avoidance of failure. Individuals high in this dimension tend to respond negatively when they fall short of attaining perfection. On the other hand, SPP represents an individual's perception or belief that others impose high standards when evaluating their behavior and exert pressure on them to be flawless. This perception may lead individuals to believe that impressing others is unlikely and that they will receive negative evaluations if they fail to achieve perfection. Lastly, OOP centers around individuals' inclination to hold unrealistically high standards when evaluating the behavior of others. Those who score high in this dimension tend to criticize and assign blame to others for their shortcomings and exhibit hostile behaviors towards them. (Hewitt and Flett, 1991; Shafran and Mansell, 2001). Frost et al. (1993) suggested that the two scales used to measure perfectionism, namely the FMPS (Frost et al., 1990) and the HMPS (Hewitt et al., 1991), exhibit a certain level of association with each other. However, the extent of their overlap is not complete. Consequently, the present study FMPS was employed to measure the level of perfectionism of participants, therefore the focus will be on the model of Frost et al. (1990).

1.2.2. Perfectionism and Social Anxiety

An increasing amount of empirical evidence indicates a relationship between aspects of social anxiety and perfectionism. For example, Moscovitch and Hofmann (2007) stated that individuals with social anxiety tend to overestimate the expected standards of performance in comparison to non-anxious individuals. Additionally, socially anxious individuals are more prone to experiencing doubts about their ability to meet others' expectations. Given that the fear of negative evaluation by others is considered a fundamental characteristic of social anxiety according to DSM-V (APA, 2013), the presence of perfectionistic traits in individuals appears particularly significant in the

occurring of the disorder (Clark and Wells, 1995). Another study conducted by Hamarta (2009) indicated that problem-solving skills and perfectionism play significant roles in predicting social anxiety, similar findings were included in a study by Wang et al. (2022). A noteworthy observation by Brown et al. (1995) suggested that perfectionism in individuals with social anxiety contributes to their anticipation of negative social interactions and intensifies their experience of social anxiety. This pattern is further amplified in clinical populations, as individuals with SAD have been found to exhibit significantly higher levels of concern regarding their mistakes (Antony et al., 1998; Juster et al., 1996). According to Juster et al. (1996), individuals with social anxiety demonstrated higher scores on subscales that measured concerns over mistakes, doubts about actions, and perceptions of parental criticism. According to Hofmann (2007), social anxiety is associated with individuals having unrealistic social standards and perceiving themselves as lacking the ability to meet social goals. In other words, socially anxious individuals believe that the audience has such high expectations that they are incapable of making the desired impression and fall short of the audience's anticipation (Leary, 2001). This thought process increases initial anxiety levels and intensifies self-focused attention (Clark and McMannus, 2002; Heinrichs and Hofmann, 2001, Meral and Vriends, 2021), which in turn triggers other cognitive processes, such as overestimating the social costs of failure and exaggerating potential negative outcomes (Hofmann, 2004). When individuals with SAD possess low self-expectations while simultaneously experiencing high concerns regarding evaluation, it can lead to an escalation of social anxiety symptoms (Levinson et al., 2015). Perfectionistic individuals tend to experience symptoms of social anxiety, particularly when they perceive a discrepancy between their actual social performance and others' expectations (Hewitt et al., 2006). As suggested by Hewitt et al. (2006), individuals with perfectionistic tendencies strive for high-performance standards, both according to their criteria and the perceived expectations of others. Levinson et al. (2015) stated that the highest levels of social anxiety were predicted by a combination of high concern over mistakes and high personal standards. They hold the belief that others evaluate them critically and with high scrutiny. It can be reasonably anticipated that individuals with perfectionistic tendencies would engage in withdrawal behaviors when faced with criticism and rejection, as this pattern is likely to intensify social anxiety over an extended period (Newby et al., 2017). According to the results obtained from the study conducted by Antony et al. (1998), individuals diagnosed with

any disorder exhibited higher levels of perfectionism values compared to the control group. Specifically, participants diagnosed with SAD were found to have higher values in concerns over mistakes, parental criticism, doubts about actions, and socially prescribed dimensions of perfectionism, compared to others. According to a study by Gelabert et al. (2012), in both males and females, the prevalence of high perfectionism was greater in individuals with SAD compared to the control group. Specifically, high levels of concern over mistakes and doubt about actions were associated with SAD in both genders, while high levels of perceived parental criticism were associated with SAD only in women. Furthermore, various studies have established connections among perfectionism, social anxiety, and the fear of negative evaluation in both clinical and nonclinical populations (Flett et al., 1996; Juster et al., 1996; Levinson et al., 2013). Maladaptive perfectionism traits commonly linked to social anxiety include an exaggeration of past mistakes, excessive worry about making future mistakes, reacting negatively to criticism from others, and experiencing diminished self-worth (Stoeber and Gaudreau, 2017). Shortly, some of these studies consistently indicate that people diagnosed with SAD exhibit higher levels of perfectionism compared to non-anxious individuals. Specifically, they tend to display excessive concern over mistakes, harbor doubts about their performance quality, perceive their parents as highly critical, and believe that others have excessively high expectations and standards for them (Frost et al., 2010).

1.3. Cognitive Control and Flexibility

Across their lifespan, individuals experience stress when confronted with life events that they perceive as unpredictable, beyond their control, or overwhelming (Cohen et al., 1983). As individuals encounter changes in their mental, emotional, physical, spiritual, and social environments, they are faced with the challenge of coping with the stress that arises from these changes (Coleman, 1993). When individuals encounter demands that require them to adapt or change, they engage in cognitive processes to assess their available resources, coping abilities, and capacity to meet environmental demands (Lazarus and Folkman, 1984). CC and CF are significant cognitive abilities to handle stress because they are essential factors in effectively adjusting to dynamic environments, as they are linked to a range of goal-directed behaviors such as creativity, problem-solving, multitasking, and decision-making (Dajani and Uddin,

2015; Gabrys et al., 2018; Ionescu, 2012). These concepts will be explicated below in detail.

1.3.1. Cognitive Control

The precise definitions of CC and CF have posed challenges (Morton et al., 2011), as there is considerable overlap between these concepts and the same behavioral tasks have been employed to measure both abilities (Díaz-Blancat et al., 2017; Gabrys et al., 2018). In general, CC refers to the capacity to direct attention towards information that is currently pertinent to a specific goal, while simultaneously suppressing irrelevant information (Morton et al., 2011). It is frequently described as promoting adaptable behavioral responses (Mackie et al., 2013). CC has been linked to a range of behaviors aimed at achieving specific goals, such as fostering creativity, solving problems, managing multiple tasks, and making decisions (Dajani and Uddin, 2015; Ionescu, 2012; Rolls, 2000). CC relies on various executive functions such as working memory, inhibition, conflict monitoring, and set-shifting (Gläscher et al., 2012). CC and the underlying processes involved in this capacity, known as executive functions, have also been implicated in the regulation of oneself and emotions, as well as influencing mental health outcomes (Gotlib and Joormann, 2010; Hofmann et al., 2012). It is probable that impairments in CC not only impact individuals' capacity to redirect attention away from irrelevant information, leading to an increase in intrusive thoughts but also hinder their ability to deliberately suppress unwanted material from their minds. In addition, recent research by Gotlib and Joormann (2010), indicates that enhancing CC has the potential to alleviate various symptoms associated with emotional disorders. For instance, interventions aimed at assisting individuals with high levels of anxiety in diverting their attention away from threatening stimuli have been shown to induce mood alterations and diminish reactivity to stressful situations (Gotlib and Joormann, 2010). CC has been proposed to have a significant role in the process of reappraisal. Therefore, it is plausible that CC manifests itself in stressful situations through its involvement in the reappraisal process (Gabrys et al., 2018; Ochsner and Gross, 2005). Moreover, CC processes, such as cognitive reappraisal, not only have a primary function in regulating emotions but may also be linked to neuroendocrine and brain functioning (Compton et al., 2012; Denson et al., 2014; Gabrys et al., 2018; Ochsner et al., 2012). Consequently, the CC factor regarding

emotions, as assessed in the scale utilized for this study, assesses an individual's capacity to regulate abrupt and repetitive negative thoughts and emotions when faced with a stressful situation. Those individuals who perceive themselves as having higher CC over their emotions can effectively concentrate their efforts on resolving the stressful situation by diverting their attention away from negative cognitive and emotional states. Conversely, individuals who perceive lower CC over their emotions are more prone to experiencing recurrent negative thoughts and negative emotions, as indicated by Gabrys et al. (2018).

1.3.2. Cognitive Flexibility

The precise definition of CF remains a subject of debate in the current literature; however, a key aspect emphasized in multiple definitions is the ability to modify cognitive structures in response to changing environmental stimuli, facilitating adaptive adjustments (Dennis and Vander Wal, 2009). Put simply, CF involves the capacity to flexibly transition between different cognitive sets or strategies by shifts in the surrounding environment (Moore and Malinowski, 2009; Stemme et al., 2007). Conversely, CC pertains to the aptitude for filtering out irrelevant information while directing attention toward pertinent information that aligns with a specific objective (Morton et al., 2011). From a cognitive (neuro)scientific standpoint, CF has been conceptualized as a facet of CC, specifically involving set-shifting, or as the expression of multiple CC processes that operate either sequentially or in parallel (Dajani and Uddin, 2015; Zaehringer et al., 2018). CF has been suggested to be of great importance in facilitating effective problem-solving and decision-making processes (Cañas et al., 2003). From a clinical standpoint, CF has been defined as the capacity to replace maladaptive attitudes and beliefs with more adaptive ones (Dennis and Vander Wal, 2009). Additionally, impairments in CC have been implicated in the adoption of ineffective strategies for emotional regulation, such as excessive rumination (Koster et al., 2011). Likewise, within emotional contexts, the capacity to dynamically direct attention to and disengage from the emotional aspects of a situation or stimulus, referred to as "affective flexibility," may also represent CC and flexibility processes (Malooly et al., 2013). Applying negative evaluations uniformly across diverse situations without considering their distinct characteristics can lead to prolonged negative moods (Lackner et al., 2015). Thus, CF may entail intentional appraisal

processing, wherein multiple alternative appraisals or explanations are generated in response to various stressful situations (Dennis and Vander Wal, 2009). Furthermore, the process of reappraisal entails the shifting of cognitive sets triggered by a stressor, which may serve as another manifestation of CF in stressful situations. In line with this perspective, it has been proposed that CF enables the transition between the implementation and maintenance of new reappraisals, whereas working memory is associated with the sustenance and monitoring phases of these new reappraisals (Zaehringer et al., 2018). The key attributes of coping flexibility bear a striking resemblance to the core characteristic of CF, which involves adapting cognitive or behavioral strategies considering evolving environmental pressures. Consequently, within the context of a stress-inducing situation, CF may manifest in the capacity to generate multiple coping strategies and adeptly modify them by the shifting demands posed by the stressor (Gabrys et al., 2018). As a result, CF is linked to the utilization of diverse thinking strategies and mental frameworks (Demirtaş, 2021). Individuals who possess CF demonstrate the capacity to actively explore their surroundings, detect alterations within the environment, construct a comprehensive comprehension of various situations, and generate multiple strategies to effectively adapt to potential developments (Gurvis and Calarco, 2007). Prior research has consistently indicated a negative association between CF and depression and anxiety while revealing a positive correlation between CF and psychological well-being (Fu and Chow, 2016; Kato, 2012). Research findings indicate that CF exerts a beneficial influence on individuals' well-being, encompassing aspects such as self-esteem and physical health, while also demonstrating a negative impact on mental health issues (Koesten et al., 2009). Additionally, CF plays a role in facilitating the individual's adaptation and growth in interpersonal relationships with others (Bilgin, 2009).

These instances serve as evidence of the broad application of the terms "cognitive control" and "cognitive flexibility" to a wide range of behaviors. The expression of these abilities is strongly influenced by contextual factors, including the specific characteristics and requirements of the situation. For instance, an individual may exhibit flexibility in certain situations, such as multitasking, while not demonstrating the same level of flexibility in others, such as emotional regulation (Gabrys et al., 2018). Individuals who possess the capacity to regulate and manage negative, involuntary emotions effectively, as well as generate diverse alternatives during

challenging or stressful situations, tend to experience lower levels of stress compared to those lacking this skill (Demirtaş, 2019).

1.3.3. Cognitive Control and Flexibility and Social Anxiety

Several research shows that there is a link between CC and CF, and anxiety (Demirtaş, 2021; Gabrys et al., 2018; Liao et al., 2019; Meral et al., 2023). CC and CF have been recognized as playing a role in emotion regulation and facilitating goal-directed behaviors. Deficiencies in these skills have been identified as significant factors in mental health conditions, including depression and anxiety disorders (Gabrys et al., 2018). Research indicates that increased CC can assist individuals in effectively managing anxiety and reducing rumination (Robinson et al., 2010). According to the study by Brühl et al. (2012), the influence of CC on emotion processing structures in individuals with SAD highlights the potential benefits of incorporating emotion regulation training in psychotherapeutic interventions for SAD. Clarkea and Kiropoulos (2021) showed that CF can mediate the relationship between neuroticism and social anxiety. Moreover, a positive correlation was found between social anxiety and cognitive inflexibility, as indicated by Arlt et al. (2016). In general, CC and CF were investigated with anxiety however, the number of studies with social anxiety specifically is limited.

1.3.4. Cognitive Control and Flexibility and Perfectionism

Hayatbini et al. (2021), and Nazarzadeh et al. (2015), stated that there is an association between perfectionism and CF. In a study by Akkuş Çutuk (2020), results showed that there is a significant negative relationship between perfectionism and CF, an increase in multidimensional perfectionism is associated with a decrease in CF. According to the literature review, the studies about perfectionism and CF are limited. Moreover, there were no studies about perfectionism and CC have been founded to explain this relationship.

1.4. Aim of the Present Study

SAD is defined as a significant apprehension of receiving unfavorable judgments from others in various social contexts, such as social interactions, performances, or situations involving observation (APA, 2013). Apart from the fear of external evaluations, internal self-criticism also contributes significantly to the persistence of SAD (Clark and Wells, 1995; Rapee and Heimberg, 1997). Although the literature on SAD has been reviewed in this chapter, the current study was not conducted on the clinical population, so from this point on, this concept will continue to be considered as the level of social anxiety. As the person grows, their behavior continues to be constantly improved, criticized, corrected, and rewarded (Burns, 1980). Perfectionism was characterized as the tendency to set elevated standards of performance for oneself and others, exceeding the performance expectations dictated by the specific situation (Hollender, 1978). Several studies show that there is a link between social anxiety and perfectionism (Brown et al., 1995; Flett et al., 1996; Frost et al., 2010; Gelabert et al., 2012; Hamarta, 2009; Hewitt et al., 2006; Juster et al., 1996; Levinson et al., 2013; Stoeber and Gaudreau, 2017). Also, some of the studies are about social anxiety and perfectionism indicating the relationship from a multidimensional perspective (e.g., Frost et al., 2010) but these are more limited. Therefore, one of the aims of this study is to examine this relationship from a multidimensional perspective. It is expected that a significant relationship between social anxiety and subdimensions of perfectionism. Across their lifespan, individuals encounter stress when faced with life events that they perceive as lacking predictability, beyond their sphere of control, or overwhelming in nature (Cohen et al., 1983). Individuals' capacity to adjust to ever-changing settings and their goal-directed activities depends on their CC and CF (Gabrys et al., 2018). CC can be defined as the capacity to focus on information that is relevant to a certain situation/object while blocking irrelevant information (Morton et al., 2011). CF can be defined as the ability to change cognitive structures to adapt to changing environmental stimuli (Dennis and Vander Wal, 2009). Emotion regulation has been linked to CC and flexibility, and problems with these skills are apparent in mood and anxiety disorders (Gabrys et al., 2018). As mentioned above, CC and CF were investigated with anxiety however, the number of studies with social anxiety specifically is limited. The other aim of this study is to investigate the relationship between social anxiety and CC, and CF. There are some examples of research on perfectionism and CF (Akkuş

Çutuk, 2020; Hayatbini et al., 2021; Nazarzadeh et al., 2015). However, studies about the relationship between perfectionism and CC could not be founded in the literature review. Also, any study which includes social anxiety, perfectionism, and CC or CF together could not be found in the literature. The other aim of this study is to examine the association between perfectionism and CC, and CF. Furthermore, CC and CF are relatively new concepts and need further investigation. So, the main aim of the present study is to investigate the mediating role of CC and CF on the relationship between perfectionism and social anxiety.

It is expected that the present study can make a valuable and original contribution to the literature by investigating the mentioned variables in one study. Moreover, research shows that social anxiety is one of the most common of all types of anxiety (Stein and Stein, 2008). Therefore, by the consequences of this research, clinicians can enrich their therapy practices; if the client's complaints are related to social anxiety and perfectionism the therapist could work on improving the client's CC and CF. Although, there are some studies about gender differences, age, and social anxiety (e.g., Asher et al., 2017; Caballo et al., 2014); the studies about gender differences, age, and perfectionism, CC, and CF are limited (Chraif and Fulga, 2013; Göç, 2008; Yu et al., 2019). Therefore, looking for gender differences in each variable and relationship between age and other variables will be additive aims. In addition to the contribution to the literature and clinical practice, it is aimed to carry out unique research.

Based on the assumptions above, it is expected that high perfectionism will predict higher social anxiety levels, and CC and CF will play a mediating role in this relationship. Thus, the following hypotheses were developed.

1.5.Hypotheses

Exploratory Analysis

- The level of perfectionism, social anxiety, cognitive control, and cognitive flexibility will differ across female and male.
- There will be significant correlations between age and the other variables.

Main analysis

H1: Participants' social anxiety levels will be significantly and positively correlated with their perfectionism levels.

H2: Participants' social anxiety levels will be significantly and negatively correlated with their CC and CF levels.

H3: Participants' perfectionism levels will be significantly and negatively correlated with their CC and CF levels.

H4: CC will significantly mediate the relationship between perfectionism and social anxiety.

H5: CF will significantly mediate the relationship between perfectionism and social anxiety.

CHAPTER 2: METHOD

In the following chapter, firstly, participant characteristics will be described, measurements used in the present study will be presented, followed by the study procedure, and statistical analysis.

2.1. Participants

In this study, the data collection process was completely completed online. The convenience sampling method was used to choose the participants. A total of 300 participants, 18 years and older, were obtained to participate and a convenient sample type has used in the study. 240 (80%) of the participants were females, 59 (19.7%) of the participants were males, and 1 (0.3%) of the participants were non-binary, so their data was not excluded from the whole study, however, in gender differences analysis, it was. The mean age of the participants is 35.03 (SD = 11.97) years with an age range of 18-78. The mean age of the females is 35.03 (SD = 11.37) and for males 35.10 (SD = 14.33). 1 (.3%) of the participants graduated from elementary school, 2 (.7%) of the participants graduated from middle school, 36 (12%) of the participants graduated from high school, 179 (59.7%) of the participants have bachelor's degree, 70 (23.3%) of the participants have master's degree, and 12 (4%) of the participants have doctoral degree. 14 (4.7%) of the participants reported their income level as low, 123 (41%) reported as lower-middle, 154 (51.3%) of them reported as higher-middle, and 9 (%3) of the participants reported their income level as high. 140 (46.7%) of the total participants were married, whereas 87 (29%) of them were single. 53 (17.7) participants reported that they were diagnosed with psychological disorders at some point in their life, whereas 247 (82.3) were not. All participants met the criteria of being 18 years old and older. According to normality tests, there was no extreme case that should be excluded from the data. The demographic characteristics of the participants were presented in Table 2 and Table 3.

Table 2. The Demographics of the Participants

Variables	Levels	*N*	*%*
Gender	Female	240	80
	Male	59	19.7
	Non-binary	1	0.3
Education Status	Elementary School	1	0.3
	Middle School	2	0.7
	High School	36	12
	University	179	59.7
	Postgraduate	70	23.3
	Doctorate	12	4
Socioeconomic Status	Low	14	4.7
	Lower middle-income	123	41
	Higher middle-income	154	51.3
	High	9	3
Marital Status	Single	87	29
	In a relationship	54	18
	Married	140	46.7
	Widow	6	2
	Divorced	12	4,0
	Engaged	1	0.3
Psychiatric Diagnosis	Yes	53	17.7
	No	247	82.3

Table 3. Descriptive Statistics of Age

	Female		Male		Non-binary
	M	*SD*	*M*	*SD*	*M*
Age	35.03	11.37	35.10	14.33	31

2.2. Measurements

To collect data, the present study employed a Demographic Form and three scales. The scales are Liebowitz Social Anxiety Scale, Frost Multidimensional Perfectionism Scale, Cognitive Control and Flexibility Questionnaire. Also, an Informed Consent Form was used to inform the participants and receive their consent. In this chapter, detailed information about all these scales can be found.

2.2.1. Demographic Form

The Demographic Form was prepared for this study by the researcher to obtain demographic information of participants. The form includes several questions; gender, age, education level, employment status, socioeconomic status, marital status, chronic disease, psychiatric disorder, family psychopathology, and psychiatric medication use (Appendix C).

2.2.2. Liebowitz Social Anxiety Scale

Liebowitz Social Anxiety Scale (LSAS) was developed by Liebowitz in 1987, and it is used to measure the social anxiety levels of the participants (Appendix D). It was prepared to determine the fear/anxiety and/or avoidance levels of people in social interaction and performance situations. The scale includes 24 items and 2 subscales; 13 items are related to delivery performance, and 11 are related to social situations. For each item, participants evaluated their anxiety level on a 4-point Likert scale (Fear/Anxiety: 0 = none, 3 = severe) and their avoidance frequency on a 4-point Likert scale (Avoidance: 0 = never, 3 = usually). The result of the scale is calculated by taking the sum of the scores, and the total score range varies between 0 to 144. A high score means that the participant has high social anxiety. The psychometric properties of the scale were investigated by Heimberg et al. (1999). The Cronbach's alpha coefficients of all items and subscales are between .81 and .92.

The Turkish version of the LSAS was established by Soykan, Özgüven and Gençöz (2003). They kept the same structure; however, in Turkish form, no distinction was made between the items as delivery performance and social situations subscales, only

fear/anxiety and avoidance subscales were taken as the basis. Participants had to score 24 items for fear/anxiety and avoidance separately (e.g., “Expressing a disagreement or disapproval to people you don’t know very well.; Acting, performing or giving a talk in front of an audience.; Being the center of attention.”). For the internal consistency, the Cronbach’s alpha coefficient for the whole scale was founded to be .98, for the fear/anxiety subscale it was founded as .96, and for the avoidance subscale it was founded as .95. For all subscales and the whole scale, the test-retest reliability coefficients were founded as .97. The interrater reliability fear/anxiety subscale was founded as .96, for the avoidance it was founded as .95. For the whole scale the interrater reliability was .96. The cut-off scores of the subscales were set as 25, and for the whole scale, the clinical cut-off score is determined as 50. According to this study, the Turkish version of the Liebowitz Social Anxiety Scale is an appropriate tool to use in respect of the reliability and validity of the scale. In the present study, the scale’s Cronbach alpha value was found to be .95. For the fear/anxiety subscale, the Cronbach alpha value was found to be .93, and for the avoidance subscales it was founded as .92.

2.2.3. Frost Multidimensional Perfectionism Scale

Frost Multidimensional Perfectionism Scale (FMPS) was developed by Frost et al. in 1990 to make a multidimensional evaluation of perfectionism (Appendix E). They developed the scale based on theories about perfectionism (Frost et al., 1990). The scale includes 35 items and 6 subscales: 9 items for excessive concern over mistakes (CM) (e.g., “If I fail at work/school, I am a failure as a person.”), 6 items for personal standards (PS) (e.g., “I expect higher performance in my daily tasks than most people.”), 5 items for parental expectations (PE) (e.g., “Only outstanding performance is good enough in my family.”), 6 items for parental criticism (PC) (e.g., “As a child, I was punished for doing things less than perfect.”), 5 items for doubts about actions (D) (e.g., “I tend to get behind in my work because I repeat things over and over.”), and 6 items for the organization (O) (e.g., “Neatness is very important to me.”) (Bozdemir, 2011; Frost et al., 1990). The most important aspect of the scale is concern over mistakes through the number of items and the largest amount of variance (22.5%) (Frost et al., 1990). Participants evaluated their perfectionism level for each item on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The result of the scale is calculated by taking the sum of the scores, and the total score range varies between

35 to 175. A high score means that the participant is more perfectionist. According to the original study, the reliability for the total of the scale was .90. Also, the coefficients of internal consistency of the subscales are between .77 and .93 (.88 for CM, .83 for PS, .84 for PE, .84 PC, .77 for D, and .93 for O).

The Turkish version of the scale was established by Özbay and Mısırlı-Taşdemir (2003). In the adapted study, the scale's total number of items and dimensions were preserved. They kept the same structure; however, in Turkish form, the 4th item was included in the concern over making mistakes subscale instead of the personal standards subscale, and the 34th item was included in the personal standards subscale instead of the concern over mistakes subscale. The Cronbach's alpha coefficient for the whole scale was founded as .83. The Cronbach's alpha coefficients of the 6 subscales range between .61 and .87 (.77 for CM, .63 for PS, .71 for PE, .65 PC, .61 for D, and .87 for O). These 6 factors explain 47.87% of the total variance. Like the study by Frost et al. (1990), this study, the lowest Cronbach's alpha coefficient was obtained for the doubts about actions subscale, and the highest Cronbach's alpha coefficient was obtained for the organization subscale. Psychometric results have been obtained that this scale can measure individuals' perfectionism attitudes validly and reliably (Özbay and Mısırlı Taşdemir, 2003). The Cronbach alpha value of the scale was found to be .94. For the subscales the Cronbach alpha values were found to range from .76 to .92 (.91 for CM, .76 for PS, .87 for PE, .80 PC, .82 for D, and .92 for O).

2.2.4. Cognitive Control and Flexibility Questionnaire

Cognitive Control and Flexibility Questionnaire (CCFQ) was developed by Gabrys et al. (2018) to measure an individual's ability to maintain control over intrusive, unwanted (negative) thoughts and emotions and to cope flexibly with a stressful situation (Appendix F). The scale includes 18 items and 2 subscales: 9 items for cognitive control over emotion (CC) (e.g., "It's hard for me to shift my attention away from negative thoughts or feelings."), and 9 items for appraisal and coping flexibility (CF) (e.g., "I take the time to think of several ways to best cope with the situation before acting."). In addition, there are 6 reverse items included in the cognitive control over emotions subscale. Participants evaluated their cognitive control and flexibility level for each item on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree).

The total score is calculated by summing all scores; for the subscales, the minimum score is 9 and the maximum score is 63, for the whole scale the total score range varies between 18 to 126. Greater CCFQ scores represent greater degrees of cognitive flexibility and control. In the original study, they tested the scale for two samples: students and a community. In both samples, Cronbach's alpha coefficient was founded as .90 for cognitive control over emotion. For the appraisal and coping flexibility subscale, Cronbach's alpha coefficients were found as .89 for the student sample and .93 for the community sample (Gabrys et al., 2018).

The Turkish adaptation of the CCFQ was established by Demirtaş (2019). According to this adaptation study, the calculated Cronbach's alpha coefficients for the whole scale and its factors range from .85 to .91. The Cognitive Control and Flexibility Questionnaire is a valid and reliable scale and an appropriate measurement tool. In this study, the Cronbach alpha value of the scale was found to be .90. For both subscales the Cronbach alpha values were found to be .89.

2.3. Procedure

Initially, ethical approval was received from the İzmir University of Economics Ethics Committees for the present study (Appendix A). All data were collected online via Google Forms. Announcements via WhatsApp and social media platforms (Instagram, LinkedIn) were used to reach the participants. The study had three main participation criteria: voluntary participation, being 18 years old and/or over, and being a native Turkish speaker.

Firstly, participants who were appropriate candidates for participation started by reading Informed Consent which includes information about researchers, the aim of the study, and general information about the process; then they approve their voluntary participation (Appendix B). Following, they continued the study by filling out the Demographic Form, Liebowitz Social Anxiety Scale, Frost Multidimensional Perfectionism Scale, and Cognitive Control and Flexibility Questionnaire. In total, the participants took about 10-15 minutes to complete the entire study.

2.4. Statistical Analysis

The Statistical Package for Social Sciences (SPSS) version 21 and PROCESS v4.2 (Hayes, 2022) were used for the statistical analyses. All data were checked for any potential missing information. Preliminary analyses comprised the calculation of descriptive statistics and assessments of normality for all continuous variables, as well as conducting reliability analyses for the scales. Normality assumptions were evaluated by examining the skewness and kurtosis values. In the current study, all skewness and kurtosis values were within the range of (-1.50) to (+1.50), which are considered critical values for normality testing (Tabachnick and Fidell, 2007). The Cronbach's alpha values for all scales were cross-validated with the original studies. The results indicated that the reliability scores of all scales in this study were consistent with those reported in the original studies.

To compare the groups based on gender, an independent samples t-test analysis was performed to examine the differences in the data. Correlation analyses were conducted to explore the relationships between the study variables, namely social anxiety, perfectionism, cognitive control and flexibility, and age. Lastly, mediation analysis was utilized to examine the mediating effects of CC and CF in the relationship between social anxiety and perfectionism. The mediation model employed in the study is presented in Figure 2.

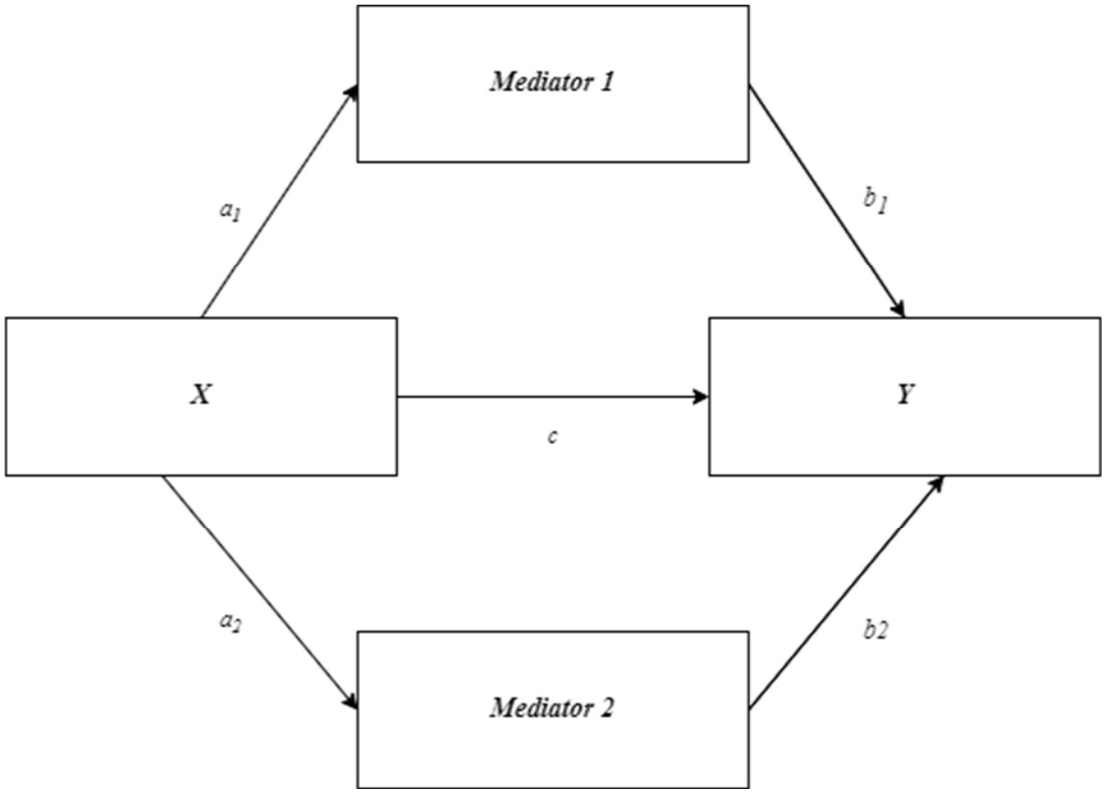

Figure 2. The Mediation Model of the Study

CHAPTER 3: RESULTS

The results of the present study will be expounded in this chapter which includes two parts: descriptive statistics and main analyses. The Mean (*M*), standard deviation (*SD*), maximum (*Max*), and minimum (*Min*) values of the variables in this study were explained in the first part. In the second part group differences, Pearson correlation analysis, and parallel mediation analysis will be located.

3.1. Descriptive Statistics

To obtain descriptive statistics, the mean, standard deviation, maximum, and minimum scores were calculated for age, all scales, and their subscales, and they are presented in Table 4. In addition to these, out of the participants, 199 had a total LSAS score below the cut-off score of 50, while 101 participants scored above 50.

Table 4. Descriptive Statistics of the Variables.

Variables	*M*	*SD*	*Min*	*Max*
Age	35.03	11.97	18	78
Social Anxiety	41.42	23.52	0	124
Fear/Anxiety	23.02	13.20	0	66
Avoidance	18.40	11.90	0	59
Perfectionism	101.06	25.38	44	171
Concern over mistakes	24.07	9.18	9	45
Personal standards	18.69	5.02	6	30
Parental expectations	13.13	5.54	5	25
Parental criticism	9.60	4.35	4	20
Doubts about actions	13.36	5.09	5	25
Organization	22.21	5.84	6	30
Cognitive Control and Flexibility	78.34	18.90	25	126
Cognitive Control	34.08	12.27	9	63
Cognitive Flexibility	44.26	10.13	9	63

3.2. Main Analyses

3.2.1. Gender Differences

An independent samples *t*-test was conducted to examine differences between female and male participants for social anxiety, fear/anxiety, avoidance, perfectionism, concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, organization, cognitive control and flexibility, CC, and CF (Table 5.). According to the results, there was a slight but no significant difference in social anxiety scores between females ($M = 43.22$, $SD = 23.74$) and males ($M = 34.36$, $SD = 21.48$); $t(297) = -2.62$, $p > .05$. In addition, there was no significant differences in both subscales' scores of LSAS between females and males. There was not a significant difference in perfectionism and the subscales of FMPS scores between females and males, except for parental criticism between females ($M = 9.79$, $SD = 4.56$) and males ($M = 8.81$, $SD = 3.31$); $t(118.47) = -1.86$, $p < .05$, and doubts about actions subscales between females ($M = 13.41$, $SD = 5.30$) and males ($M = 13.15$, $SD = 4.16$); $t(109.27) = -.41$, $p < .05$. Shortly, females have doubts about their actions and care about organization than man. Furthermore, there was a significant difference in cognitive control and flexibility scores between females ($M = 76.79$, $SD = 19.40$) and males ($M = 85.05$, $SD = 14.95$); $t(111.35) = 3.57$, $p < .05$. For the CC subscales of CCFQ there was also a significant difference between females ($M = 32.82$, $SD = 12.50$) and males ($M = 39.39$, $SD = 9.77$); $t(109.73) = 4.36$, $p < .05$. However, there was no significant differences in CF between females ($M = 43.97$, $SD = 10.24$) and males ($M = 45.66$, $SD = 9.57$); $t(297) = 1.15$, $p > .05$.

Table 5. Independent Samples T-Tests Results for Gender to Compare Participants

Variables	Female		Male			
	M	*SD*	*M*	*SD*	*t*	*d*
Social anxiety	43.22	23.74	34.36	21.48	-2.62	.39
Fear/Anxiety	24.08	13.28	18.80	12.14	-2.78	.42
Avoidance	19.14	12.02	15.56	11.10	-2.08	.31
Perfectionism	101.67	26.25	98.46	21.68	-.87	.13
Concern over mistakes	24.26	9.40	23.15	8.25	-.83	.13

Table 5. Independent Samples T-Tests Results for Gender to Compare Participants (Continued)

Variables	Female		Male			
	M	*SD*	*M*	*SD*	*t*	*d*
Personal standards	18.52	5.06	19.31	4.88	1.07	.16
Parental expectations	13.28	5.61	12.44	5.22	-1.05	.16
Parental criticism	9.79	4.56	8.81	3.31	-1.86*	.25
Doubts about actions	13.41	5.30	13.15	4.16	-.41*	.05
Organization	22.40	5.93	21.59	5.34	-.96	.14
Cognitive Control and Flexibility	76.79	19.40	85.05	14.95	3.57*	.48
Cognitive Control	32.82	12.50	39.39	9.77	4.36*	.59
Cognitive Flexibility	43.97	10.24	45.66	9.57	1.15	.17

3.2.2. Correlation Analysis

Pearson correlation analysis was conducted to investigate the relationships between total social anxiety, anxiety, avoidance, perfectionism, concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, organization, cognitive control and flexibility, CC, CF, and age (Table 6.). Social anxiety was positively correlated with perfectionism ($r = .45$, $p < .01$), CM ($r = .48$, $p < .01$), personal standards ($r = .18$, $p < .01$), parental expectations ($r = .32$, $p < .01$), parental criticism ($r = .37$, $p < .01$), and doubts about actions ($r = .52$, $p < .01$). Showed that higher social anxiety was associated with higher perfectionism. In addition, it was negatively correlated with cognitive control and flexibility ($r = -.43$, $p < .01$), CC ($r = -.45$, $p < .01$), and CF ($r = -.26$, $p < .05$); indicated that lower social anxiety was associated higher CC and CF. However, it was not correlated with the organization ($r = .03$, $p > .05$), and age ($r = -.03$, $p > .05$). Anxiety subscale was positively correlated with perfectionism ($r = .44$, $p < .01$), CM ($r = .46$, $p < .01$), personal standards ($r = .20$, $p < .01$), parental expectations ($r = .31$, $p < .01$), parental criticism ($r = .35$, $p < .01$), and doubts about actions ($r = .50$, $p < .01$). Moreover, it was negatively correlated with cognitive control and flexibility ($r = -.42$, $p < .01$), CC ($r = -.43$, $p < .01$), and CF ($r = -.26$, $p < .01$). Nevertheless, it was not correlated with the organization ($r = .03$, $p > .05$), and age ($r = -.08$, $p > .05$). Avoidance subscale was positively correlated with

perfectionism (r = .40, p < .01), concern over mistakes (r = .43, p < .01), personal standards (r = .14, p < .05), parental expectations (r = .29, p < .01), parental criticism (r = .33, p < .01), and doubts about actions (r = .47, p < .01). Moreover, it was negatively correlated with cognitive control and flexibility (r = -.38, p < .01), CC (r = -.40, p < .01), and CF (r = -.22, p < .01). Nevertheless, it was not correlated with the organization (r = .02, p > .05), and age (r = .03, p > .05). Also, perfectionism was negatively correlated with cognitive control and flexibility (r = -.36, p < .01), CC (r = -.48, p < .01), and age (r = -.16, p < .01). This result indicated that higher perfectionism was affiliated with lower CC. On the other hand, it was not correlated with CF (r = -.08, p > .05). Concern over mistakes subscale was negatively correlated with cognitive control and flexibility (r = -.46, p < .01), CC (r = -.53, p < .01), and CF (r = -.21, p < .01), and age (r = -.28, p < .01). Personal standards subscale was positively correlated with CF (r = .15, p < .01). Furthermore, it was negatively correlated with CC (r = -.18, p < .01), and age (r = -.15, p < .05). interestingly, it was not correlated with CC and flexibility (r = -.04, p > .05). Parental expectations subscale was negatively correlated with cognitive control and flexibility (r = -.32, p < .01), and CC (r = -.40, p < .01). However, it was not correlated with CF, (r = -.11, p > .05) and age (r = -.07, p > .05). Parental criticism subscale was negatively correlated with cognitive control and flexibility (r = -.36, p < .01), and CC (r = -.45, p < .01), and CF (r = -.12, p < .05). Nonetheless, it was not correlated with age (r = -.05, p > .05). Doubts about actions subscale was negatively correlated with cognitive control and flexibility (r = -.46, p < .01), CC (r = -.54, p < .01), CF (r = -.21, p < .01), and age (r = -.22, p < .01). Organization subscale was positively correlated with cognitive control and flexibility (r = .17, p < .01), CF (r = .22, p < .01), and age (r = .15, p < .05). Age was positively correlated with cognitive control and flexibility (r = .24, p < .01), CC (r = .26, p < .01), and CF (r = .14, p < .05). Showed that as the age of the participants increased, level of CC and CF levels also increased.

Table 6. Pearson Correlation Analysis Between Variables

	LSAS	LSAS Anxiety	LSAS Avoidance	FMPS	FMPS CM	FMPS PS	FMPS PE	FMPS PC	FMPS D	FMPS O	CCFQ	CCFQ CC	CCFQ CF	Age
LSAS	1													
LSAS Anxiety	.94**	1												
LSAS Avoidance	.93**	.76**	1											
FMPS	.45**	.44**	.40**	1										
FMPS CM	.48**	.46**	.43**	.89**	1									
FMPS PS	.18**	.20**	.14*	.77**	.63**	1								
FMPS PE	.32**	.31**	.29**	.80**	.65**	.50**	1							
FMPS PC	.37**	.35**	.33**	.77**	.64**	.44**	.73**	1						
FMPS D	.52**	.50**	.47**	.74**	.73**	.43**	.43**	.55**	1					
FMPS O	.03	.03	.02	.33**	.02	.30**	.14*	.02	-.02	1				
CCFQ	-.43**	-.42**	-.38**	-.36**	-.46**	-.04	-.32**	-.356**	-.46**	.17**	1			
CCFQ CC	-.45**	-.43**	-.40**	-.48**	-.53**	-.18**	-.40**	-.45**	-.54**	.08	.87**	1		
CCFQ CF	-.26**	-.26**	-.22**	-.08	-.21**	.15**	-.11	-.12*	-.21**	.22**	.81**	.42**	1	
Age	-.03	-.08	.03	-.16**	-.28**	-.15*	-.07	-.05	-.22**	.15*	.24**	.26**	.14*	1

**p < 0.01, *p < 0.05

Note. LSAS: Liebowitz Social Anxiety Scale, FMPS: Frost Multidimensional Perfectionism Scale, FMPS CM: Frost Multidimensional Perfectionism

Scale - Concern Over Mistakes, FMPS PS: Frost Multidimensional Perfectionism Scale - Personal Standards, FMPS PE: Frost Multidimensional Perfectionism Scale - Parental Expectations, FMPS PC: Frost Multidimensional Perfectionism Scale - Parental Criticism,
FMPS D: Frost Multidimensional Perfectionism Scale - Doubts About Actions, FMPS O: Frost Multidimensional Perfectionism Scale - Organization, CCQF: Cognitive Control and Flexibility Questionnaire, CCQF - CC: Cognitive Control and Flexibility Questionnaire Cognitive Control, CCQF - CF: Cognitive Flexibility.

3.2.3. Mediation Analysis

To examine the mediating role of CC and CF in the relationship between perfectionism and social anxiety. A parallel mediation analysis, following the guidelines proposed by Hayes (2022), was conducted using the PROCESS Model 4. In this analysis, the predictor variable was perfectionism, the outcome variable was social anxiety, and the mediators were CC and CF. The significance of the mediating variables was assessed using 5000 bootstrap samples, and a 95% confidence interval was utilized for evaluating the results. The mediation model is illustrated in Figure 3.

According to the result of the mediation analysis, perfectionism significantly, negatively predicted CC, b = -.23, t = -9.52, p < .001. Also, CC significantly, negatively predicted social anxiety, b = -.44, t = -3.68, p < .001. Perfectionism explained 23% of the variance in CC, R^2 = .23, $F(1, 298) = 90.64$, p < .001.

On the other hand, perfectionism did not significantly predict CF, b = -.03, t = -1.40, p > .05. However, CF significantly, negatively predicted social anxiety, b = -.32, t = -2.48, p < .05. Perfectionism explained 1% of the variance in CF, R^2 = .01, $F(1, 298) = 1.97$, p > .05.

Moreover, perfectionism significantly and positively predicted social anxiety, b = .31, t = 5.82, p < .001. This model represented 29% of the variance in social anxiety, R^2 = .23, $F(3, 296) = 39.52$, p < .001. When CC and CF were not included in the model, perfectionism significantly, and positively predicted social anxiety, b = .42, t = 8.74, p < .001. Perfectionism explained 20% of the variance in social anxiety, R^2 = .20, $F(1, 298) = 76.41$, p < .001.

There was a significant indirect effect of perfectionism on social anxiety through CC, b = .10, 95% BCa CI [.039, .170]. The bootstrapped confidence intervals for the indirect effects do not include zero. For the standardized indirect effect, b = .11, 95% BCa CI [.039, .181]. Therefore, CC played a mediator role in the relationship between perfectionism and social anxiety. In conclusion, higher perfectionism predicted higher levels of social anxiety when mediated by CC.

Thereby the bootstrapped confidence intervals included zero, there was not a significant indirect effect of perfectionism on social anxiety through CF, $b = .01$, 95% BCa CI [-.006, .036]. For the standardized indirect effect, $b = .01$, 95% BCa CI [-.007, .042]. Thus, CF did not play a mediator role in the relationship between perfectionism and social anxiety.

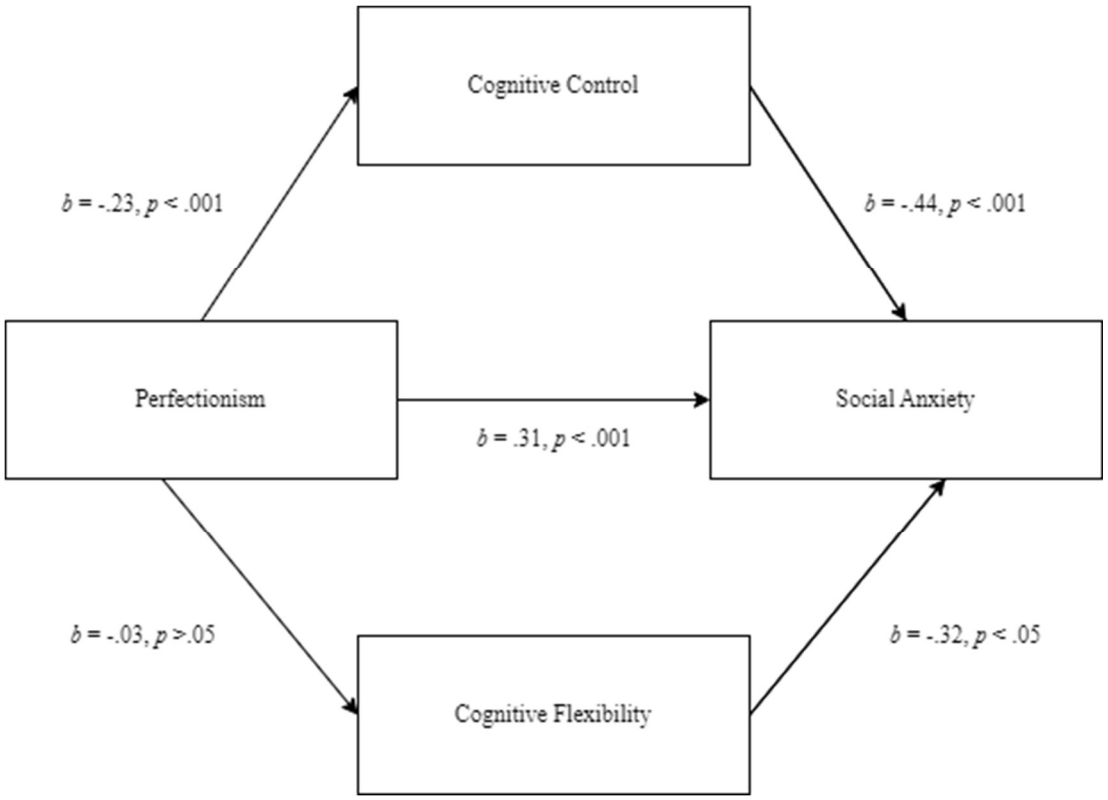

Figure 3. The mediating effect of cognitive control and flexibility in the relationship between perfectionism and social anxiety

CHAPTER 4: DISCUSSION

This study aimed to investigate the mediating role of Cognitive Control (CC) and Cognitive Flexibility (CF) in the relationship between perfectionism and social anxiety. First, the gender differences between groups in social anxiety, fear/anxiety, avoidance, perfectionism, excessive concern over mistakes (CM) personal standards (PS), parental expectations (PE), parental criticism (PC), doubts about actions (D), organization (O), cognitive control and flexibility, CC, and CF will be discussed. Results suggested that females scored higher than males on parental criticism, and doubts about actions; males scored higher in a total of CCFQ, and CC than females. Thereafter, the relationships between social anxiety, fear/anxiety, avoidance, perfectionism, excessive concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, organization, cognitive control and flexibility, CC, CF, and age will be discussed. Results showed that participants' LSAS scores were significantly correlated with FMPS, CC, and CF; FMPS scores were significantly correlated with CC, CF, and age; CC and CF scores were significantly correlated with age. Lastly, the mediating role of CC and CF in the relationship between perfectionism and social anxiety will be discussed. After discussing these results, limitations and future suggestions will be provided. According to the results, CC played a mediating role in the relationship between perfectionism and social anxiety; however, CF did not.

4.1. Gender Differences

The results showed that there is a significant difference in FMPS's two subscales (parental criticism, and doubts about actions), cognitive control and flexibility, and CC scores between females and males. Conversely, there were no significant gender differences in social anxiety scores, the LSAS's subscales scores (fear/anxiety, and avoidance), perfectionism, some of FMPS's subscales (excessive concern over mistakes, personal standards, parental expectations, and organization), and CF.

Female participants' scores were higher than male participants on parental criticism, and doubts about actions. However, their scores were lower than male participants on cognitive control and flexibility, and CC. In other words, females have high levels of

perceived parental criticism, and they are more doubtful about their actions than males; while males have higher scores in a total of CCFQ, and CC than females.

According to the results of a study by Göç (2008), there was a significant gender difference in parental criticism, but not in doubts about actions. In addition, in the present study females' scores for parental criticism were higher than men, but the study by Göç (2008) found as males have higher scores than males. The discrepancy could arise in the distribution of gender; there were 57 females, and 124 males (Göç, 2008), however, in the present study the number of female participants ($N = 240$) was higher than the number of males ($N = 59$). Only, Gelabert et al. (2012), stated that high levels of doubt about actions were associated with SAD in both genders; however high levels of perceived parental criticism were associated with SAD only in women. In the study by Gelabert et al. (2012), the clinical sample with SAD was included, contrary to the present study. These discrepancies may be due to the difference between the qualifications of the participants.

Also, as hypothesized the males' higher CC scores are consistent with three studies; Chraif and Fulga, 2013; Meral et al., 2023; and Ren et al., 2009. The study by Chraif and Fulga (2013), aimed to provide evidence that males exhibit greater pain resistance and tolerance compared to females. Chraif and Fulga (2013), stated that male undergraduate students exhibit a higher level of CC pain compared to female students. Similarly, Ren and colleagues (2009), made experimental research with Go/No Go task to look for CC through gender differences. They showed that in conditions involving a simple task, there is a tendency indicating that males exhibited a higher ability to filter out distractors compared to females. Meral et al. (2023), examined the connection between concerns related to COVID-19 and symptoms of Generalized Anxiety Disorder (GAD), while also exploring the mediating roles of Spirituality, Mindfulness, CC, and CF in this association. They indicated that females scored significantly lower than males. On the other hand, in the study by Yücel Akın (2022), there was no significant gender difference in total CCFQ scores inconsistent with the present study. There were 190 females, and 93 males (Yücel Akın, 2022), so the gender distribution is more balanced than in the present study this could be the reason for this difference.

Contrary to expectations there was no gender difference in social anxiety in this study. When reviewing the existing literature, it becomes evident that there is no clear answer regarding the relationship between social anxiety and gender. Both the Epidemiologic Catchment Area (ECA) study, with rates of 2.3 percent in males and 3.2 percent in females (Bourdon et al., 1988), and the National Comorbidity Survey (NCS), with a lifetime prevalence of 11 percent in males and 15 percent in females (Kessler et al., 1994), indicate a gender ratio of approximately 1 to 1.4 for social anxiety. Both the National Comorbidity Survey (NCS) and the Epidemiologic Catchment Area (ECA) study did not report gender differences in the specific fears associated with social anxiety. However, it is worth noting that the frequency of fears related to social anxiety tends to be higher in females, as observed in the ECA study (Bourdon et al., 1988; Curtis et al., 1998). In addition, newer research by Stein and colleagues (2017), indicated 4.0% as a lifetime prevalence and added that there were significant gender differences (1.3% for females, 1.0% for males). According to community studies females tend to demonstrate higher scores on assessments of social anxiety compared to males (Asher et al., 2017; Caballo et al., 2014; Fehm et al., 2008; Furmark, 2002; Schneier et al., 1992; Xu et al., 2012). In addition, Meral and Vriends (2021) stated that more female participants were included in the high social-anxiety group than the low social-anxiety group. Moreover, Caballo et al. (2014), stated that there are significant gender differences in community samples for fear/anxiety and avoidance subscales' scores of LSAS. However, some community studies do not observe significant gender differences in SAD (Bourdon et al., 1988; Lopez et al., 2008). For the clinical groups, Turk et al. (1998) observed that there was no significant disparity in the prevalence of SAD between males and females. Like this, the patient sample's fear/anxiety, and avoidance subscales' scores of the LSAS are not significantly different for gender in a study by Caballo et al. (2014). Moreover, variations and intensity of anxiety in specific situations are important; females reported higher levels of fear associated with attending parties, being center, etc., whereas males reported higher levels of fear associated with using public restrooms for urination and returning goods to a store. According to Xu et al. (2012), females exhibited a higher likelihood of experiencing fear related to important exams and eating/drinking in front of others compared to males. On the contrary, males were more prone to experiencing fear specifically related to dating. The lack of gender differences in social anxiety could be explained by the comprehensive coverage of various domains in the measurement

instruments used, which effectively capture the relevant aspects for both males and females. The observed differences may arise from the emphasis placed on specific social situations within the measurement instruments, potentially leading to a biased representation of social anxiety experiences based on gender-specific proportions of these situations. As mentioned above, there are differences between clinical and community samples; the sample of this study was not clinical, so determining gender differences may have been hard. Conducting a study with the same measurement tools, participants diagnosed with SAD may unveil a potential gender difference that was not evident in the current study.

The results are not consistent with the hypothesis about gender differences in perfectionism. In the present study scores for FMPS, excessive concern over mistakes, parental expectations, and organization were higher for females; but the differences were not significant. On the other hand, for personal standards males' scores were higher than females; however, the difference was not significant. Our findings are in line with the study by Göç (2008) showing gender differences in total FMPS scores, personal standards, parental expectations, and organization subscales' scores. Both the study of Göç and the present study did not find significant gender differences for FMPS, personal standards, parental expectations, and organization. Nevertheless, Göç (2008) stated that personal standards scores were higher for females; parental expectations and organization scores were higher for females contrary to the present study. Also, Parker and Adkins (1995), investigated that there were no gender differences for FMPS or any subscales of the scale. Consistent with the result for parental expectations scores, Guo et al. (2018), found that females have high scores for parental expectations; however, the difference is not significant. In brief, the unequal distribution of the number of participants by gender may be one of the reasons for this result. While there have been assumptions that perfectionistic attitudes are more prevalent in women, it is evident that this assumption is not well-established.

Contrary to the hypothesis, the results show that there was no significant gender difference in CF; like the studies of Meral et al. (2023), Yu et al. (2019), and Yücel Akın (2022). Wang et al. (2022), investigated those males showed CF stronger than females, also this difference was significant. The studies by Meral et al. (2023), Yu et al. (2019), and Yücel Akın (2022), The gender and age distribution of the participants

in the current study is similar with Meral et al. (2023), Yu et al. (2019), and Yücel Akın (2022). However, the study by Wang and colleagues (2022), included participants 39.40% of the participants were from urban areas, and 60.60% of the participants were from rural areas in the study by Wang and colleagues (2022). In addition, the scale used to measure the CF was different. In the present study, males also had higher scores for CF than females, but the result of it was not significant. Therefore, the difference in signifcancy between the present study and Wang et al. (2022) could be derived from this sociodemographic attribute and the scale differences. Ultimately all this research and current study shows that males in general have a tendency to get high CF scores, whether significant or not.

4.2. Correlations

As hypothesized, there was a positive correlation between social anxiety and perfectionism. Consistent with the hypothesis, LSAS, and its two subscales were positively correlated with FMPS and its all subscales except organization. According to DSM-V (APA, 2013) the fear of negative evaluation by others is considered a fundamental characteristic of social anxiety, so this inference is not surprising. Also, there are several research about the relationship between SAD or the concept of social anxiety and perfectionism (e.g., Al-Naggar et al., 2013; Antony et al., 1998; Frost et al., 2010; Hamarta, 2009; Juster et al., 1996; Leary, 2001; Levinson et al., 2015; Stoeber and Gaudreau, 2017; Wang et al., 2022). Both social anxiety and perfectionism have been independently linked to various common themes such as high standards, expectations of others, negative evaluation, and problem-solving skills (Clark and Wells, 1995; Flett et al., 1996; Hamarta 2009; Juster et al., 1996; Levinson et al., 2013; Moscovitch and Hofmann, 2007). It is worth noting that the relationship between social anxiety and perfectionism is complex and bidirectional. While social anxiety may contribute to the development or reinforcement of perfectionistic tendencies, perfectionism can also trigger social anxiety symptoms. This reciprocal relationship highlights the need for a comprehensive understanding of the interaction between these constructs.

Consistent with the hypothesis, social anxiety and both two subscales of LSAS were significantly and negatively correlated with CC and CF in the present study. Multiple

studies have provided evidence indicating a connection between CC and CF with anxiety (Demirtaş, 2021; Gabrys et al., 2018; Liao et al., 2019; Meral et al., 2023). All these studies stated that there is a negative relationship between concepts; higher CC and CF tend to have lower levels of anxiety. Clarkea and Kiropoulos (2021) demonstrated that CF can act as a mediator in the association between neuroticism and social anxiety. Additionally, Arlt et al. (2016) identified a positive correlation between social anxiety and cognitive inflexibility. All these outputs are consistent with the results; however, because of the lack of studies about social anxiety and CC and/or CF discussing the results is limited.

Perfectionism was significantly and negatively correlated with CC as hypothesized. Even though there was a negative and significant correlation between total scores of FMPS and CCFQ, its relationship with CF was negative but not significant. Akkuş Çutuk (2020), Hayatbini et al. (2021), and Nazarzadeh et al. (2015) showed that there is a relationship between perfectionism and CF. A study conducted by Akkuş Çutuk (2020) found that there is a significant negative relationship between perfectionism and CF. The results showed that as perfectionism increases, cognitive flexibility tends to decrease. Nazarzadeh and collegues (2015) firstly measure the participants' level of perfectionism and if the participants scored 90 or higher, they included the study. Nevertheless, in the present study there was no exclusion criteria for their perfectionism score, so not all the participants have some level of perfectionism. Because of this, the correlation might not be significant in the present study. The current results appear to be preliminary because, to the best of our knowledge, the literature review has not revealed any other studies on the association between perfectionism and CC. Also, even though there are some examples of the relationship between perfectionism and CF, the correlation between them was not significant. Some common features can be linked with perfectionism, CC, and CF levels of stress, anxiety, problem-solving skills, and difficulty in coping with failures (Demirtaş, 2019; Newby et al., 2017). The available investigations suggest that there might be a significant negative relationship between perfectionism and CC and/or CF. Because there are still too many unknown or complex connections, understanding this association can contribute to a better understanding of the cognitive processes underlying perfectionistic tendencies and their impact on psychological well-being.

The result showed that there was no significant correlation between social anxiety and age. Since the symptoms or signals of SAD often begin to manifest at an early age (Hamilton et al., 2016; Nelson et al., 2000; Peleg, 2012; Stein and Stein, 2008), the expectation was for a negative relationship between social anxiety and age. Even, though the relationship turned out to be negative, contrary to expectations it was not significant. It is important to note that while social anxiety may decrease for some individuals, it can persist or even emerge later in life. Certain life events, such as major transitions, changes in social roles, or stressful situations, can trigger or exacerbate social anxiety symptoms in adulthood (Bögels et al., 2010). Additionally, age-related factors, such as retirement, health issues, or social isolation, can also influence social anxiety levels in older adults (Bögels et al., 2010; Hamilton et al., 2016; Stein and Stein, 2008). The reason for non-significant differences may be due to the unequal age distribution and vide age range (between 18 and 78) in the present study or individual differences in triggering life experiences. These findings are important for interventions and treatments for social anxiety. Understanding social anxiety in different age groups can help develop appropriate interventions. For example, interventions for adolescents can focus on improving social skills and self-esteem, while interventions for older adults can address age-related concerns and provide social support.

According to the results, there was a significant and negative correlation between perfectionism and age as expected. Except for parental expectations and parental criticism, the correlation was consistent for FMPS and its subscales (excessive concern over mistakes, personal standards, doubts about actions, and organization). However, only the organization subscale was significantly and positively correlated with age. The result is consistent with the study by Robinson et al. (2021); they found that younger adults have higher perfectionism than older adults. Nevertheless, another study by Stoeber and Stoeber (2009), did not find a significant correlation between age and perfectionism. These studies show that the relationship between age and perfectionism is not constant. This difference can be derived from early life experiences; Chen et al. (2019), stated that childhood adversities and abuse can have triggering effects on perfectionism. Moreover, as mentioned above unequal age distribution could be another reason. Lastly, the different classifications of a multidimensional perspective may be the reason; using HMPS (Hewitt et al., 1991)

instead of FMPS (Frost et al., 1990) with the same structures and participants could give different results.

The correlation analysis showed that there were positive and significant correlations between age and both CC and CF, consistent with the expectation. Inconsistent with this result, the study by Yücel Akın (2022), did not show significant differences between them. Older adults generally exhibit declines in certain aspects of cognitive control, such as inhibitory control and working memory, as well as flexibility in switching between tasks or adapting to new situations (Bugg, 2014). These changes are often attributed to normal age-related cognitive decline and alterations in brain structure and function (Bugg, 2014; Persson et al., 2007). On the other hand, CC and CF also have associations with emotion regulation, solving problems, and making decisions (Cañas et al., 2003; Dajani and Uddin, 2015; Gabrys et al., 2018; Ionescu, 2012; Rolls, 2000). Therefore, these goal-directed behaviors are developed through experiences and practices; processing these quicken with age (Carstensen et al., 2003; Carstensen et al., 2000). This could be the reason for this positive correlation between age and CC and CF.

4.3. Mediation Analysis: Mediating Role of CC and CF in the Relationship Between Perfectionism and Social Anxiety

A parallel mediation analysis was conducted to examine the mediating role of CC and CF in the relationship between perfectionism and social anxiety. The results of the analysis showed that there was a significant indirect effect of perfectionism on social anxiety through CC, but there was not a significant indirect effect of perfectionism on social anxiety through CF. In other words, CC played a mediating role in the relationship between perfectionism and social anxiety; however, CF did not. Therefore, higher perfectionism predicted higher levels of social anxiety when mediated by cognitive control.

As mentioned above numerous studies have consistently shown a significant relationship between social anxiety and perfectionism (e.g., Al-Naggar et al., 2013; Frost et al., 2010; Hamarta, 2009; Levinson et al., 2015; Stoeber and Gaudreau, 2017; Wang et al., 2022). Individuals with social anxiety tend to have higher performance

expectations, doubts about meeting expectations, and concerns about mistakes (Moscovitch and Hofmann, 2007). Perfectionistic traits play a significant role in predicting and intensifying social anxiety symptoms (Hamarta 2009; Wang et al., 2022). They contribute to anticipating negative social interactions, heightened self-focused attention, and overestimating the social costs of failure (Brown et al., 1995; Meral and Vriends, 2021). Perfectionistic individuals strive for high-performance standards and are more likely to experience social anxiety when there is a perceived discrepancy between their actual performance and others' expectations (Hewitt et al., 2006; Leary, 2001). The fear of negative evaluation and maladaptive perfectionism traits further contribute to social anxiety (Flett et al., 1996; Juster et al., 1996; Levinson et al., 2013). Overall, these findings highlight the strong connection between social anxiety and perfectionism, suggesting that perfectionistic tendencies can exacerbate social anxiety symptoms.

Several studies have shown a link between CC, CF, and anxiety disorders. (Demirtaş, 2021; Gabrys et al., 2018; Liao et al., 2019; Meral et al., 2023). CC and CF play a role in emotion regulation and goal-directed behaviors, and deficiencies in these skills are associated with mental health conditions such as depression and anxiety disorders (Gabrys et al., 2018). Increased CC has been found to help individuals effectively manage anxiety and reduce rumination (Robinson et al., 2010). CF has been shown to mediate the relationship between neuroticism and social anxiety, and there is a positive correlation between social anxiety and cognitive inflexibility (Arlt et al., 2016). However, the number of studies specifically investigating CC and CF about social anxiety is limited. Studies have indicated a significant negative relationship between perfectionism and CF (Akkuş Çutuk, 2020). Overall, while there is some research as mentioned above supporting the link between CC, CF, and anxiety disorders, including social anxiety, more studies are needed to further understand the relationship between these variables. Because of all these, the results of this study were expected to make an important contribution to clinical practice and literature.

Even though the mediating role of CF was not significant, CC was significant. In a study by Meral et al. (2023), the connection between concerns related to COVID-19 and symptoms of GAD was examined, the mediating roles of Spirituality, Mindfulness, CC, and CF in this association were investigated. They found that CC

was significantly mediate this relationship; however, CF was not. Although the variables (Meral et al., 2023) were not same with the present study except CC and CF. The mediation analysis' result of CC and CF is similar to the present study; CC was significantly, CF was not significantly mediate the relationship. Research showed that lack of these skills play an important role in anxiety disorders (Gabrys et al., 2018; Liao et al., 2019). These were looked at for anxiety disorders but not for SAD specifically; however, because there are anxiety disorders, maybe there are similar mechanisms.

Moreover, the lack of a mediating role for CF in the relationship between perfectionism and social anxiety highlights the complexity and multifaceted nature of these constructs. It is possible that other factors, such as cognitive processes, personality traits, or environmental factors, may contribute to the development and maintenance of social anxiety in individuals with perfectionistic tendencies.

Overall, this study underscores the complexity of the relationship between perfectionism, CC/CF, and social anxiety, and highlights the importance of continued research in this area to inform clinical interventions and improve our understanding of these psychological constructs. Additionally, investigating potential moderators or mediators that may influence this relationship, such as self-esteem or cognitive biases, could contribute to a more comprehensive understanding of the interplay between these variables.

4.4. Limitations and Future Suggestions

Besides the contributions this study offers to the existing literature and clinical practice, it is essential to acknowledge and consider several limitations when interpreting the findings.

Firstly, 300 people participated in this study. The convenience sampling method was used to choose the participants. However, 240 of the participants were females, 59 of the participants were males, and 1 of the participants were non-binary, so the gender distribution was not equal. Future studies may obtain more generalizable results by increasing the number of participants and balancing the gender distribution.

The sample of the study consisted of nonclinical participants, and since the average of the LSAS scores of the participants was below the cut-off value of 50, which is the cut-off value of the scale, it can be considered as a sample with a low social anxiety level. While certain hypotheses have been supported, conducting further research with individuals diagnosed with SAD would yield more robust and dependable outcomes. It is recommended that future studies focus on clinical populations, exploring distinctions between clinical and control groups to gain a deeper understanding of the intricate relationship between SAD, perfectionism, CC, and CF. Such investigations would enhance our knowledge of the underlying mechanisms of SAD and inform targeted interventions and treatments.

In addition, the present study was designed as cross-sectional and applied in a limited time. Further research is needed to unravel the underlying mechanisms and develop tailored interventions to effectively address social anxiety across the lifespan. The longitudinal design could be an alternative to enlightenment.

As mentioned in the “Correlations” section, the direction of the relationship between social anxiety and perfectionism needs further research to be clear. Future research should continue to explore the complexities of this relationship and its implications for the development and maintenance of social anxiety and perfectionistic behaviors from a multidimensional perspective. Future research can build upon these findings to identify potential avenues for intervention, such as self-esteem or cognitive biases, targeting cognitive processes, or addressing specific perfectionistic traits that may be more directly related to social anxiety.

The concepts of CC and CF are relatively new, they need further investigation. Additional research is needed to fully grasp the complexities of the association between CC, CF, and perfectionism, social anxiety as well as its practical implications for interventions and treatment strategies.

CHAPTER 5: CONCLUSION

The current study was the first to investigate the mediating role of CC and CF in the relationship between perfectionism and social anxiety. In brief, this study shows that there was a negative correlation between social anxiety and CC/CF. Consequentially CC significantly mediated the relationship between perfectionism and social anxiety. However, CF did not undertake a significant mediating role in the relationship between perfectionism and social anxiety.

Therefore, the research emphasizes that the inclination to perfectionism is linked to the occurrence of social anxiety, and this relationship is mediated by CC. The definition of SAD has some main components, such as delivering performance, negative evaluation, and observation by others. In this case, it is thought that focusing on purpose-oriented thoughts and ignoring non-purpose-oriented thoughts may be healthier in coping with SAD.

In conclusion, the results of this study offer valuable insights and a more comprehensive understanding of the concepts pertaining to perfectionism in the context of social anxiety. These findings make a meaningful contribution to the existing literature and have practical implications for clinical practice.

5.1. Clinical Implications

The findings of this study have significant clinical implications for mental health professionals and practitioners working with individuals experiencing social anxiety, and perfectionism. With the increase and intensity of perfectionism, anxiety is typical. The identification of CC as a significant mediator in the relationship between perfectionism and social anxiety has important implications for therapeutic interventions. Mental health professionals should consider incorporating interventions that target CC deficits in individuals with perfectionism and social anxiety. Cognitive training exercises and techniques aimed at improving attention regulation, inhibitory control, and cognitive flexibility can be implemented to enhance cognitive control abilities. By strengthening cognitive control skills, individuals may be better equipped

to manage perfectionistic tendencies and reduce social anxiety symptoms.

Furthermore, while cognitive flexibility did not emerge as a significant mediator in the relationship between perfectionism and social anxiety in this study, it is still a relevant construct in the context of treatment. Because according to this study's result, there was a negative correlation between social anxiety and CF. Mental health professionals should be attentive to the potential role of cognitive inflexibility in perpetuating perfectionistic beliefs and social anxiety symptoms. Therapeutic interventions that promote CF, such as cognitive restructuring and exposure-based techniques, can be beneficial in challenging rigid thinking patterns and facilitating adaptive responses to social situations. Encouraging individuals to explore alternative perspectives, generate flexible solutions, and engage in gradual exposure exercises may contribute to reducing the impact of perfectionism on social anxiety.

It is crucial for mental health professionals to adopt a comprehensive approach that addresses both cognitive factors and perfectionism in the treatment of social anxiety. By targeting CC deficits and promoting CF, therapists can help individuals develop healthier thinking patterns, increase their tolerance for uncertainty, and enhance their social functioning.

Additionally, the present study highlights the importance of early intervention and prevention efforts targeting perfectionism and social anxiety. Identifying individuals at risk for developing social anxiety and perfectionistic tendencies, particularly in educational settings, can facilitate the implementation of preventive interventions. Schools and colleges can play a vital role in promoting mental health by offering programs that foster self-acceptance, resilience, and coping skills. By addressing perfectionism and social anxiety early on, the potential negative impact on individuals' well-being and academic performance can be mitigated.

In summary, the findings of this study underscore the significance of cognitive factors, specifically CC, in mediating the relationship between perfectionism and social anxiety. Mental health professionals should consider incorporating interventions that target CC deficits and promote CF to enhance therapeutic outcomes for individuals experiencing social anxiety and perfectionism.

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APPENDICES

Appendix A. Ethhics Committee Approval

SAYI : B.30.2.İEÜ.0.05.05-**020**-*279*
28.03.2023
KONU : Etik Kurul Kararı hk.

Sayın Dr. Öğr. Üyesi Yasemin MERAL Öğütçü ve Damla Köroğlu,

"The Moderator Role of Cognitive Control and Cognitive Flexibility on The Relationship Between Perfectionalism and Social Anxiety" başlıklı projenizin etik uygunluğu konusundaki başvurunuz sonuçlanmıştır.

Etik Kurulumuz 28.03.2023 tarihinde sizin başvurunuzun da içinde bulunduğu bir gündemle toplanmış ve Etik Kurul üyeleri projeleri incelemiştir.

Sonuçta 28.03.2023 tarihinde **"The Moderator Role of Cognitive Control and Cognitive Flexibility on The Relationship Between Perfectionalism and Social Anxiety"** konulu projenizin etik açıdan uygun olduğuna oy birliğiyle karar verilmiştir.

Gereği için bilgilerinize sunarım.
Saygılarımla,

Prof. Dr. Murat Bengisu
Etik Kurul Başkanı

Appendix B. Informed Consent

Sayın Katılımcı,

Bu çalışma, İzmir Ekonomi Üniversitesi Klinik Psikoloji Yüksek Lisans programı öğrencisi Damla Köroğlu tarafından yürütülen ve Dr. Öğretim Üyesi Yasemin Meral Öğütçü danışmanlığında sürdürülen bir tez çalışmasıdır. Çalışma kapsamında mükemmeliyetçilik ile sosyal kaygı arasındaki ilişkide bilişsel kontrolün ve bilişsel esnekliğin aracı rolüne ilişkin bilgi toplamak amaçlanmaktadır.

Bu çalışmada sizden, ekte sunulacak olan ölçekleri eksiksiz olarak doldurmanız beklenmektedir. Çalışma toplamda 5 bölümden oluşmakta ve yaklaşık olarak 20 dakika sürmektedir. Çalışmaya katılabilmeniz için 18 yaş ve üstü olmanız gerekmektedir.

Katılımınız araştırma hipotezinin test edilmesi ve yukarıda açıklanan amaçlar doğrultusunda alanyazına sağlayacağı katkılar ve klinik uygulamalar bakımından oldukça önemlidir. Bu sebeple, soruların samimi bir şekilde ve eksiksiz doldurulması büyük önem arz etmektedir. Ölçekleri doldururken sizi tam olarak yansıtmadığını düşündüğünüz durumlarda size en yakın yanıtı işaretleyiniz.

Çalışma kapsamında katılımcılardan elde edilen veriler isim kullanılmaksızın analizlere dâhil edilecektir; yani çalışma sürecinde size bir katılımcı numarası verilecek ve isminiz araştırma raporunda yer almayacaktır.

Çalışmaya katılmanız tamamen kendi isteğinize bağlıdır. Katılımı reddetme ya da çalışma sürecinde herhangi bir zaman diliminde devam etmeme hakkına sahipsiniz. Eğer görüşme esnasında katılımınıza ilişkin herhangi bir sorunuz olursa, araştırmacıyla e-posta adresi üzerinden iletişime geçebilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılmayı kabul ediyorum ve verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum.

EVET ☐

Appendix C. Demographic Form

Yaş :

Cinsiyet : Kadın ☐ Erkek ☐ Diğer ☐

Eğitim seviyesi : İlkokul ☐ Ortaokul ☐ Lise ☐ Üniversite ☐
Yüksek Lisans ☐ Doktora ☐

Çalışıyor musunuz? : Evet ☐ Hayır ☐

Meslek :

Gelir düzeyi : Düşük ☐ Orta ☐ Yüksek ☐

Medeni durum : Bekar ☐ İlişkisi var ☐ Evli ☐ Dul ☐ Boşanmış ☐ Diğer ☐

Herhangi bir kronik rahatsızlığınız var mı?

Evet ☐ Belirtiniz: Hayır ☐

Herhangi bir psikiyatrik bir tanı aldınız mı?

Evet ☐ Belirtiniz: Hayır ☐

Ailenizde psikiyatrik hastalık öyküsü var mıdır?

Evet ☐ Belirtiniz: Hayır ☐

Son 3 ayda herhangi bir psikiyatrik ilaç kullandınız mı?

Evet ☐ Belirtiniz: Hayır ☐

Appendix D. Liebowitz Social Anxiety Scale

Lütfen aşağıdaki formu dikkatle okuyun.

Aşağıda belirtilen durumlarda duyduğunuz **kaygının** şiddetine göre puan verin.

		Yok ya da çok hafif	**Hafif**	**Orta derecede**	**Şiddetli**
1	Önceden hazırlanmaksızın bir toplantıda kalkıp konuşmak				
2	Seyirci önünde hareket, gösteri ya da konuşma yapmak				
3	Dikkatleri üzerinde toplamak				
4	Romantik veya cinsel bir ilişki kurmak amacıyla birisiyle tanışmaya çalışmak				
5	Bir gruba önceden hazırlanmış sözlü bilgi sunmak				
6	Başkaları içerdeyken bir odaya girmek				
7	Kendisinden daha yetkili biriyle konuşmak				
8	Satın aldığı bir malı ödediği parayı geri almak üzere mağazaya iade etmek				
9	Çok iyi tanımadığı birisine fikir ayrılığı veya hoşnutsuzluğun ifade edilmesi				
10	Gözlendiği sırada çalışmak				
11	Çok iyi tanımadığı bir kişiyle yüz yüze konuşmak				
12	Bir eğlenceye gitmek				
13	Çok iyi tanımadığı birisinin gözlerinin içine doğrudan bakmak				
14	Yetenek, beceri ya da bilginin sınanması				
15	Gözlendiği sırada yazı yazmak				

16	Çok iyi tanımadığı biriyle telefonla konuşmak				
17	Umumi yerlerde yemek yemek				
18	Evde misafir ağırlamak				
19	Küçük bir grup faaliyetine katılmak				
20	Umumi yerlerde bir şeyler içmek				
21	Umumi telefonları kullanmak				
22	Yabancılarla konuşmak				
23	Satış elemanının yoğun baskısına karşı koymak				
24	Umumi tuvalette idrar yapmak				

Lütfen aynı formu şimdi de belirtilen durumlarda duyduğunuz **kaçınmanın** şiddetine göre değerlendirin.

		Kaçınma yok ya da çok ender	**Zaman zaman kaçınırım**	**Çoğunlukla kaçınırım**	**Her zaman kaçınırım**
1	Önceden hazırlanmaksızın bir toplantıda kalkıp konuşmak				
2	Seyirci önünde hareket, gösteri ya da konuşma yapmak				
3	Dikkatleri üzerinde toplamak				
4	Romantik veya cinsel bir ilişki kurmak amacıyla birisiyle tanışmaya çalışmak				
5	Bir gruba önceden hazırlanmış sözlü bilgi sunmak				
6	Başkaları içerdeyken bir odaya girmek				
7	Kendisinden daha yetkili biriyle konuşmak				
8	Satın aldığı bir malı ödediği parayı geri almak üzere mağazaya iade etmek				

9	Çok iyi tanımadığı birisine fikir ayrılığı veya hoşnutsuzluğun ifade edilmesi				
10	Gözlendiği sırada çalışmak				
11	Çok iyi tanımadığı bir kişiyle yüz yüze konuşmak				
12	Bir eğlenceye gitmek				
13	Çok iyi tanımadığı birisinin gözlerinin içine doğrudan bakmak				
14	Yetenek, beceri ya da bilginin sınanması				
15	Gözlendiği sırada yazı yazmak				
16	Çok iyi tanımadığı biriyle telefonla konuşmak				
17	Umumi yerlerde yemek yemek				
18	Evde misafir ağırlamak				
19	Küçük bir grup faaliyetine katılmak				
20	Umumi yerlerde bir şeyler içmek				
21	Umumi telefonları kullanmak				
22	Yabancılarla konuşmak				
23	Satış elemanının yoğun baskısına karşı koymak				
24	Umumi tuvalette idrar yapmak				

Appendix E. Frost Multidimensional Perfectionism Scale

Lütfen aşağıdaki formu dikkatle okuyunuz ve sizin için en uygun olduğunu düşündüğünüz seçeneği işaretleyiniz. Her sorunun karşısında bulunan; (1) Kesinlikle katılmıyorum (2) Katılmıyorum (3) Kararsızım (4) Katılıyorum ve (5) Kesinlikle katılıyorum anlamına gelmektedir.

1. Anne-babam benim için çok yüksek ölçütler belirler.	(1) (2) (3) (4) (5)
2. Düzen benim için çok önemlidir.	(1) (2) (3) (4) (5)
3. Çocukken mükemmel yapmadığım şeyler için cezalandırılmışımdır.	(1) (2) (3) (4) (5)
4. Kendim için en yüksek ölçütleri belirlemezsem ikinci sınıf bir insan haline gelebilirim.	(1) (2) (3) (4) (5)
5. Anne-babam benim hatalarımı hiçbir zaman anlamaya çalışmamıştır.	(1) (2) (3) (4) (5)
6. Yapığım her şeyde tam anlamıyla yeterli olmak benim için önemlidir.	(1) (2) (3) (4) (5)
7. Ben tertipli bir insanım.	(1) (2) (3) (4) (5)
8. Düzenli bir insan olmaya çalışırım.	(1) (2) (3) (4) (5)
9. Okulda/işte başarısız olmam halinde insan olarak tümüyle başarısızımdır.	(1) (2) (3) (4) (5)
10. Bir hata yaptığımda hayal kırıklığına uğrarım.	(1) (2) (3) (4) (5)
11. Anne-babam benden her şeyin en iyisini yapmamı ister.	(1) (2) (3) (4) (5)
12. Pek çok insandan daha yüksek hedefler belirlerim.	(1) (2) (3) (4) (5)
13. İşte/okulda birileri bir işi benden daha iyi yapacak olursa o zaman kendimi bütün işte başarısız olmuş gibi hissederim.	(1) (2) (3) (4) (5)
14. Kısmen başarısız olursam, bu durum tümüyle başarısız olmak kadar kötüdür.	(1) (2) (3) (4) (5)
15. Ailemde yalnızca olağanüstü performans yeterince iyi olarak kabul görür.	(1) (2) (3) (4) (5)
16. Çabalarımı bir hedefe ulaşmak için yoğunlaştırmakta çok iyiyimdir.	(1) (2) (3) (4) (5)
17. Bir şeyleri çok dikkatli yaptığım zamanlarda bile çoğu kez tam olarak doğru olmamış gibi hissederim.	(1) (2) (3) (4) (5)
18. Bir şeylerde en iyi olamamaktan nefret ederim.	(1) (2) (3) (4) (5)
19. Aşırı derecede yüksek hedeflerim vardır.	(1) (2) (3) (4) (5)
20. Anne-babam benden mükemmeli beklerler.	(1) (2) (3) (4) (5)

21. Eğer bir hata yapacak olursam insanlar muhtemelen benim hakkımda daha olumsuz düşünürler.	(1) (2) (3) (4) (5)
22. Anne-babamın beklentilerini hiçbir zaman karşılayabilirmişim gibi hissetmem.	(1) (2) (3) (4) (5)
23. Bir şeyleri diğer insanlar kadar iyi yapamazsam bu benim daha değersiz bir insan olduğum anlamına gelir.	(1) (2) (3) (4) (5)
24. Diğer insanlar kendileri için bana göre çok daha düşük standartlar belirliyormuş gibi gelir.	(1) (2) (3) (4) (5)
25. Ben her zaman en iyisini yapmazsam insanlar bana saygı duymaz.	(1) (2) (3) (4) (5)
26. Anne-babamın benim geleceğime ilişkin beklentileri her zaman için benimkilerden çok daha yüksek olmuştur.	(1) (2) (3) (4) (5)
27. Düzenli (tertipli) bir insan olmaya çalışırım.	(1) (2) (3) (4) (5)
28.Yaptığım basit günlük şeyler için genellikle şüphelerim vardır.	(1) (2) (3) (4) (5)
29. Tertipli olmak benim için çok önemlidir.	(1) (2) (3) (4) (5)
30. Günlük işlerimde pek çok insana göre çok daha yüksek performans beklerim.	(1) (2) (3) (4) (5)
31. Düzenli bir insanım.	(1) (2) (3) (4) (5)
32. Bir şeyleri tekrar tekrar yaptığım için işlerimde geri kalmaya eğilimliyim.	(1) (2) (3) (4) (5)
33. Bir şeyleri ‘doğru’ yapmak benim için uzun zaman alır.	(1) (2) (3) (4) (5)
34. Ne kadar az hata yaparsam insanlar beni o kadar fazla sever.	(1) (2) (3) (4) (5)
35. Ailemin ölçütlerini hiçbir zaman karşılayabilecekmişim gibi hissetmem.	(1) (2) (3) (4) (5)

Appendix F. Cognitive Control and Flexibility Questionnaire

1	2	3	4	5	6	7
Hiç katılmıyorum	**Çoğunlukla katılmıyorum**	**Biraz katılmıyorum**	**Ne katılıyorum Ne katılmıyorum**	**Biraz katılıyorum**	**Çoğunlukla katılıyorum**	**Tamamen katılıyorum**

Bu ölçeğin amacı, stresli durumlar olumsuz düşünceleri ve duyguları tetiklediğinde genel olarak ne düşündüğünüzü / ne hissettiğinizi / ne yaptığınızı belirlemektir. Elbette, duruma bağlı olarak farklı davranabilirsiniz, ancak stresli ya da üzgün olduğunuzda genellikle ne düşündüğünüzü / hissettiğinizi / ne yaptığınızı düşünmeye çalışın. Aşağıda yer alan ölçeği kullanarak, belirtilen ifadelere ne ölçüde katılıp katılmadığınızı belirtin. Genellikle, stresli durumlarda…

1. Nasıl bir adım atacağıma karar vermeden önce elimdeki seçenekleri tartarım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. Düşüncelerim ve duygularım üzerindeki kontrolümü kaybediyormuşum gibi hissederim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. Duruma farklı bakış açılarından yaklaşırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. Aniden ortaya çıkan düşüncelerden ve duygulardan kurtulmak benim için zordur.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. Tepki vermeden önce çok yönlü bakış açısı ile durumu değerlendiririm.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6. Durumla en iyi şekilde başa çıkabilmek için harekete geçmeden önce farklı çözüm yolları düşünmeye çalışırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. Hoş olmayan düşüncelerden veya duygulardan kurtulmak benim için kolaydır.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. Rahatsız edici düşünceleri görmezden gelmek benim için kolaydır.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. Nasıl bir tepki göstereceğime karar vermeden önce, kolaylıkla farklı başa çıkma stratejileri düşünebilirim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. Tepki vermeden önce olaylara farklı açılardan bakmaya çalışırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

11. Can sıkıcı düşünceler veya duygular yüzünden dikkatim kolaylıkla dağılır.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. Soruna birden fazla çözüm yolu bulmak için uğraşırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. Düşüncelerimi ve duygularımı, durumu içinde bulunduğu şartlara göre değerlendirerek kontrol ederim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. Düşüncelerimi ve duygularımı kontrol altında tutabilirim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. Duygularımı yönetmede zorlanırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. Düşüncelerim ve duygularım bir işe odaklanabilmemi engeller.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. Düşüncelerimi veya duygularımı, durumu yeniden değerlendirerek yönetirim.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. Dikkatimi olumsuz düşüncelerden veya duygulardan başka yöne çevirmekte zorlanırım.	**1**	**2**	**3**	**4**	**5**	**6**	**7**