THE EFFECT OF SOCIAL COMPARISON ON INTERPERSONAL PROBLEMS
THROUGH SELF-ESTEEM AND EMOTION DYSREGULATION:

TESTING A PSYCHOLOGICAL MECHANISM FROM AN EVOLUTIONARY
FRAMEWORK

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ABSTRACT

THE EFFECT OF SOCIAL COMPARISON ON INTERPERSONAL PROBLEMS
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This study investigates the effect of undergraduate students' social comparison orientations (ability comparison and opinion comparison), self-esteem, and emotion regulation difficulties in explaining their interpersonal problems. The structural model tested for this purpose examines the mediating roles of self-esteem and emotion regulation difficulties in the relationship between social comparison orientation and interpersonal problems.

In collecting the study's data, a demographic information form, together with the Iowa-Netherlands Comparison Orientation Measure, Rosenberg Self-Esteem Scale, the Difficulties in Emotion Regulation Scale, and the Inventory of Interpersonal Problems-Circumplex Scales Short Form were applied to the sample consisting of 549

undergraduates. The proposed model based on the evolutionary framework was tested using structural equation modeling (SEM).

According to the SEM findings of the proposed model, while all of the direct paths of ability-based social comparison were significant, none of the direct paths of opinion-based social comparison were found to be significant. Similarly, indirect relationships between ability-based social comparison and interpersonal problems were significant through self-esteem and emotion regulation difficulties. However, none of the indirect relationships between opinion-based social comparison and interpersonal problems were found to be significant through self-esteem and emotion regulation difficulties. In addition, all direct and indirect relationships between all other variables, except for the opinion-based social comparison, were also shown to be significant.

In summary, while all the research hypotheses regarding the ability comparison were confirmed, those regarding the opinion comparison were rejected. The obtained results are then discussed in light of the related literature, and potential contributions to the theory, research, and practice are presented. Finally, suggestions are put forth for similar studies to be conducted in the future.

Keywords: social comparison orientation, self-esteem, emotion dysregulation, interpersonal problems, evolutionary framework

ÖZ

SOSYAL KARŞILAŞTIRMANIN ÖZ-SAYGI VE DUYGU DÜZENLEME
GÜÇLÜĞÜ ARACILIĞIYLA KİŞİLERARASI PROBLEMLER ÜZERİNDEKİ
ETKİSİ: PSİKOLOJİK BİR MEKANİZMANIN EVRİMSEL BİR ÇERÇEVEDEN
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Bu çalışmanın amacı üniversite lisans öğrencilerinin sosyal karşılaştırma yönelimlerinin (yetenek karşılaştırması ve görüş karşılaştırması), öz-saygılarının ve duygu düzenleme güçlüklerinin kişilerarası problemlerini açıklamadaki etkisini araştırmaktır. Bu amaçla test edilen yapısal modelde öz-saygı ve duygu düzenleme güçlüklerinin sosyal karşılaştırma yönelimi ile kişilerarası sorunlar arasındaki ilişkide aracı rolleri sınanmıştır.

Araştırma verilerinin toplanmasında 549 lisans öğrencisinden oluşan örnekleme demografik bilgi formu ile birlikte Iowa-Hollanda Karşılaştırma Yönelimi Ölçeği,

Rosenberg Öz-Saygı Ölçeği, Duygu Düzenlemede Güçlükler Ölçeği ve Kişilerarası Problemler Envanteri-Döngüsel Ölçekleri Kısa Formu uygulanmıştır. Evrimsel çerçeveye dayalı önerilen model Yapısal Eşitlik Modellemesi (YEM) kullanılarak test edilmiştir.

Önerilen modelin YEM bulgularına göre yetenek temelli sosyal karşılaştırmanın doğrudan yollarının tümü anlamlı iken görüş temelli sosyal karşılaştırmanın doğrudan yollarının hiçbiri anlamlı bulunamamıştır. Yine benzer biçimde yetenek temelli sosyal karşılaştırmanın kişilerarası problemler üzerindeki dolaylı etkileri öz-saygı ve duygu düzenleme güçlükleri aracılıklarıyla anlamlı bulunmuştur. Ancak görüş temelli sosyal karşılaştırmanın kişilerarası problemler üzerindeki dolaylı etkileri öz-saygı ve duygu düzenleme güçlükleri aracılıklarıyla anlamlı bulunamamıştır. Ayrıca görüş temelli sosyal karşılaştırma değişkeni dışındaki tüm değişkenler arasındaki doğrudan ve dolaylı yolların tümü de yine anlamlı bulunmuştur.

Özetle, sosyal karşılaştırma yöneliminin yetenek karşılaştırması alt boyutuna ilişkin tüm araştırma hipotezleri doğrulanmışken; görüş karşılaştırması alt boyutuna ilişkin tüm araştırma hipotezleri reddedilmiştir. Elde edilen sonuçlar ilgili alan yazın ışığında tartışılmış; kuram, araştırma ve uygulama alanlarında olası katkıları sunulmuş ve yapılacak benzer araştırmalara yönelik önerilerde bulunulmuştur.

Anahtar kelimeler: sosyal karşılaştırma yönelimi, öz-saygı, duygu düzenleme güçlükleri, kişilerarası problemler, evrimsel çerçeve

To my beloved wife, Ayşe

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CHAPTER 1

INTRODUCTION

1.1. Background to the Study

The human infant begins to discover, relate, and distinguish between objects even in the first year of its life (Bourgeois et al., 2005). Such functions imply a rapidly progressing neural connectivity and postnatal neural development that signifies cognition (Tucker & Luu, 2012). Beyond that, the fundamental component of human cognition is categorization, as found in many species. The evolved brains of most organisms effortlessly and naturally give similar responses by bringing together and categorizing those things which bear similar characteristics. As behavioral output can be limited but environmental stimuli can often be numerous, organisms act economically in cognitive terms, and restrict their sensory input through the application of perception. Through these limited stimuli, the individual is then better able to reach a judgment (Huber & Wilkinson, 2012). Indeed, human beings constantly form judgments with regards to the things surrounding them. While these judgments can sometimes be about an object or an event, they may sometimes be about a person or a certain behavior (Goldstein, 2014). In order to reach a conclusion that best serves the present need, individuals sometimes form judgments based on differences (Bourgeois et al., 2005) and sometimes on similarities (Goldstein, 2014). Except for certain sensory inputs that are spontaneously exposed and some objects' absolute existence and properties, most other forms of evaluation and judgment are considered relative by nature (Goffin & Olson, 2011). This relativity makes comparison necessary and comparison is ubiquitous in life (Mussweiler et al., 2004). Natural selection favors those with high assessment skills in reproduction and survival, since these aid the evolution of a species on a relative basis (Buss, 2015).

While the intense struggle for life in nature is inevitable and preordained for all organic living things, such struggles mostly take place among the members of the species itself

(Darwin & Beer, 2008). Comparison is a remarkably functional and phylogenetically primeval instrument that aids the continuation of a species in order that living beings do not take unnecessary risks, as well as ensuring they utilize their energy efficiently, and as a means to revealing the hierarchy of power (Buss, 2015; Gilbert & Allan, 1994; Gilbert, Price, & Allan, 1995). Owing to this hierarchy, the problems of competition and cooperation are often resolved, and the survival rate and reproductive success of species are thereby increased (Cummins, 1996). As the struggle of the person takes place between the dominant and the one who tries to overcome them and the dominance hierarchy is established very rapidly in social groups (Buss, 2015; Williamson et al., 2016). Although the apparent hierarchy within the human species commences from around 5-6 years of age (Barkow, 1975), it has been discovered that preverbal human infants can predict the dominance outcome with the relative size between two novel agents (Thomsen et al., 2011). It means that status striving is a universal and powerful motive for humans (Anderson et al., 2015), and they can quickly establish a rank hierarchy within virtually any social contact (Beasley et al., 2012; Fisek & Ofshe, 1970; Kalma, 1991; Savin-Williams, 1976). As such, and unlike other living beings, humans can look upon themselves both actually and symbolically from an external perspective and then evaluate, define and make judgments accordingly (Rosenberg, 1965; Sedikides & Skowronski, 2000).

The concept of *resource holding power* (Parker, 1974), later more frequently referred to as *resource holding potential* (RHP) and used by ethologists (Price & Sloman, 1987), corresponds to the absolute fighting ability that reveals the dominance hierarchy in animals (Parker, 1974). The modern human equivalent of RHP is *social attention holding potential/power* (SAHP), which describes the skill and power of gaining prestige by controlling social attention (Gilbert, 2017; Gilbert, Price, & Allan, 1995). RHP (Price, 1988) or SAHP (Gilbert, 2017) acquired through comparison-based evaluation relates to self-esteem, which thereby determines whom to fight and to whom they should acquiesce (Buss, 2015). It is highly likely that individuals who form negative or unfavorable social comparisons have a low level of self-esteem (Fuhr et al., 2015), exhibit various emotional reactions (Smith, 2000), and act submissively since the behavioral dimension of *rank in social relating* is a submissive behavior, while its cognitive dimension is social comparison (Gilbert & Allan, 1994).

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Festinger (1954) was the first to put forward social comparison in theoretical integrity. According to classical social comparison theory, whose main claim is that a person compares their abilities and opinions with those of others in the absence of objective or nonsocial means, the human organism has an innate drive to evaluate its abilities and opinions which encompasses being with others and belonging to social groups. In accordance with neuroimaging studies, social comparisons are effortless, spontaneous, and unintentional reactions of humans to the actions and performances of others (Kedia, Mussweiler, & Linden, 2014). Individuals associate the information they encounter with themselves through social comparison, which paves the way for potential motivational, affective, cognitive, and behavioral effects on the individual (Corcoran et al., 2011). Comparison behavior, which does not even require the presence of a concrete object or person, can be made by creating imaginary targets (Wood et al., 1985). Post-Festinger researchers have stated that one compares not only their abilities and opinions, but also personal characteristics, emotions, relationships and social status as well as all the material, moral, and spiritual resources available to them (Chiao et al., 2009; Cloutier et al., 2012; Gibbons & Buunk, 1999; Kedia, Mussweiler, Mullins, & Linden, 2014). Not possessing a feature that someone else has, and that is perceived as beneficial or wanted, can lower one's self-esteem and increase a sense of dissatisfaction and restlessness about one's own characteristics (Wilcox & Laird, 2000).

According to Alfred Adler's supportive view, the human infant has a natural feeling of inferiority when born as it is, weak and vulnerable, but it starts to compensate for this by striving for superiority. Hence, a craving for power and importance is a quite natural and fundamental desire for every child (Ferguson, 2020). Supportively, Nietzsche's conceptualization of "will to power" addressed a primary drive that includes enthusiastic vitality towards life that motivates both human and animal behavior and enables organisms to establish psychological strength and mastery over the environment (Solomon & Higgins, 2000). Nietzsche, who stated that the world and life itself in its strong ontological sense is nothing but "will to power," spoke of this concept as the organic meaning of survival, the ability to develop oneself, and the potential to be what one can be (Nietzsche et al., 2001). The "will to power," which is considered to be quite compatible with the Darwinian natural selection framework (Richardson, 2002), has been perceived as the biological human force that includes the

drive for "self-preservation" within the social and evolutionary context, and is regarded as the basis for numerous human activities including social relationships (Hastings & Shaffer, 2008). Briefly, as supported by the evolutionary perspectives (Benítez & Brosnan, 2020), biology-based sciences (Swencionis & Fiske, 2014), psychological theories (Suls & Wheeler, 2012), cultural studies (Baldwin & Mussweiler, 2018), philosophy and moral psychology (Daudi, 2023; Fleischmann et al., 2021), and comparison behavior pertains to human nature (Festinger, 1954), which is intertwined with the desire for power that provides vital advantages (Gilbert & Basran, 2019), and has the power to determine interpersonal behaviors (Ding et al., 2018; Locke, 2020).

Interpersonal relationships, which the desire for power and comparison behavior can significantly determine, are the relationships that begin to be established with the primary caregivers from birth. While some living beings can survive in nature without parental care or with very little support from birth, the human infant, like most mammalian young, cannot survive on their own without parental care (Kölliker et al., 2013). The postnatal development of both their organs and accompanying life skills makes social interaction essential and compulsory for life to continue (Hare, 2017). Therefore, attachment has a fundamental function in providing the protection that ensures survival (Bowlby, 2005) and belongingness is highly critical for humans due to its survival function (Pierce & White, 1999). Namely, social deprivation is evolutionarily destructive to the social mammalian human (Leary et al., 1995), who inherently needs to relate to their fellow humans (Koerner & Floyd, 2010). It is part of the essence of human beings to form bonds with others and to feel a sense of belonging and to be valued for their social presence (Ferguson, 2020). Indeed, an individual's need to avoid anxiety and the urge for interpersonal attachment may make social approval and compliance a priority by relegating other needs to the background (Evans, 1996).

Interpersonal relationships, which are vital from the very outset of human life, are also crucial for undergraduate students, who are usually aged around 18-25 years old. This period includes the transition from adolescence to adulthood, with one's identity changing and maturing, and living a life of increased autonomy. While physical attractiveness, independence, intimacy and friendship gain importance, physical

performance, various risk behaviors related to health, and the possibility of substance abuse can increase. Isolation and the collapse of close relationships can be challenging or even traumatic at this stage (Santrock, 2006). Emerging adulthood is another developmental conceptualization of this distinct period, although it covers a broader age range up to 29 years old. Emerging adults commonly experiment and explore their identities, feel somewhere between the confusion of adolescence and the responsibilities of adulthood, and yet still in need of their families. With the enhancing effect of technology and the industrial community, they can experience delays, instability, and uncertainties in life tasks such as education, work, and romantic/close relationships. Focusing on themselves and being optimistic about possibilities and opportunities are other typical defining features of emerging adulthood (Arnett, 2011, 2015). Interpersonal relationships in undergraduate samples have significant associations with essential constructs such as school engagement, academic performance (Li et al., 2021; Mittelmeier et al., 2018), mental and physical health (Umberson & Montez, 2010), psychological well-being (Foulkes et al., 2021), identity processes, psychosocial resources (Adams et al., 2006), psychopathological symptoms (De Panfilis et al., 2013), depressive symptoms, alcohol-related problems (Keough et al., 2015), affect regulation problems, disordered eating (Ambwani et al., 2014), and suicidal risk (Suh et al., 2017).

Furthermore, problems of most clients receiving psychological help are interpersonal in nature (Alden et al., 1990) and interpersonal relationship problems are at the root of most prevalent issues among adolescents (Boldero & Fallon, 1995). A study by Koydemir et al. (2010) reported similar findings, indicating that interpersonal problems are among the issues most frequently faced by undergraduate students in Türkiye. In essence, a significant number of individuals who apply for psychological help and psychotherapy seek help related to interpersonal problems that they experience either directly or indirectly (Horowitz, 1979; Horowitz & Vitkus, 1986). There have also been numerous studies published that have indicated how critical various types of interpersonal relationships are within different contexts and presented as samples for the maintaining of a healthy human life (e.g., Berscheid, 1994; Brunsting et al., 2018; Carcedo et al., 2008; Dagenais-Desmarais et al., 2014; Lewis, 1998; Rook et al., 2012; Wilkinson, 2004; Wills, 1985).

On the other hand, characteristics that define emerging adulthood can trigger, increase, decrease, or correlate with social comparison. For instance, uncertainty, threat, stress, competition, and novelty are the principal situations that can induce comparison behavior (Frampton & Fox, 2018; Garcia et al., 2013; Gibbons & Buunk, 1999; Liu et al., 2021). Uncertainty, as the main factor stimulating social comparison behavior, may also motivate coming together with other people in life events that are perceived as stressful (Aspinwall, 1997). In this way, social comparison provides cognitive clarity and emotional resource through affiliation to reduce anxiety (Kulik & Mahler, 1997). In other words, along with the interpersonal relationships that are deemed critical for undergraduates, social comparison is also essential at their stage of life to develop social adaptation, fulfill developmental tasks, and improve in various competency areas. Due to various challenges and insecurities encountered, this developmental period intensifies social comparison orientation (Buunk et al., 2020) due to increases in the sense of agency needs, motivation to learn from the social environment (Schunk & Usher, 2012), competition (Garcia et al., 2013), requirements, and life expectations (Urzúa et al., 2012). However, intensified social comparison does not always mean beneficial outcomes. Undergraduates' diaries have revealed that they spontaneously and constantly compare, rate, judge, and size people up. Accordingly, they can experience persistent suffering with intense feelings of inferiority or superiority, mainly with regards to their physical appearance and intellect (Wolsko, 2012). Relatedly, in a university sample, feelings of being lower ranked through unfavorable social comparison were found to be associated with elevated suicidal ideation (Wetherall et al., 2019).

Moreover, the number of natural and non-natural stimuli individuals are exposed to in modern daily life has increased exponentially when compared to even just a few decades ago, due mostly to the development of technology and our increased mobility. In other words, the modern world has almost made the possibilities and opportunities of comparison unlimited with its broad-based presentation of stimuli. While people could only compare themselves with those who were physically around them back when mobility and communication tools were less ubiquitous, today they can follow and participate in the lives of things, places, and people they may never encounter in their lifetime. Although this clearly presents some improving and facilitating aspects, how the human being, who essentially seeks a sense of control and security, is

influenced by such varied and intense stimuli in the context of social comparison and interpersonal problems presents a significant question. In this context, the main purpose of the current study is to shed light on how undergraduates experience interpersonal relationships through social comparison, and in which distinctive individual characteristics or conditions they experience problems.

When the daily functioning of social comparison is examined, it is suggested that everyone performs social comparisons automatically and spontaneously (Beasley et al., 2012; Cloutier et al., 2012; Gilbert, Giesler, & Morris, 1995; Kedia, Mussweiler, & Linden, 2014). Social comparison is related with the etiology of negative self-evaluation, hopelessness, and depression (Ahrens & Alloy, 1997), but social comparison behavior and frequency does not necessarily produce negative results in every individual. For instance, social comparison orientation was found to be associated with positive outcomes in competent adolescents with high initial adjustment status (Fu et al., 2018). In other words, although uncertainty about one's self, i.e., low or unstable self-esteem, being depressed or neurotic, being more interpersonally focused, and with uncertain moods are known to be the antecedent predictors of social comparison, social comparison behavior may actually vary from one person to another. The conceptualization that describes these individual differences in social comparison behavior is called *social comparison orientation* (SCO) (Gibbons & Buunk, 1999), which has also been evaluated as a personality trait that includes the tendency for attention and a sensitivity to environmental and social stimuli (Gratz et al., 2020). In this sense, possible mediators to explain the problematic effect of social comparison behavior on undergraduates' interpersonal relationships can be self-esteem (He, 2022; Yanhong et al., 2021) and emotion dysregulation (Blanchard-Fields, 2007; Richmond et al., 2022), according to the inference from the relevant literature.

Social comparison, as an everyday activity of the human mind, is triggered by various stimuli and social contacts experienced in daily life, and has the power to influence the individual's self, emotions, and interpersonal relationships. Casual social encounters can produce certain effects on one's self-concept with self-conception potentially becoming unstable as a result of social comparison (Morse & Gergen, 1970). Social comparison, which has a critical function in enabling humans to better cope with the

naturally emerging stressors of modern daily life (Taylor et al., 1990), interacts with self-esteem in influencing self-evaluation and affect (Aspinwall & Taylor, 1993). Diverse information obtained from ubiquitous social comparison can pave the way for the volatility of self-esteem. Global self-esteem, which can already be unstable (Johnson, 1998) and dynamic (Pullmann & Allik, 2000), can make one's ego and self-worth vulnerable to the varying effects of daily life (Kernis et al., 1993). It is therefore probably self-esteem that takes comparison to a higher operational level since sociometer theory, which is based on evolutionary theory (see Leary et al., 1995), suggests that self-esteem is an interpersonal monitor. People with low self-esteem are more likely to seek social approval (Baumgardner et al., 1989) as low self-esteem has an association with higher interpersonal problems (Bjørkvik et al., 2009), and social risk is a moderator in this relationship (Cameron & Granger, 2019). Fears of being excluded from the group, being rejected, and losing status may reveal submissive behaviors (Gilbert & Allan, 1994; Gilbert et al., 1996). On the other hand, people with high trait self-esteem can perform self-defense more effectively by increasing their self-esteem state through downward social comparison in the face of self-image threat (Vohs & Heatherton, 2004) or increase their affiliation with others through upward contacts when they feel under threat (Taylor & Lobel, 1989). In other words, self-esteem is the instrument that quickly and continuously evaluates whether contextual information poses a risk of social exclusion through comparative evaluation. Similarly, Harris and Orth's (2020) meta-analytic study revealed that self-esteem and social relationships reciprocally predict each other, especially when the information obtained from social comparison is negative. When information from social comparison is particularly negative, this potential threat can be directed at self-esteem, causing anxiety and ambivalence about one's sense of belonging, social status, and interpersonal relationships. In other words, an individual's negative self-evaluation makes them susceptible to negative and compelling emotions (Oosterwegel et al., 2001) and may cause them to become depressed or anxious in their social interactions (Salovey & Rodin, 1984).

Self-esteem, which can be defined as feeling competent, successful (Harter, 2006), and worthy (Crocker et al., 2003), enables one to cope with the diverse array of daily stressors (Cast & Burke, 2002) encountered in modern-day life. Self-esteem, which increases developmentally between the ages of 15-30 years old, changes

systematically in the various developmental stages of human life (Orth et al., 2018), with anxiety buffering being its most prominent function (Greenberg et al., 1992; Schmitt & Allik, 2005). The reason for this is that global self-esteem, which defines the overall acceptance level of the self, and which includes both positive and negative attitudes towards one's self (Rosenberg, 1965), has predominantly affective content and the power to affect one's psychological well-being (Rosenberg et al., 1995). Although self-esteem has both cognitive and behavioral components, it is primarily an affective-based construct (Brown, 1993). However, unfavorable social comparison, which poses a threat to self-esteem (Alicke et al., 1997), can negatively influence implicit self-esteem and explicit mood with its upward type (Fuhr et al., 2015). Even if an individual faces difficulties based on the negative affect they are experiencing, contact with emotion is inevitable for humans (Hayes et al., 2002) because pain, suffering, and misery are the typical accompaniments of progression in natural selection (Darwin, 1872/2009). Emotion, which is psychologically constructive and biologically adaptive (Thompson, 1994), together with its related processes, forms an integral part of the human experience. Emotion, which is also one of the results of the evolution of the nervous system, affects human cognitive processes, attention, decisions, behaviors, and communication, and supports people in establishing close relationships (Niedenthal & Ric, 2017), understanding relational needs, strengthening affiliation, and protecting the self (Thompson, 1994).

Since most emotional stressors are interpersonal by nature (Dixon-Gordon et al., 2015), individuals may try to control their emotions more in order to protect their interpersonal relationships (Zeman & Garber, 1996). While different emotions have different functions, emotions generally serve regulatory functions by providing warning, control, protection, prediction (Bowles & Gintis, 2011) and behavioral modulation (Cole et al., 2017). Emotion regulation, which is the entirety of the whole process and includes observation, evaluation, and modification of emotional reactions (Thompson, 1994), is contextually dependent (Gratz & Roemer, 2004) in terms of the purpose and requirements of the circumstances (Mennin et al., 2002), and defines the process of coping with strong positive or negative emotions (Kopp, 1989). On the other hand, although emotion dysregulation provides short-term well-being, they are also experiences that can prevent or impair long-term functionality and purposeful actions (Cole et al., 2017; Thompson, 2019). For instance, an individual who compares

themselves to a person who is their superior may use avoidant emotional regulation strategies more intensely (Gratz et al., 2020). In addition, negative social comparison, which complicates emotion regulation, can trigger the emergence of jealousy and envy, and cause cold and humiliating behaviors within the relationship (Salovey & Rodin, 1984) as well as producing diverse positive or negative results that vary from one person to another (Gilbert, 1992). Indeed, such strong emotions can trigger some people to engage in harmful and destructive interpersonal behaviors since the self-presentational side of self-esteem in interpersonal relationships is quite strong, and there is the inherent need to protect or enhance self-esteem behind certain interpersonal behavioral patterns (Baumeister et al., 1989). Kernis et al. (1989) stated that one can display anger or hostile behavior to restore self-esteem or to alleviate the effects of compelling emotions. A supporting finding revealed that the relationship of self-esteem with physical aggression, anger, and hostility is fully mediated by emotion dysregulation (Garofalo et al., 2016). To summarize, social comparison, self-esteem, emotion dysregulation, and interpersonal problems are highly interrelated experiential constructs, especially in the context of the evolutionary framework.

The components above also have meaning within the context created by human beings since psychological or behavioral evaluations that ignore the context can produce notably erroneous outputs (Clark-Polner & Clark, 2014). Although humankind has certain biological partnerships with other living things, they also have a culture that has spread and evolved over thousands of years, in which human life has been transformed by their own hand (Creanza et al., 2017), and culture is a solid context in shaping human behavior (Matsumoto, 2007). According to Sullivan, society and culture are the primary determinants of personality development and psychopathology (Evans, 1996). The reason is that the ancestors of the human species were exposed to environmental and social stimuli and determiners for millions of years and these exposures led to certain solution-oriented adaptations. Successful adaptation is incorporated into genetic heritage and passed down through species and generations. Psychological mechanisms and social behaviors are among these transfers (Pierce & White, 1999). Therefore, understanding the psychological mechanism in the current study can make valuable contributions to comprehending the functioning of daily life in a culture like modern-day Türkiye, where power relations can be implicit but significantly evident as an inference. In Türkiye, where collective but hierarchical

culture and social structure are visible (Dumont, 1966/1974; Keldal & Karadaş, 2021; Sarı, 2011; Şengönül, 2013; Triandis, 1995), being able to shed light on how interpersonal relationships and the health of individuals interact will provide a significant contribution. This is because in collectivist cultures, where emotions are deemed to be more relational (Mesquita, 2001), emotions are especially considered to have an influence on maintaining healthy interpersonal relationships, self-esteem, and life satisfaction (Kang et al., 2003). Self-liking, which is one of the subcomponents of global self-esteem, may take precedence over self-competence in collectivist cultures as it is relevant to sociality and group harmony (Schmitt & Allik, 2005). Moreover, Guimond et al. (2007) stated that in-group comparison is more common in cultures where social hierarchy is strict and power distance is prominent. Similarly, Chung and Mallery (1999) found significant connections between collectivism and social comparison. As such, the unique structure of Turkish culture makes the current research significant both in cultural terms as well as to the literature.

After all, taking the proposed model holistically, the main claim that the current research tries to test and report is that social comparison induced by environmental stimuli, and which are often unrecognized, can confirm, falsify, or evaluate self-esteem, which is related to one's past learning and which monitors the risk of social exclusion. In other words, it is a process of confirming or falsifying the interaction between contextual information and self-knowledge. In the continuation of the experiential flow, the monitoring or potential deterioration of self-esteem may experience the discrete possible difference between external knowledge and internal inference by revealing certain compelling emotions. Faced with self-esteem and feelings that are difficult to cope with, an individual may take shelter through another for the purpose of coping with and calming their socially-based anxiety, just as they have experienced from the very first stages of life. At this stage, the individual may exhibit either an overly submissive, warm, or friendly behavior to be appeased, consoled, identified, or sheltered, or perhaps aggressive, cold, grandiose, rejecting, or hostile interpersonal behaviors based on the safety needs.

In brief, the discovery of the mechanism that directs human beings, whose behavior towards another can change explicitly or implicitly as they make comparisons, or explaining the occurrence of the whole process will be valuable in this sense. With this

motive, the current study aims to reveal how social comparison, a behavior that includes both individual and social processes, operates in interpersonal relations through self-esteem and emotion dysregulation in a public university sample in the Turkish culture, which has its own historical and sociological processes. It is expected that the results of the current study will make a significant contribution to the related literature and to future culture-specific studies in this area.

1.2. Purpose of the Study

This study aimed to investigate interpersonal problems of Turkish undergraduate students by examining the relationships among social comparison orientation (ability comparison and opinion comparison), self-esteem, and emotion dysregulation in the evolutionary framework. In accordance with this purpose, the structural relationships among the social comparison orientation (ability comparison and opinion comparison), self-esteem, and emotion dysregulation in explaining interpersonal problems were examined as hypothesized in the conceptual structure of the proposed model illustrated in Figure 1.1.

1.3. Research Questions

In the study, the proposed evolutionary framework-based structural model was examined according to the following:

1. What is the nature of direct and indirect relationships among social comparison orientation, self-esteem, emotion dysregulation and interpersonal problems in a Turkish undergraduate sample?
2. To what extent the sequence of exogenous (ability comparison and opinion comparison) and mediator variables (self-esteem and emotion dysregulation) explain the interpersonal problems of Turkish undergraduate students?

1.3.1 Proposed Path Model and Hypothesis

Figure 1.1. presents the proposed model based on the evolutionary framework, and includes all the exogenous, mediator, and endogenous variables incorporated in the study. The research included ability comparison and opinion comparison as exogenous variables, self-esteem and emotion dysregulation as mediator variables, and interpersonal problems as the endogenous variable. The research variables' direct and indirect predictive relationships were hypothesized (H1 to H15) as detailed in the following two subsections.

1.3.1.1. Hypotheses About the Direct Effects

The proposed research model and named paths to read the hypotheses visually are illustrated as shown in Figure 1.1. The hypotheses regarding the direct relationships between the exogenous, mediator, and endogenous variables of the study, namely ability comparison, opinion comparison, self-esteem, emotion dysregulation, and interpersonal problems, are as follows:

Hypothesis 1
Ability comparison will directly have a significant predictive relation to emotion dysregulation (path 1).

Hypothesis 2
Ability comparison will directly have a significant predictive relation to interpersonal problems (path 2).

Hypothesis 3
Ability comparison will directly have a significant predictive relation to self-esteem (path 3).

Hypothesis 4
Opinion comparison will directly have a significant predictive relation to emotion dysregulation (path 4).

Hypothesis 5
Opinion comparison will directly have a significant predictive relation to interpersonal problems (path 5).

Hypothesis 6

Opinion comparison will directly have a significant predictive relation to self-esteem (path 6).

Hypothesis 7

Emotion dysregulation will directly have a significant predictive relation to interpersonal problems (path 7).

Hypothesis 8

Self-esteem will directly have a significant predictive relation to interpersonal problems (path 8).

Hypothesis 9

Self-esteem will directly have a significant predictive relation to emotion dysregulation (path 9).

1.3.1.2. Hypotheses About the Indirect Effects

The components of the proposed research model and the direct and indirect relationships between them, together with the path names that facilitate visual reading of the hypotheses are presented in Figure 1.1. The hypotheses regarding the indirect relationships between ability comparison, opinion comparison, self-esteem, emotion dysregulation, and interpersonal problems, which are respectively the exogenous, mediator, and endogenous variables of the study, are as follows:

Hypothesis 10

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through emotion dysregulation (path 1, path 7).

Hypothesis 11

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem (path 3, path 8).

Hypothesis 12

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem and emotion dysregulation in serial (path 3, path 9, path 7).

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through emotion dysregulation (path 4, path 7).

Hypothesis 14

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem (path 6, path 8).

Hypothesis 15

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem and emotion dysregulation in serial (path 6, path 9, path 7).
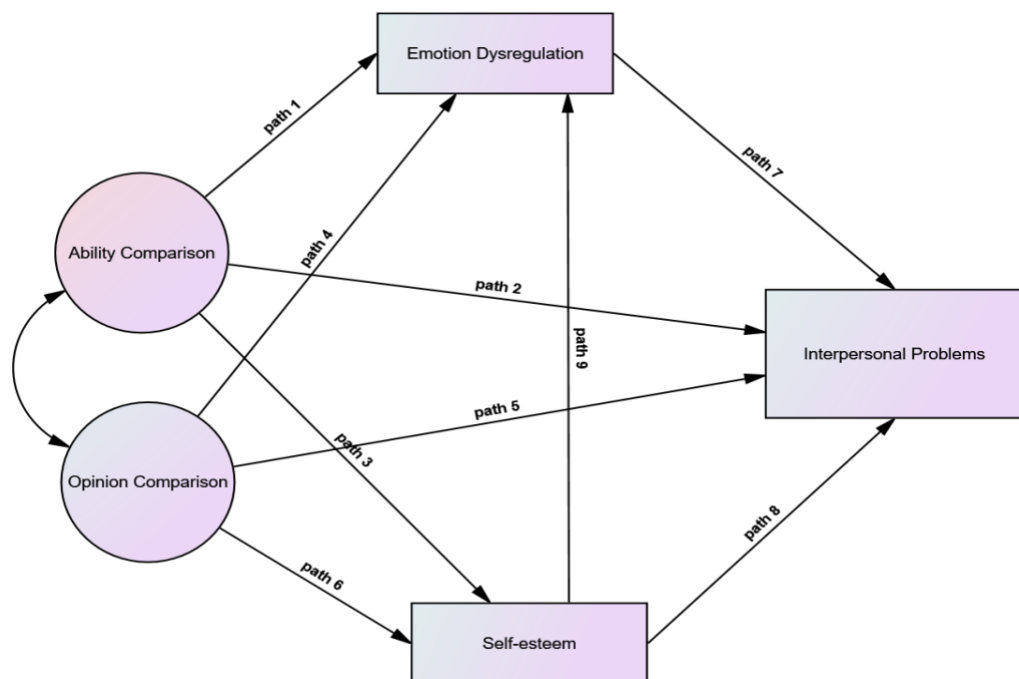
Figure 1.1. Conceptual representation of the hypothesized model

1.4. Significance of the Study

The current study has some significance and offers contributions to the relevant practice, theory, and research. The specific significances pertaining to the needs of the target population, theory, research, and national literature are detailed as follows.

Interpersonal relationships, which are critical in every period and developmental stage of human life from birth, are very decisive in leading a healthy life (Brunsting et al.,

2018; Carcedo et al., 2008; Dagenais-Desmarais et al., 2014; Rook et al., 2012; Sullivan, 1953; Wilkinson, 2004; Wills, 1985). Perhaps this is why interpersonal relationships are one of the most common topics for which psychological help is sought. People attend psychotherapy for various problems or purposes such as perceived dissatisfaction with themselves, difficulties in expression of various emotions and behavioral problems within interpersonal relationships, which is the primary focus in most therapy (Flecknoe & Sanders, 2004; Heinonen & Pos, 2020; Horowitz, 1979). Despite this prevalence, Alden et al. (1990) stated that interpersonal problems are not sufficiently considered in clinical practice and personality studies. Moreover, the quality of social interactions, according to Lopes et al. (2005), depends on numerous factors such as motivation, social skills, personality traits, and harmony between the person and the environment. They stated that any ability that can have a positive effect on social relationships or any contribution that can increase social adaptation, no matter how small, can be considered very important.

Furthermore, the high applicability of the study concepts examined to the research population's developmental needs further amplifies the current research's significance. Liang and Fassinger (2008) stated that interpersonal problems and self-esteem are among the main elements in the psychological adjustment of college students. The current study can provide meaningful contributions as it is aimed at the needs of the target population by covering these variables. Moreover, university students pay more attention to social comparison information in accordance with their developmental needs (Buunk et al., 2020). It is important therefore to investigate possible structures related to this age group that are induced by social comparison, as well as the psychological or behavioral changes it may cause. The study could also benefit university students in terms of preventive factors, since it will be useful to discover which skills, competencies, and processes affect interpersonal relationships with social comparison processes, which may require an adaptation effort at a developmental stage where interpersonal relationships are critical. Specifically, with their interactive nature, self-esteem and emotion regulation can make students more ready and resilient in terms of intervention areas in providing psychological counseling services.

Similarly, Paul Gilbert has extensively studied social comparison, rank, status, hierarchy, and interpersonal problems over the years (e.g., Gilbert, 1992, 1995, 1997, 2000, 2015, 2017) and has provided significant and valuable research on how emotions can function and be effective within such processes. In particular, Gilbert's studies have reflected the evolutionary perspective on human social hierarchy and the study of related mechanisms. Gilbert et al. (1996) also stated that since the role of social rank in internalized evaluations has not been adequately studied in many species, including humans, conducting relevant studies would provide significant benefits. In light of these various studies, the current study focused on what to work with clients seeking psychological help, highlighting mediator variables such as self-esteem and emotion regulation, and clarifying the areas of intervention. In such a context, a model-based research through self-esteem and emotion regulation may positively contribute to individual and group counseling practices. For example, it may be helpful to look at the interactions and consequences of social comparison experiences, self-esteem, and emotion regulation difficulties in someone who has difficulty setting boundaries and saying no in their relationships, or who makes extreme sacrifices and is often left feeling disappointed. With many people lacking sufficient justification as to why their social relationships are the way they are, it is thought that the current research will contribute to facilitating the explanation of why people who experience relational problems in daily life behave in ways that they mostly do not want. In addition, interpersonal behaviors are generally one of the most easily observable, identifiable, measurable, and controllable psychological indicators. For this reason, going through interpersonal problems while identifying and treating mental health problems may facilitate the process (Horowitz et al., 1993). In brief, the current research may contribute to the work of practitioners working with the relevant age group in institutions such as university counseling centers.

Another distinctive contribution of the current research may be that it is studied using a non-clinical sample. Studies in the literature which include most or all of the same variables such as social comparison, self-esteem, emotion dysregulation, and interpersonal problems, are generally related to eating disorders, borderline personality disorder (BPD), and many other psychopathological constructs. For example, Gratz et al. (2020) found that social comparison orientation affected interpersonal relationships with emotion dysregulation in a sample of adult females

with BPD symptoms. In other words, testing the model, which has been proven in the clinical field with similar variables such as social comparison orientation, emotion regulation, instability of self, and interpersonal relationships, with a nonclinical sample in the normalcy of daily life is seen as a contribution. Similarly, emotion dysregulation and interpersonal problems have been mostly associated with psychopathology in the published studies (e.g., Thompson, 2019). However, although emotion regulation is associated chiefly with the concepts of psychopathology (e.g., Aldao et al., 2010; Berenbaum et al., 2003; Bydlowski et al., 2005; Euler et al., 2021; Fox et al., 2007; Johnson, 2005; Linehan, 1993; Mennin et al., 2007; Nolen-Hoeksema et al., 2008; Sher & Grekin, 2007), it can be an essential predictor of interpersonal health and a part of preventive mental health in the masses that does not present significant pathological findings in daily life. Therefore, the current study is seen as important in terms of studying a model that includes these variables without being associated with psychopathology in a non-clinical population.

Regarding the theoretical significance, the current research has inferred its variables based on basic theoretical knowledge, thereby examining their relationships with a theory-based approach. Namely, Sullivan (1953) considered security and self-esteem as the two main motivations of interpersonal relations, while Leary (1957) carried this conceptualization to two main dimensions: affiliation and dominance. All interpersonal difficulties are defined by the combination of these two main dimensions in a circumplex model with varying degrees (Alden et al., 1990). The current study identified self-esteem and emotion dysregulation as mediator variables through these two main motivations or dimensions of interpersonal relationships. In a sense, the current study proposes a more detailed model for the underlying mechanism by including possible antecedents of interpersonal problems. Another distinctive contribution of the hypothesized current model is that the social comparison variable, which may be related to the need for security (see Gilbert & Allan, 1994; Parker, 1974) and may be the possible trigger of the whole process, is integrated into the model with its theoretical background. The need for studies on associating social comparison with interpersonal behaviors also makes this contribution meaningful. In their research about the assimilative and contrastive side of social comparison, Suls et al. (2002) stated that cognitive and emotional responses for comparison have been studied extensively, but that studies on the effects of comparison on behavior are much more

limited. Therefore, the current study aims to contribute to the literature by examining the effect of a comparison-based mechanism on interpersonal behaviors in daily life.

Another noteworthy feature of the current research is that it brings together the theories and views of many different theorists such as Festinger (1954), Sullivan (1953), Rosenberg (1965), Adler (1924/2013), and Bowlby (2005), whose approaches seem to differ from each other, in a unique model based on the evolutionary framework. Evolutionary psychology was preferred because the description and predictions of the theory of evolution are sophisticated in explaining human behavior (Koerner & Floyd, 2010) and it provides a robust meta-theoretical framework (see Duntley & Buss, 2008; Ploeger & van der Hoort, 2015) to the model being tested. In this sense, evolutionary psychology has provided a solid theoretical foundation for the current study. As a meta-theory for which the supporting empirical evidence continues to increase, evolutionary psychology offers a powerful scientific framework for revealing human nature in a consilience with other life sciences. Evolutionary psychology can be described as a scientific revolution with its radical paradigm shift after behaviorists and cognitivists and its determined structure in understanding the human mind and its multifaceted components. The reason is that evolutionary psychology has solved the dichotomy of nature versus nurture, innate versus learned, and biological versus cultural, which has been discussed in science for many years, with theoretical integrity. According to evolutionary appraisal, the emergence and evolution of specialized learning are due to the experience of problems that force adaptation in the physical and non-physical environment. In addition to innate skills and characteristics, human beings also seek to learn what they previously did not know through social interaction based on language and observation. Evolutionary psychology argues that the human mind contains a large number of psychological mechanisms specialized to solve problems of adaptation (Buss, 2020); therefore, the evolutionary framework provides a strong theoretical basis for the current research for such distinctive reasons, which are briefly covered.

Regarding the contribution of the current study to both theory and research, Festinger (1954), who first introduced the concept of social comparison with theoretical clarity and integrity, asserted that situations where differences in opinion increase can induce displeasure, derogation, and hostility-like feelings and behaviors in people. However,

he claimed that ability differences would not cause compelling emotions but instead cause in-group status stratification, including the acceptance of superiority. Although relatively few studies (e.g., Park & Baek, 2018) published after Festinger's prominent paper have gone on to reveal that the differences that emerge after performing ability comparison may also bring about certain emotional and behavioral changes and strains, the current study in particular elected to hypothesize the partial opposite of Festinger's claim regarding ability comparison. The aim being to contribute to the literature both in research and theoretical terms by testing the possible differences in self-esteem, emotion regulation, and interpersonal problems following ability comparison. In other words, the current study hypothesized that ability comparison may trigger certain emotional strains, just as with opinion comparison.

Furthermore, the majority of social comparison studies (e.g., Luszczynska et al., 2004; Michinov, 2007; Sherlock & Wagstaff, 2019) have considered the ability and opinion sub-comparison fields of social comparison as a unitary construct. The current study, on the other hand, aims to contribute to the field by considering the possibility that these two may actually result in differing outputs. There are also studies that support and encourage this differentiated approach taken by the researcher. For example, according to Suls (2000), despite its reputed role in explaining basic and various social phenomena in social comparison theory, opinion comparison has received much less attention from researchers than ability comparison, and with only very few such studies having been conducted to date. Sharp et al. (2011) suggested that the two types of comparison should be evaluated separately because ability comparison is more performance-oriented, whilst opinion comparison related more to relationships and group dynamics. Similarly, Yang, Holden, Carter, and Webb (2018) concluded that they should be distinguished from each other because ability comparison is competition-based, whilst opinion comparison is information-based. Therefore, the current research considers opinion comparison as a separate variable among exogenous variables, and thereby does not neglect its unique role. Moreover, it is also valuable to consider opinion comparison, which is mainly associated with group processes and dynamics, as in Sharp et al.'s (2011) study, from an individual-based mechanism. In other words, the current research primarily aims to reveal an individual-based mechanism including opinion comparison, in contributing to the relevant literature.

In addition, as in many studies, Irons and Gilbert (2005) used social comparison and submissive behavior as social rank perceptions or its sub-concepts. In the current study, the researcher integrated self-esteem and emotion dysregulation as mediators between comparison behavior and social behavior. In this respect, elucidating the mechanism between the basic concepts positioned under an overarching concept in some studies (e.g., Aderka et al., 2009; Irons & Gilbert, 2005; Wyatt & Gilbert, 1998) and the inclusion of potential mediators can be considered an essential contribution of the current study. Therefore, in parallel with the suggestions of all the aforementioned research and other similar studies, the researching of interpersonal relationships and these studies' contributions to psychological counseling processes will be valuable. In this sense, the current research is suggested to be important in attempting to provide contextualized reading on the occurrence of interpersonal relationships in daily life.

Another contribution is the neutrality of social comparison since the concept of social comparison was not handled in a positive or negative context in the current study. The aim was to reveal its interactive structure on interpersonal relationships in daily life as an activity that is mostly involuntary and quite natural in humans. This approach was taken since social comparison has been associated with negative factors in most published studies (e.g., Ahrens & Alloy, 1997; Alicke & Zell, 2008; Hanna et al., 2017; Kalaycı et al., 2019; McComb & Mills, 2021; Rentzsch & Gross, 2015), while it was associated with positive outcomes in a few others (e.g., Fu et al., 2018). Therefore, it was considered crucial to investigate the spontaneous involvement of this cognitive, emotional, and behavioral activity in real life. In other words, revealing this mechanism, which individuals often experience unwittingly in their daily lives, and in a way that retains sociopsychological processes, the concepts including individual-society interaction may make valuable contributions to the literature.

Further, there is limited information about the generalizability of social comparison to different cultures, which has been predominantly studied in the west (Guimond et al., 2007). Moreover, beyond the individual variables, how egalitarian or hierarchical structures and individualistic or collective cultural variables moderate interpersonal relationships are among the important areas to be investigated (Fournier et al., 2011). Although Türkiye's cultural and social structure has become quite open to the influence of the west starting from the pre-republican era (i.e., pre-1923), individuality

in the social structure and family relations is a feature that is allowed and appreciated through its relation within the group. In this respect, in-group relations can be more critical for individuals in Turkish culture because the self is defined chiefly in the context of relationships (see Imamoğlu & Karakitapoğlu-Aygün, 2004; Kağıtçıbaşı, 1996; Uleman et al., 2000). Experiencing individuality by remaining a group member can make hierarchical and comparative structures more critical, so it is considered particularly valuable to conduct the current research in the Turkish culture.

When the studies conducted in Türkiye regarding the current research variables or conceptually close variables are examined, it can be seen that social comparison is related to emotional self-efficacy (Kaya & Savaşlı, 2020), assimilative and contrastive emotions (Tosun & Kaşdarma, 2020), envy (Kaynak, 2020), shyness (Çivitci, 2010), body image (Büyükmumcu & Ceyhan, 2020), personality and self-presentation (Demir et al., 2022), self-concept (Özdemir & Koçoğlu, 2015), submissive behaviors and psychiatric symptoms (Kalaycı et al., 2019), general belongingness and social media addiction (Kavaklı & Ünal, 2021), and consumer susceptibility to interpersonal influence (Karayel Bilbil & Toku, 2021). The connections of self-esteem with variables such as emotional problems and social media addiction (Acar et al., 2020), interpersonal rejection, fear of negative evaluation, and shyness (Koydemir & Demir, 2008), resilience, social exclusion, and life satisfaction (Arslan, 2019), rejection sensitivity and anxious attachment (Set, 2019), and overall wellness (Oguz-Duran & Tezer, 2009) have all been investigated in the Turkish literature. Additionally, the literature includes studies on the relationships of emotion regulation or interpersonal emotion regulation with variables such as relational-interdependent self-construal (Kocabıyık et al., 2017), loneliness (Yıldız, 2016), anxious and avoidant attachment styles (Gökdağ, 2021), trait anger and loneliness (Karababa, 2020), Internet addiction, parenting styles, and social perception supports (Karaer & Akdemir, 2019), mindfulness, self-compassion, and resilience (Sünbül & Güneri, 2019), negative mood regulation expectancies, depression, and anxiety (Altan-Atalay & Saritas-Atalar, 2022), and self-esteem and depression (Yalçınkaya-Alkar, 2020). Finally, the relationships between interpersonal problems, which are the endogenous variable of the current study, and emotion regulation and borderline personality beliefs (Akyunus et al., 2021), interpersonal style and aggression and grandiose narcissistic traits (Özcan et al., 2018), interpersonal style and higher anger, self-perception, and depression

(Hisli Şahin et al., 2011) have all been investigated. When all these studies conducted with Turkish samples are examined, it can be seen that none investigated the effect of social comparison orientation on interpersonal problems through self-esteem and emotion regulation difficulties; hence, the current study's aim to address this gap will significantly contribute to the national literature.

1.5. Definitions of the Terms

Social Comparison

Human organisms have an innate drive in seeking to evaluate their own opinions and abilities. However, when objective or non-social standards are not generally available, humans often opt to compare their own opinions and abilities with those around them. These types of comparative processes, whose primary purpose is to support self-evaluation, are referred to as social comparison (Festinger, 1954).

Social Comparison Orientation

Humans perform social comparisons for various purposes, including self-evaluation, self-improvement, and also for self-enhancement. However, this tendency varies, with individuals exhibiting unique and distinct traits and differences in their comparison behaviors, which together is defined as social comparison orientation (Buunk & Gibbons, 2006; Gibbons & Buunk, 1999).

Ability-Based Social Comparison (or Ability Comparison)

Ability refers to the objective capacity, proficiency, and performance level in everything individuals do, relative to others. Ability-based social comparison is the judgment of one's own abilities against those of others in order to increase self-understanding, to answer the question of how individuals do things, and as a means for individuals to drive themselves upward (as in forward or to improve) in life (Festinger, 1954; Gibbons & Buunk, 1999).

Opinion-Based Social Comparison (or Opinion Comparison)

Opinions refer to a construct that creates cognition along with beliefs, and whose correctness or betterness depends on subjective feelings. Opinions are relatively easier to change, and therefore the concept is usually considered quite close to subjectivity. Opinion-based social comparison is the evaluation of one's own opinions against those

of others and is undertaken in order to comprehend what one should think or feel, to increase one's self-understanding, and sometimes to ensure uniformity within a social group (Festinger, 1954; Gibbons & Buunk, 1999).

Self-Esteem

The extent to which one sees oneself as valuable, the respect one has for their self, the overall level of self-acceptance or rejection, and the positive or negative attitude about one's own "self" define the concept of self-esteem (Rosenberg, 1965).

Emotion Dysregulation (or Difficulties in Emotion Regulation)

Emotion regulation is conceptualized as the capability for an awareness, understanding, and acceptance of the emotions experienced, to manage impulsive behaviors in compelling affect and to act towards preferred goals, and to flexibly employ convenient emotion regulation strategies for the modulation of emotional reactions in accordance with situational requirements and personal goals. The relative absence in some or all regulation abilities defines emotion dysregulation or difficulties in emotion regulation (Gratz & Roemer, 2004).

Interpersonal Problems

These are defined as persistently experiencing, to varying degrees, one or more interpersonal difficulties derived from the main dimensions of affiliation and dominance, such as being considered domineering, intrusive, self-sacrificing, overly accommodating, submissive, avoidant, cold/distant, or vindictive (Alden et al., 1990; Horowitz et al., 1988; Leary, 1957).

Structural Equation Modeling (SEM)

This describes the quantitative and simultaneous testing of direct and indirect relationships between and within observed and latent variables, as predicted by models hypothesized by the researcher based on a theory. SEM is a confirmatory approach that often combines regression and factor analyses and supposes probabilistic causality (Byrne, 2016; Collier, 2020; Kline, 2016; Schumacker & Lomax, 2016).

CHAPTER 2

LITERATURE REVIEW

This chapter conducts a review of the current literature in five sections. The first four sections present a review of the relevant literature associated with the study variables of the current research, as in social comparison orientation, self-esteem, emotion dysregulation, and interpersonal problems, whilst the fifth section provides a brief overall summary of the literature review. The study variables are presented separately within the first four sections of the chapter, together with the theoretical grounds of the relationships between the variables and the pertinent research in both the national and international literature.

2.1. Social Comparison Orientation

The first known studies related to social comparison began in the 1940s. However, the research and conceptualizations that form the basis of social comparison were more concretely and systematically put forward by Festinger (1954), and thus, social comparison can be said to have gained theoretical clarity and integrity as from that point. Although Festinger (1954) was the first to address social comparison with a holistic and focused approach, there are certain preliminary studies that may be credited as the source of the theory. For instance, Sherif's (1935) classical experiment found that individual subjects created their own range and norms with the help of social factors when the usual preferred objective range and reference points were not accessible, whilst in the group situation, group members created range and reference points specific to the group and adhered to the established norm. Hyman (1942), on the other hand, stated that a person obtains information about their own status through comparison with a related group according to the concept of reference groups.

Festinger, as a student of Kurt Lewin who was the founder of field theory (Cooper, 2012), handled the concept of opinion in the context of uniformity pressure for group locomotion and agreement on social reality within informal social communication (Festinger, 1950) before later conceptualizing ability and opinion comparison based on social comparison theory (Festinger, 1954). Festinger (1954) holistically presented his theory of social comparison, including abilities, in what is widely considered to be the primary research publication about social comparison. The theory of social comparison, which has a history now of about 80 years, has since undergone a degree of change since the time of Festinger. Its popularity has periodically increased and decreased, especially within social psychology circles (Suls & Wheeler, 2000). Following his main paper in 1954, Festinger elected to discontinue his studies on social comparison theory to a large extent and opted instead to focus on cognitive dissonance theory (see Festinger, 1957), with which he is now more commonly associated. However, his studies both prior to and since social comparison theory are not clearly separated with any degree of finite boundary in terms of their theoretical approach and complementarity; on the contrary, it may be said that they form a unity as antecedents and complementary works.

2.1.1. Classical Social Comparison Theory

Festinger (1954) began his main paper on social comparison theory with the hypothesis that the human organism has an innate drive to evaluate its opinions and abilities. He listed the corollaries and derivations of his hypotheses item by item, supported by the results of other research and experiments according to a logical approach, and then discussed the controversial and supportive findings by establishing complementary links between them. According to Festinger, opinions and abilities are functionally interconnected despite their conceptual differences, and the interaction of these two elicits or shapes the existing human behavior. While opinions form cognition together with beliefs, abilities refer to one's capacity to do something or their performance in the task. In everyday life, the evaluation of abilities and opinions is often used conjunctively and interactively. In the absence of purely objective criteria, an individual also uses opinions in order to reach a more accurate conclusion when evaluating their own abilities. In the absence of nonsocial or objective criteria, or in

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situations where there is a risk of experiencing potential negative consequences, individuals attempt to reach a conclusion by comparing their own opinions and abilities with those of others. However, subjective evaluations of abilities and opinions can start to become unstable in the absence of physical or social comparison. In such cases, one of the criteria for evaluating one's own abilities may be the level of aspiration that an individual has about themself. In other words, in the absence of physical and social comparison criteria, the subjective criterion or expectation that a person forms about themself can also be applied as a criterion for evaluation. Yet, possible fluctuations in performance may lead to fluctuations and instabilities in the individual's aspirational level. That is, the subjective criterion is not always fixed and may change depending on the circumstances. Furthermore, the individual's level of aspiration is usually slightly above the average of the group that they belong to. This situation proves both the effort of the individual to be different and that they perform better when compared to the other members of their group, and to the competition.

On the other hand, Festinger stated that if a non-social or objective basis exists and is accessible, individuals will not seek to compare their own abilities and opinions with those of others. According to Festinger, individuals do not evaluate their own ability and opinion based on those they consider as being divergent to their own ability or opinion. They generally make comparisons with those who they consider as having similar characteristics, similar or close ability levels or opinions. The reason for this is that, when there is no possibility of evaluation with a comparison target with whom there is only a low perceived discrepancy, the result obtained from the divergent person being compared to does not provide a healthy basis for self-evaluation; that is, it is not adequately descriptive. In other words, ability comparison is best performed with a target that is deemed to be closest to the individual in terms of the area or features being compared, and this also applies to opinion comparison. In opinion comparison, even though divergent opinions may seem like a potential threat to the individual, communication can be maintained for possible change efforts, but the comparison itself is performed only within a more limited area. According to Festinger, it is unlikely that ability comparisons will be made with those considered most divergent to the individual. In groups that consist of varying abilities and opinions, the tendency to protect one's own position among the majority, namely those who are close to the group mode and referred to as conformers, and the effort to sway

those considered far from the mode is more intense compared to others in the group. When the individual's opinion is close to that of the group to which they are a member, or they establish a bond of belonging with, they will likely feel more confident. In addition, while attraction towards the group is felt stronger when the group's views are closer to that of the individual, it correspondingly decreases when the divergence increases. In cases where the differences between the abilities and opinions of the group members and the average of the group are high, individual group members may take action to reduce the difference between themselves and the group in general. Individuals will often attempt to fit themselves into a group by reducing or disrupting their own abilities. They may also try to bring others closer to themself in terms of their opinions and abilities. If an individual's abilities are higher than the group average, they may support the development of the other group members and work cooperatively; however, the individual is likely to ensure that they also maintain their superior position compared to the overall group and would not want to lose or jeopardize that. Although this aid effort can help to reduce the aforementioned differences, it often does not include a desire for sameness (Festinger, 1954).

According to Festinger (1954), unidirectional drive upwards applies particularly to abilities, but largely not to opinions. In western culture, striving to always be better is a desirable value that has a range of responses and actions in everyday life, and this situation is related mostly to one's abilities. While it is a subjective feeling that one's opinions are better or at least more correct than those of others, abilities can be interpreted according to more objective and real criteria. While developing existing or emergent abilities can take a long time due to nonsocial constraints and is both difficult and sometimes not even achievable, the changing of opinions may not be as difficult. It may be said that opinion changing can sometimes also be difficult in terms of achieving consistency amongst one's opinions and beliefs, or due to a predisposition in personality traits. However, if such resistance can be overcome, it is considered much easier to change opinions compared to abilities, and it can happen very quickly too.

While the pressure to overcome intra-group opinion differences can provide a degree of uniformity, complete uniformity is only a faint possibility when it comes to abilities, even if there is convergence. Uniformity for overcoming opinion differences is largely

socially-oriented, whereas the effort to reduce ability differences involves non-social components. When discrepancies between an individual's opinions and abilities and the comparison target becomes too great, the individual is likely to cease performing comparisons. They may sometimes do this by rejecting those who are the most divergent in the group and cutting off communication with them; that is, by re-identifying people who are perceived as being close to their own opinion. Since the accuracy of the opinions are evaluated more subjectively, any differences in opinion may cause some level of discomfort, hostility, and derogation in the individual when the pressures of uniformity increase. However, according to Festinger, abilities are inherently more distant from subjectivity and extreme differences in ability comparison do not cause discontent or hostility-like feelings in the individual; on the contrary, it can lead to affirmation of superiority. While extreme differences in opinion create dissatisfaction regardless of the direction of the difference, differences in ability result in status stratification, from which some individuals are considered inferior and others superior. After the inferior and superior statuses become more clear, it is expected that the competition will end or it will be conducted only with those in a narrower range. As the attraction of the group and ability or the significance/value of the opinion for the individual as well as its relevance to the immediate behavior increases, so does the pressure to reduce evaluation drive, competition, and differentiation. In the face of this pressure on uniformity, a person may try to change their own position or that of others or attempt to narrow down the range of comparison (Festinger, 1954).

The ultimate goal of all ability and opinion comparisons is self-evaluation, a drive that encourages gregariousness, forcing one to belong to social groups, and to connect and unite with others. Self-evaluation is a process that can only be accomplished through making comparisons with others. Feeling subjectively adequate and correct in one's own abilities and opinions can determine the satisfaction of one's bond with others. A person is highly likely to experience feelings of inadequacy and failure if they see themself as inferior in their abilities when compared to others. Flexible societies that allow group segmentation according to various abilities and opinions enable the emergence of within-society statuses formed based on various abilities. In-group uniformity, pressure is stronger in minority groups compared to majority groups among social groups formed based on this differentiation (Festinger, 1954).

In conclusion, all the hypotheses and related implications discussed here form the basis of classical social comparison theory. With its content and hypotheses, social comparison theory illuminates the processes followed by the individual, both in terms of themselves and in the establishment of relations with social groups and society in general. The theory has also made important contributions to understanding how different social and communal groups act dynamically amongst themselves. Therefore, it has provided a rich content not only for social psychology studies, but also for individual psychology on how psychological processes and behavioral mechanisms work in the everyday life of individuals. The inferential foundations in the construction of social comparison theory (Festinger, 1954), which provided this rich theoretical contribution, also formed the basis of the theory of cognitive dissonance (Festinger, 1957), which later became more commonly associated with Festinger.

2.1.2. Consecutive Studies on Social Comparison and Social Comparison Orientation

Following Festinger's work, social comparison theory underwent various developments with different conceptualizations and research results. Self-evaluation, through acquiring information about oneself is the primary objective of social comparison (Festinger, 1954). Although Thornton and Arrowood (1966) later stated that ability comparison was performed not only for self-evaluative purposes but also for self-enhancement, Festinger's (1954) social comparison theory had failed to fully address either self-enhancement or self-improvement. Social comparison researchers have since defined two additional primary motives for comparison as self-enhancement (Thornton & Arrowood, 1966; Wills, 1981) and self-improvement (Brickman & Bulman, 1977; Taylor & Lobel, 1989; Wood, 1989). One of the more significant studies associated with self-enhancement motive is Wills's (1981) downward social comparison theory, which has long been the focus of attention by researchers in the field as a basic motivational process. Wills (1981) supported the downward comparison theory with studies and theories such as the fear-affiliation effect, social comparison choice, scapegoating, social prejudice, hostile aggression, and attraction toward others, and also attempted to explain their empirical

inadequacies with his own theory. He claimed that people who experience negative affect compare themselves to those in unfortunate situations in order to increase their subjective well-being, and that they perform this coping process sometimes passively and sometimes actively. However, most of the time, the person may not even realize that they are performing a downward comparison, may even attempt to hide it, or openly show it as a behavior and not verbalize it. It is mostly the decrease in subjective well-being or negative affect that evokes downward comparison. When one experiences an undesirable experience or frustration, subjective well-being is reduced, and the comparison with another who is experiencing a worse situation helps the individual cope by making them feel better. However, self-enhancement is not a constant and unchanging motivation in this sense. It is a motive that is more likely to be consulted, especially when contextual factors are threatening to the self. In a sense, downward social comparison theory features the coping function of social comparison and its associated cognitive aspect. Wills (1981) also stated that downward comparison, which is predominantly a cognitive strategy, is not a universal or invariable response to misfortune, and may not function in the same way in those who accept misfortune as a natural part of life. In other words, downward social comparison is a coping strategy that may vary according to certain personal characteristics and may not be applicable equally to everyone.

After that, Taylor and Lobel (1989) claimed that downward social comparison research which were related with coping processes extended social comparison theory into clinical and personality psychology. They agreed and stated that certain threatened groups increase their self-esteem through downward evaluation with less fortunate targets. On the other hand, they also claimed that people performing social comparison establish affiliation with and obtain information from those considered more fortunate through upward contact. These two types of comparison, which determine whether the comparison is upward or downward, serve different needs of the individual. Upward contacts are geared more towards improving one's situation and increasing motivation and hope, a kind of self-improvement. However, which emotion will be revealed by the upward or downward comparison and whether it will be harmful or beneficial to self-esteem may vary depending on the person and conditions of the situation. For instance, upward affiliation can activate coping resources and increase hope, while downward comparison can be used for the purposes of consolation in order to feel

better. Upward contact and downward evaluation, as two different patterns, can also be employed simultaneously with affiliative and cognitive functions for the same person (Taylor & Lobel, 1989). For instance, in their longitudinal study, Blanton et al. (1999) stated that social comparison can also render positive results, that the tendency to compare oneself with well-performing people and to see oneself better than others predicted improved academic performance independently of each other. Johnson and Stapel (2010) demonstrated that after exposure to a self-threatening upward comparison, people disengage from some domain-related subgoals but improve commitment to a corresponding superordinate goal, such as being successful in school. Furthermore, some other studies revealed that upward comparison could improve the motivation of the individual with admiration (van de Ven, 2017), and benign envy fully mediates the relationship between social comparison intensity and inspiration, then causes a positive affect (Meier & Schäfer, 2018), and also inspiration comparisons generated positive changes in self-concept (Burleson et al., 2005). In another study implying the function of downward social comparison, Buunk, Oldersma, and de Dreu (2001) found that people with a high level of comparison orientation had increased relationship satisfaction when they compared their close relationships (i.e., romantic or life partner) with others' relationships through downward comparisons. Different study examples with varying outcomes can be given about social media where the possibility of comparison is considered to be quite high. Steers et al. (2014) found that social comparison mediates the relationship between the time people spend using Facebook and depressive symptoms. As well known, social settings give opportunity for people to compare their abilities and opinions with those of others. In terms of comparison facilitation, social networking sites provide a significant amount of information about others. Having information about others from the use of social networking sites triggers natural and constant comparison with others. These comparisons induce both positive and negative emotions; for example, inspiration, optimism, sympathy, pride, schadenfreude, depression, envy and worry according to the perception of one's comparison target as being either superior or inferior and assimilative or contrastive. Psychological well-being and mental health are affected by the emotions triggered in the process of social comparison. In brief, although psychology studies have focused more on negative

emotions and upward comparison of social comparison, there is a positive side to social comparison as well (Park & Baek, 2018).

During the post-Festinger period, research results which were contrary to some of his basic hypotheses have also come to light. For instance, contrary to Festinger, Klein (1997) stated that objective criteria or information may not be sufficient and that people may refer to or prioritize comparative or relative information despite the presence of objective information. Another alternative finding relates to Festinger's (1954) proposition that comparison is made with people with low comparison discrepancy, and high similarity and closeness in terms of their features. In his experimental study, Häfner (2004) revealed that it is possible to influence a person's self-evaluation by manipulating assimilation and contrast in social comparison, and comparisons can be made even with high standard targets (i.e., those with whom discrepancy is high). However, Yang and Robinson (2018) maintained that it is rational for a person to choose those with the highest contextual similarity as comparison targets for an accurate self-evaluation of their own abilities. In another study, which is partially inconsistent with the basic assumptions of classical social comparison theory, Gilbert, Giesler, and Morris (1995) stated that social comparison is not always performed with those having similar characteristics for diagnostic purposes; on the contrary, it is an unintentionally spontaneous experience and is made effortlessly. They claimed that a person can make comparisons with others who exhibit very different characteristics from themself, but that the diagnosticity of the information obtained following the comparison can be reviewed, and its effects reversed through mental processing. In other words, whilst social comparison is often performed automatically as a natural process, a follow-up correction can sometimes be applied immediately after. The cognitive effect of inappropriate comparisons is quickly reversible, yet the emotional effect may persist, and the magnitude of the effect relates mainly to contextual factors.

As previously mentioned, Festinger (1954) hypothesized that the human organism is driven to evaluate its opinions and abilities. If there is no objective criteria or measurement when performing an evaluation, humans have a tendency to evaluate themselves against others; in other words, they compare themselves with others in social terms. Learning about oneself as an individual through comparison with others

is a spontaneous, unintentional (Gilbert, Giesler, & Morris, 1995) and universal phenomenon (Gibbons & Buunk, 1999). However, despite this universality, many people deny that they even perform social comparisons (Taylor et al., 1983), whilst others remain unaware that they undertake such actions (Mussweiler et al., 2004). Social comparison researchers (e.g., Sirgy, 1998; Tosun et al., 2020; Yamada & Takahashi, 2011) have since argued that any property or definition of one's self can be compared, suggesting that possessions, achievements, personal characteristics, the emotions felt, and the characteristics of family members may well form the subject of one's comparison. To exemplify this, Srivastava et al. (2001) found that motivations such as social comparison, power seeking, overcoming self-doubt, and showing off predict the importance given to money and financial gain, which is one of the objects of comparison. In another empirical study involving financial power as a variable, Zaleskiewicz et al. (2013) evaluated money as a source of emotional and psychological power, and found that money buffers existential anxiety, especially that which relates with death. In other words, a person may be using anything that they possess to achieve a real or artificial sense of security through comparison.

Furthermore, although everyone engages in some form of social comparison, and performing comparisons is seen as a function of personality (Diener & Fujita, 1997), some people make comparisons more than others and have certain individual differences. Gibbons and Buunk (1999) termed these individual differences in social comparison behavior as social comparison orientation (SCO), a unique and distinct trait. They claimed that those with high comparison orientation are more interpersonally focused, curious about others, sensitive to the behavior of others, and have a certain degree of self-uncertainty, but that they make attempts to eliminate and improve upon such uncertainties. Supportively, Gratz et al.'s (2020) research findings implied that social comparison orientation is a variable that includes sensitivity and attention to contextual and social stimuli, and can be considered a personality trait. In addition to the widespread belief that uncertainty increases social comparison orientation, Stapel and Tesser (2001) found that self-activation increases social comparison interest over that of self-certainty. In other words, not only uncertainty but also activating any important personal feature about oneself can increase social comparison orientation. Schneider and Valet (2017) found that social comparison orientation moderates the relationship between relative earnings and justice

perception. In other words, those with high social comparison orientation perceive it as more unfair that people with similar characteristics can earn more from their employment. As predicted, the importance of relative earnings in justice perception is seen to decrease in those with low social comparison orientation. On the other hand, personal characteristics such as uncertainty about oneself, low self-esteem, unstable or uncertain self-concept, being depressed, uncertainty about the person's own mood states, and being high in neuroticism have been shown to predict making social comparisons more (Gibbons & Buunk, 1999). Vogel et al. (2015) revealed in the experimental part of their study, that a high level of social comparison orientation was found to be associated with greater negative affect balance, lower self-esteem, and poorer self-perception. In a study conducted with 129 female participants ranging in age from 18 to 35 years old, Sherlock and Wagstaff (2019) found that social comparison orientation mediated the relationship between Instagram use frequency and self-esteem, general anxiety, depressive symptoms, physical appearance anxiety, and body dissatisfaction. According to another study, SCO and BPD symptoms are significantly and positively correlated with intrinsic interpersonal emotional regulation strategies and avoidance, which is an intrapersonal emotion regulation strategy (Gratz et al., 2020). In other words, social comparison orientation increases as the symptoms of BPD, which can be defined by intense moods that are difficult to cope with, impulsivity, and interpersonal sensitivity, increase. Interpersonal emotion regulation and avoidance as an emotion regulation were also positively correlated with SCO. Buunk et al. (2005) found that social comparison orientation was negatively correlated with openness to experience and emotional stability. On the other hand, social comparison orientation may not necessarily mean negative outcomes for every individual, and has been shown to have a positive association with social competence and a negative association with depression in well-adjusted and competent adolescents, meaning that the initial adjustment status of the individual can determine how they will be affected by SCO (Fu et al., 2018). To summarize, as the tendency to compare oneself with others, SCO is usually performed for related yet different purposes such as self-evaluation, self-improvement, and self-enhancement (Buunk & Gibbons, 2006; Gibbons & Buunk, 1999).

Another controversial issue concerns two dimensions of social comparison. Gibbons and Buunk (1999) viewed Festinger's ability comparison and opinion comparison as

two concepts which are used together to promote self-understanding and are therefore inseparable from each other. However, in their own studies, ability-based comparison is seen as more correlated with low self-esteem, higher levels of depression, and also neuroticism compared to opinion-based comparison. Park and Baek (2018) maintained that although social comparison orientation was considered as a single factor construct in many studies (e.g., Huguet et al., 2017; Krizan & Bushman, 2011; Lennarz et al., 2017; Litt et al., 2012; Michinov & Michinov, 2011; Sherlock & Wagstaff, 2019; Smith LeBeau & Buckingham, 2008), it should be considered as two separate constructs in reality and they designed their study accordingly. Considering some research results (e.g., Callan et al., 2015; Friedman et al., 2007; Kim, Callan, et al., 2017; Yang, Holden, & Carter, 2018; Zhang et al., 2021) that may support this proposition, it can be seen that Kim et al. (2021) did not associate opinion comparison with material possession or social status, unlike ability comparison. Yang and Robinson (2018), on the other hand, associated opinion comparison with better social adjustment and ability comparison with poorer social adjustment in college undergraduates. In another example, Ozimek and Bierhoff (2016) found that only opinion comparison mediates the relationship between age and Facebook activity, whilst ability comparison does not. By emphasizing the difference of opinion comparison, Suls et al. (2000) had already claimed in their triadic conceptualizations of opinion comparison that it is made with the purposes of preference assessment, belief assessment, and preference prediction. While preference assessment is about the comparison of one's own opinions and choices, which are tested for compliance against group norms, belief assessment includes functional inferences made with the opinions received from experts. Preference prediction, on the other hand, includes comparisons and inferences made with opinions received from a consistent proxy about the possible personal experience. Together with this, studies that deal separately with ability comparison and opinion comparison have illustrated the differences between them.

2.1.3. Comparison Behavior – The Evolutionary Benefits and Function

Kurt Lewin (1939), Festinger's mentor and the founder of modern social psychology, stated that behavior can be defined according to the person and the environment with

which they interact. One of the ways of contacting and interacting with an environment is through an individual's comparison behavior. Making comparisons presents certain fundamental evolutionary benefits for both humans and other species, and it is phylogenetically primitive for many such species (Gilbert, Price, & Allan, 1995). The ability to explore and compare starts within 12 months for the newborn human and becomes more sophisticated through variation during the subsequent developmental life stages (Bourgeois et al., 2005). At the preoperative stage of cognitive development, a child tries to reach the results they need through differences and similarities obtained by comparing objects automatically or actively, despite the conservation errors. In the concrete operational stage, they can perform comparisons and reasoning between objects in a more logical and systematic way (Piaget, 1928, 1950; Piaget et al., 1977; Santrock, 2011). Some living things, including humans, who live with the struggle to acquire some of nature's valuable resources, have an innate need for the ability to compare, and it is significant for them to correctly use and interpret the information they have or gain from their experiences. In this way, individuals can make measurements and inferences without struggling or competing to obtain something. An individual's conclusions can sometimes even be lifesaving. Natural selection therefore favors individuals having higher assessment skills by progressing on a relative basis (Buss, 2015; Festinger, 1954). One of the operational tools that can be used for these inferences is comparison. The function of comparison behavior, especially in terms of social contact, is to develop an understanding of the power hierarchy (Parker, 1974). Striving for superiority and power, as two of the concepts used by Alfred Adler (Ferguson, 2020), are relative, namely concepts based on comparison. Unless there is a comparison object, the individual cannot know whether they are to be considered as superior or inferior, powerful or impotent (Cummins, 1996; Kruglanski & Mayseless, 1990). According to Adler, when a human infant is born, they have a natural feeling of inferiority due to their vulnerability, powerlessness, and need for constant parental care, but they tend to overcome this inferiority assumption through striving for superiority. In the early years of his evolving theory, Adler stated that a child sees themself as physically smaller compared to others which results in feelings of social inferiority and they establish social bonding and interdependence as a means to compensate for this feeling. According to Adler, from an evolutionary perspective, the basic motivation of a human being is to belong

and affiliate with others for a common benefit (Ferguson, 2020). The most likely reason for this is survival effort (Darwin & Beer, 2008) and craving for importance and power, which is identified with many aspects of life, is a basic and quite natural desire seen in every human child (Ferguson, 2020). From a supportive philosophical perspective, what Nietzsche meant in his conceptualization of "will to power" was understood as the organism having an enthusiastic vitality towards life. This basic drive motivates human and animal behaviors towards establishing mastery over the environment and to providing psychological strength (Solomon & Higgins, 2000). Although objections have been raised that Nietzsche's psychological concepts such as "drives" and "will to power" are incompatible with the Darwinian view (Forber, 2007), Richardson (2002) undertook a biological reading and suggested that these concepts are compatible with Darwinian natural selection. More clearly, the world and life itself are ontologically nothing but "will to power" for Nietzsche. As such, "will to power" has been understood by some researchers as an individual's being whatever they are, developing themself, and surviving in the organic sense (Nietzsche et al., 2001). In a corroborating study, in which the theoretical associations of authoritarianism, which provided the establishment of status and rank hierarchy to meet the need for security and belonging in the face of threats, Nietzsche's conceptualization of "will to power" was seen as a biological human force that includes self-preservation drive in the social and evolutionary context, and has been considered as the basis of many human activities, including that of social relationships (Hastings & Shaffer, 2008). In summary, the comparison behavior accompanies human beings from birth serves power-seeking instinctually to survive and provides them with a relational or in-group rank in which they can stay safe.

In support of this, Buss (2015) stated that the formation of the hierarchy of dominance in social groups and the determination of status differences occurs very quickly. The experimental study of Fisek and Ofshe (1970) revealed that in half of their task-oriented subject groups, who had not known each other prior to the study, a clear hierarchy was formed in just 60 seconds, whilst it was 5 minutes in the remaining half of the groups. In a similar study, Kalma (1991) found that subjects in a newly recruited group were able to accurately determine their future status in the group without having uttered a word, supporting the claim that rank-ordering can be established at first glance in the absence of any remarkable cognitive information processing. In a context

that requires hierarchy, it is for the good of all individuals in the group for those who are strong not to expend too much energy, whilst the relatively weaker group members should not take life risks where possible. In other words, predicting the most likely outcome of a possible fight and determining the behavior accordingly can be critical in certain situations. Through making comparisons, living beings reach a level at which they are willing to accept what they have obtained with only minimal damage having been registered. Natural selection also bestows a higher chance of survival and reproduction to those with higher assessment skills. In humans, this comparison-based assessment mechanism is more advanced compared to other living things. For instance, a person not only compares the physical strength that they possess, but also makes comparisons over variables such as their status, economic power, friends, coalitions, and kinship ties (Buss, 2015; Gilbert & Allan, 1994). Koski et al. (2015) revealed that while comprehending rapidly social hierarchies and status judgments, humans tend to perceptually employ both certain primitive cues, such as bodily strength, and sociocultural status cues, such as educational accomplishments and job titles. As a result of these comparisons, humans are able to superficially decide whether they will be act as dominant or submissive. Thus, they obtain their relative placement within the group (Gilbert & Allan, 1994). These comparisons, categorizations, and decisions taken are made more intensely and become more adjustable, especially in cases where uncertainty increases (Denison et al., 2018).

In the case of uncertainty, first-hand information through ability-based social comparison is deemed more significant, while information obtained from others is prioritized in opinion-based comparison. Although opinion-based comparison is aimed more at social cohesion or group cohesion, it is also possible to consider the opinion obtained as an effort to reach information that is not yet owned. In other words, if an individual is unsure about their own knowledge or the assessment process and related results when performing a comparison in a potential encounter, then the opinions of others may present them with a certain additional significance (Festinger, 1954). Kulik and Mahler (1997) showed that inpatients treated for surgery and similar health issues can attempt to increase their coping skills by establishing affiliation with patients who share similar medical conditions. This social comparison-related affiliation is aimed at reducing anxiety, especially in novel, threatening, and challenging conditions or when perceived to be under acute threat, is performed for

the purpose of creating emotional resources as well as providing dominant cognitive clarity. In their study conducted with 166 undergraduate students, Butzer and Kuiper (2006) found that intolerance of uncertainty is significantly more important than self-concept clarity, depression, and anxiety, which are also considered as uncertainty-related constructs, in predicting general, upward, and downward comparisons. Uncertainty, which is the basis of social comparison, serves as the primary determinant in revealing comparison behavior and affiliation with others, especially in stressful life events (Aspinwall, 1997). The classic experiment of Schachter (1959) showed that people choose to affiliate with those who share a similar fate as themselves in their experiences of uncertainty, fear, and being unable to make sense of their compelling emotions. This strategy, whose main goal is anxiety reduction and detection of the appropriateness of emotions, includes an individual's functional use of social comparison through social interaction.

In another study that confirms the effect of uncertainty but adds similarity dimension, Berger and Calabrese (1975) claimed that high levels of uncertainty will increase information-seeking behaviors in individuals and that they will try to reduce uncertainty through affiliative expressiveness and verbal communication. Since such uncertainties also apply to social relationships between individuals, their study showed that interaction, certain behaviors, and initiatives emerged so as to reduce uncertainty between two human communities that are unknown to each other. It was found that as the similarities increased, the uncertainty decreased, and with decreasing uncertainty, relational intimacy and liking increased. Supportively, Bosch et al. (2010) found in their study conducted with 38 female undergraduate students that those with high social comparison orientation focus more on similarity and show more assimilative responses. Oppositely, there have been research results published that were contrary to expectations about the relationship between affiliation and social comparison. For instance, in a study conducted with 653 undergraduate students, it was seen that a high level of affiliation was associated with high levels of group satisfaction, but only when social comparison orientation was low. In a sense, high affiliation orientation and group satisfaction may be possible when an individual compares themselves less with others (Buunk et al., 2005). This case could be about seeking group cohesion and acceptance of others after overcoming the relational uncertainty for feeling safe and belonging. This may mean that a person may take different hierarchical positions

dynamically in different groups as humans rarely belong to only one group. The social behaviors of the same person that are encountered in daily life can also change in different environments and circumstances such as in different relationships and groups (Redhead & Power, 2022). For example, a person may be overly dominant and sometimes behave quite harshly within their own family group, whilst they may behave more submissively, compliant, overly understanding, compassionate, or highly appreciative in a position or social role with their external relationships. This situation can be explained according to both the social needs of the person and the dynamic nature of social comparison processes, as well as the variability of their in-group status.

On the other hand, social comparison processes have the potential to render self-conception and corresponding emotions instable in various social encounters. In their experimental study, Morse and Gergen (1970) found that participants had a significant decrease in their self-esteem when they encountered or were compared with those with socially desirable characteristics, while significant increases were seen in their self-estimates when exposed to people with socially undesirable characteristics. Regardless of competition, those with low self-consistency were shown to be the most affected by these encounters. It was also found that as the similarity between the subject and the stimulus person increased, self-esteem increased, and thus social attraction increased, but that it decreased as the difference between them increased. However, these social convergences fail to ensure the establishment of equal relationships; on the contrary, rank hierarchy is established quite quickly in most relationships (Koski et al., 2015). For example, Aderka et al.'s (2009) study revealed that the significant association between attachment and social anxiety disappeared when social comparison and submissive behaviors were included in the model as predictors. In a study implying potential competition from an evolutionary perspective, Agthe et al. (2014) found that the social interaction responses to attractive opposite-sex individuals were positive but not to those of the attractive same sex, and that the downward comparison tendency strengthened this association. Salovey and Rodin (1984), on the other hand, found in their experimental study that comparative negative feedback on the performance of participants about their characteristics increased instances of jealousy or envy. They further concluded that in such a situation, participants were considered to be less friendly and more likely to behave humiliatingly towards their socially compared competitors, and that they felt more depressed and anxious in terms of social

interaction. In a study conducted with Turkish adolescents, Çivitci (2010) found that the lower social comparison group, as in those participants with a more negative perception of themselves, had a higher level of shyness compared to the moderate and high group, and that the relationship between social comparison and shyness differed according to school grade.

To summarize, when social comparison behavior is considered from an evolutionary perspective, it seems to function as a kind of evaluation agent, inducing social affiliation or distancing according to different personal, relational, and contextual requirements, and thereby affecting the accompanying self and emotions of the individual in varying ways.

2.1.4. Social Comparison Research on Study Variables

Social comparison, which serves mainly the purpose of increasing self-knowledge and self-understanding with the information obtained from others (Festinger, 1954), forms one of the primary psychological mechanisms that enable a person to associate any information they encounter with themself. Social comparisons can thus influence a person's experiences, cognitions, judgments, feelings, self-perception, motivation, and also their behavior. Social comparisons, which are at the same time an integral part of the ubiquitous process of daily life and psychological functioning, can be formed by motivational, affective, and cognitive elements (Corcoran et al., 2011). Due to its lifelong evolving and changing nature, in different stages of life, both its frequency and functional area may change depending on different experiences, situational factors, and developmental stages (Buunk et al., 2020). Feldman and Ruble (1977) found in their study, in which they investigated social comparison interests and motivations in developmental terms, that children's interest in comparing themselves with others begins at a very early age, but that ability comparison and self-evaluation with comparison information are more specific to older children and adolescents. When the developmental stages of human beings are considered, it is known that the ability to make more abstract operations increases as one improves more in terms of processing from concrete to abstract. Thus, the act of comparison can be conducted imaginatively throughout adulthood without even any need for an object (see Wood et

al., 1985). In human life, when the sense of agency takes priority, the person can also increase social comparisons for motivation by learning from the social environment (Schunk & Usher, 2012); undergraduates show the characteristics of such a developmental period, hence their social comparisons intensify. However, in periods when requirements in life and expectations of the individual decrease, social comparison also begins to decline. For example, Urzúa et al. (2012) conducted a study with 2,757 participants aged 10 to 88 years old and found that social comparison orientation decreased as age increased, and that males had a significantly higher social comparison orientation compared to that of females. Based on these findings, it may be interpreted that making comparisons is a changing and evolving trait, often inevitable and one of the developmentally basic cognitive processes that interacts with many psychological constructs.

Social comparison interacts primarily with self-esteem when considering the hypothesized model in the current study. In studies conducted with undergraduate students, reasonably expected findings have revealed that self-esteem partially mediates the relationship between upward social comparison and depressive symptoms (Liu et al., 2017), and that one of the mediators in the relationship between Facebook use and lower self-esteem is social comparison (Hanna et al., 2017). Likewise, Alfasi's (2019) experimental study found that social media users exposed to social content for comparison reported lower state self-esteem and higher depression. In this sense, social comparison, which is an important factor in the etiology of depression, is an experiential concept that is intertwined with the inability to protect one's self-esteem, and to prevent or manage negative self-evaluation, and hopelessness (Ahrens & Alloy, 1997). In a recent study, McComb and Mills (2021) found that 142 female undergraduates experienced lowered confidence and increased dissatisfaction with their appearance and weight after comparing the bodies of attractive models with their own. Rumination and catastrophizing mediated the relationship between their appearance perfectionism, lower confidence, and appearance-weight dissatisfaction. In their model study, Jiang and Ngien (2020) found that social media use can predict social anxiety, but only through social comparison and self-esteem variables in which age, gender, education, and income were controlled. On the other hand, Wood et al. (1999) focused on the compensation role of social comparison in a three-part experimental study with high self-esteem

undergraduates. In their experiment, subjects focused on their strongest attributes in order to compare where they failed. Successful subjects chose the strength of others for comparison, whilst the unsuccessful selected the weakness of others. In the last sub-experiment, unsuccessful subjects were found to reduce social comparison seeking when they compensated by way of a self-affirmation task. In a study with similar findings, Vohs and Heatherton (2004) found no difference between high or low trait self-esteem participants in the absence of self-image threat. However, when it came to self-image threat, those with high trait self-esteem were seen to make downward social comparisons, whilst those with low trait self-esteem made upward social comparisons. It was found that the state self-esteem of the high self-esteem participants who made downward social comparison increased. In other words, it was shown that people with high self-esteem use self-defense strategies more effectively. Moreover, Baumeister et al. (1989) maintained that people with high self-esteem can also make social comparisons in order to attract the attention of others. Briefly, self-esteem functions as a kind of protection and enhancement for individuals against the effects of social comparison. Sometimes it buffers the factors that impair mental health, and sometimes it can mitigate or fend off potential or perceived harm from failures and compelling emotions.

Emotion is another psychological construct that social comparison interacts with or triggers (White et al., 2006), because of emotion's simultaneous interaction with various human experiences (Barrett et al., 2007). Expectedly, social comparison stimulates diverse affective reactions, some positive and constructive, some negative and destructive (Wehrens et al., 2010), but that frequent social comparers were more likely to be defensive and to experience regret, guilt, or envy (White et al., 2006). Boecker et al.'s (2022) systematic experiments indicated that emotional (i.e., sympathy, happiness, envy, and schadenfreude) and sequentially behavioral (i.e., prosocial and antisocial) reactions to others were predicted by social comparison processes according to variability in terms of inequity aversion, social rank, the relevance of comparison, and comparison direction. With similar arguments, Tesser et al.'s (1988) study showed that being outperformed by a close or familiar person on a task with high relevance to the person's self increases the sense of threat towards their self-evaluation and a negative affect is experienced more as a result in the comparison process. In the reflection process, when the task's relevance for the self decreases,

higher performance of the person seen as close to the individual can positively affect the self-evaluation of the individual. Moreover, Lockwood and Kunda (1997) stated that upward social comparison can raise the self of an individual if the features of the comparison target are attainable to them. In support of these findings, Hemphill and Lehman (1991) found that the reactions given to social comparison and the intensity of affect changed according to the comparison dimension and the appropriateness of the comparison was minded by the participants. In an example study in which the comparison orientation determined the affective response towards downward comparison, those subjects who had high occupational burnout and high comparison orientation responded mostly with a negative affect to confrontation with a downward comparison target, but not with an upward comparison target (Buunk, Ybema, et al., 2001). Therefore, in addition to the significance of what kind of social comparison individuals use against whom and for what purpose, what individual characteristics they possess can affect the whole experiential process. For instance, Rentzsch and Gross (2015) revealed that dispositional envy is positively related to social comparison orientation but negatively to general self-esteem. However, Kim, Parker, and Marciano (2017) found that poor self-esteem is associated with friendship jealousy only when emotion regulation skills are insufficient.

In another study involving numerous possible combinations associated with social comparison, Park and Baek (2018) extended the scope of emotions triggered by social comparison toward those that are positive, and also highlighted differences between ability comparison and opinion comparison as constructs of social comparison orientation. With these two different research perspectives they employed Smith's (2000) four social comparison-based emotion types which are upward contrastive, upward assimilative, downward contrastive, and downward assimilative emotions as the determining factor between social comparison orientation and psychological well-being. The results they obtained were found to change according to both the type of emotions and ability or opinion comparison. For instance, the psychological well-being of those who have strong opinion-based comparison orientation increased through upward assimilative emotions, whilst for those with strong ability-based social comparison orientation, their psychological well-being decreased through upward contrastive emotions.

Involving both clinical and non-clinical samples, Fuhr et al. (2015) conducted a study with a total of 132 participants, with a mean age of 42.09 (SD = 12.62) years and 59.1% of whom were female. The participants consisted of three different groups according to the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition, American Psychiatric Association, 1994) criteria: Individuals with bipolar disorder, individuals with major depression, and a control group with no history of affective disorder. The researchers experimentally induced social comparisons and investigated their effect on mood and self-esteem on euthymic unipolar and bipolar patients compared to those with no diagnosed affective disorder. It was hypothesized that unfavorable upward social comparison, which expresses the situation in which the person being compared performs better, will lead to a negative effect on implicit self-esteem and explicit mood, especially for unipolar patients. In addition, it was hypothesized that favorable downward social comparison, which expresses the situation in which the person being compared performs worse, increases mood and self-esteem, especially in bipolar patients. A number of results were obtained which were found to be in accordance with the hypotheses of the research, whilst others were the opposite. After upward comparison, negative affect increased in all groups while positive affect decreased, which was considered an expected result. After downward comparison, while positive affect initially increased in unipolar patients and healthy subjects, no positive affect change was observed in bipolar patients. Implicit self-esteem unexpectedly decreased in all group and different comparison conditions.

In addition to self-esteem and emotions, one of the constructs associated with social comparison is interpersonal behaviors. This relationship sometimes includes the desire to get socially close and seek approval from others, and sometimes it may manifest in destructive social behaviors. In a sample study, Park et al. (2021) found that as the sort of upward emotion (i.e., assimilative or contrastive) triggered by upward social comparisons on Instagram has changed, a number of various behaviors have emerged, such as posting favorable or malicious comments and whether or not to use the app. Those with a high social comparison orientation are more likely to feel envious on social media but are more likely to bully and be bullied when they are dissatisfied with their own bodies (Geng et al., 2022). In an online survey of 722 participants aged 18-35 years old, Wang (2019) examined variables including selfie-editing behavior on

social networking sites and SCO and reported that people who like to compare try to improve their self-images according to the comparison standard, and that they more often do this with selfie-editing. This finding indicates that individuals showing themselves on social media platforms where they are then evaluated by others is related to social orientation, albeit indirectly. In other words, when performing comparisons, individuals often base it on how they perceive that the other person sees them. In another study, which implied interpersonal acceptance in a more positive way with a Turkish community sample, Karayel-Bilbil and Toku (2021) revealed that the feelings of inspiration, curiosity, and admiration were the most felt in the use of social media, and that upward social comparisons were the most frequently performed. In the same study, it was also shown that consumer susceptibility to interpersonal influence had a positive and significant effect on social comparison. In other words, participants prioritize compliance with social norms in order to obtain social acceptance and to reduce rejection in their consumption decisions. Likewise, Çopuroğlu et al. (2020) indicated that Turkish consumers have more positive attitudes towards brands used by someone who they perceive to be in a better position than their own social status. Based on the categorization of Triandis (1995), if Turkish society is assumed to have a collective but hierarchical social structure, the importance of social desirability can be expected to be higher. In support of this, Guimond et al. (2007) stated that intragroup interpersonal comparisons are more powerful in cultures where the power distance is high or the social hierarchy is rigid. It is actually quite expected that there are differences in social comparison orientation among cultures.

In conclusion, when the information obtained from social comparison is deemed threatening to one's self-esteem, difficulty coping with and the regulating of emotions may be experienced. The individual can sometimes perform more comparisons in order to overcome the emerging threatening and uncertain situation, but this situation mainly produces a desire and need to affiliate with others. At this point, self-esteem, which is one of the mediating variables of the current study, can determine the style of relationships that one establishes with others. For instance, a person with low self-esteem may show excessively permissive and unrestricted relationship-building styles for those relationships that they will perform comparisons with, and thereby removing any ambiguity.2.2. Self-Esteem

Self-image is a distinctive feature of the human animal since, as far as is known, humans are the only living creatures who can observe themselves from the outside and define, evaluate, and judge themselves. With this characteristic, human beings are both the observer and the observed, the evaluator and the evaluated, and the ones who judge and also being judged. The self is crucial for human beings, whose cognitive and emotional skills have evolved; so much so, that what an individual is like and how they feel about themself can affect them deeply. This self-picture of the individual is now a construct that not only reflects on their impulses and aspirations for the self but is also molded according to their social experiences. This is because the human offspring is usually born into a family or a social system and is probably surrounded by parents, siblings, and various others who are closely involved in their upbringing. One's self-picture is formed, developed, and changed through social interaction, initially with those in the immediate environment and then through the various influences of the social world that surrounds the child. First, how the immediate caregiver and family members and then how others feel about them have a defining and decisive influence on the child's sense of self. The combinations of these various social backgrounds and experiences unwittingly constitute the lifestyle, values, beliefs, and ideals underpinning a person's self-judgment. Thus, the way in which a person defines themself and how they feel about themself is determined by others to a significant extent. However, when conditions within the familial and social environment are unfavorable and discouraging, the person, by regarding themself as weak, inadequate, unworthy, and unlovable, may hesitate to reveal their mastery or may not consider themself as competent in the life events that they encounter (Rosenberg, 1965).

2.2.1. Self-Esteem and its Different Definitions

The formation and evolution of the self and concepts related to the self are ultimately not independent of self-esteem; they either form or exist in a way that is intertwined with it. Cast and Burke (2002) claimed that self-esteem, which lacks a generally accepted comprehensive theory, is often conceptualized as a motive, outcome, or buffer in various studies. Upon going as far back as possible in the literature on self-esteem, it was established that James (1890) defined self-esteem in the late 19th

century as the ratio between success and pretensions. In his view, self-esteem is the accumulation of experiences exceeding one's own goals within dimensions that are considered of importance to that person's self-concept. This definition, in a sense, can be interpreted as the cumulative state of being able to achieve and go beyond the desired self. Blascovich and Tomaka (1991) defined self-esteem, a hypothetical construct in social sciences, as the comprehensive affective evaluation including one's approval, satisfaction, worth, and value about themself. According to the definition of Rosenberg (1965), the theorist most commonly associated with self-esteem, the concept of self-esteem concerns the positive or negative attitude towards oneself, and therefore the overall level of acceptance or rejection defines an individual's global self-esteem. To have high self-esteem is to be *very good* at some things and *good enough* at others. One may consider themself as superior to others, yet feel inadequate according to their own standards, or a person may be pleased with themself despite evaluating themselves as being average. In short, one's self-esteem may be considered quite high in some things yet average or low in others. According to Rosenberg (1965), high self-esteem can be defined more in terms of being *good enough*; where a person sees themself as valuable and respects themself and does not regard having superiority over others as an absolute necessity.

Besides different definitions of self-esteem, there are also controversial views and proposed conceptualizations of what high or low self-esteem may mean. For example, Kernis (2003) claimed that high self-esteem sometimes does not include genuine self-worth and can be fragile, defensive, contingent, unstable, and discrepant, and therefore optimal self-esteem can be a more accurate and wholesome conceptualization with its authentic side. Crocker (2006), on the other hand, stated that neither high nor low self-esteem is optimal, and that optimal self-esteem was defined as a state that is as far removed from external and internal contingencies as possible, that one's goals beyond oneself are directed both towards oneself and others, and that one does not focus excessively on one's own worth and value. According to Baumeister et al. (1989), relatively low self-esteem scores might not indicate that the person has a tendency to humiliate themself; on the contrary, it may be an indicator that the person evaluates themself more as being neutral and closer to the mean. Rosenberg (1965) stated that high self-esteem is associated more with self-acceptance; that is, one accepts themself as they are by recognizing their valuable qualities and what they do not have or may

lack. As such, the individual sees themself as neither perfect nor worse than others. However, this is not a state of complacency; there is still an ongoing effort by the individual to develop, grow, and overcome their deficiencies. On the other hand, people with low self-esteem are not satisfied with themselves and reject their self. They see themselves as worthless and contemptible, they do not respect themselves, and they have a desire to exist in some other way.

The discussions about self-esteem have not only focused on whether it is high or low, but in various studies it has been claimed that there are different types of self-esteem. Heatherton and Polivy (1991), in their study in which they put forward the performance, social, and appearance factors of state self-esteem, which are sensitive to temporal changes and manipulation, found that these three types of self-esteem are affected differently by diverse environmental changes. On the other hand, Rosenberg et al. (1995) examined the relationship and differences between global self-esteem and specific self-esteem and claimed that global self-esteem has predominantly affective content and is more related to psychological well-being. It is concluded, therefore, that specific self-esteem has a cognitive and evaluative structure and is more related to behavior or observable results. The more valuable or important the area related to specific self-esteem is for the individual, the more positive its contribution is to their global self-esteem. In other words, success in a valued field might also contribute positively to the individual's overall self-evaluation.

To summarize, Baumeister et al. (2003) comprehensively reviewed the literature related to self-esteem to provide clarity that self-esteem is a concept with heterogeneous characteristics. It is not a psychological definition understood in the same way across all studies and used to define people with similar characteristics. In some studies, while people with high self-esteem are described as accurately evaluating and frankly accepting their good qualities, strengths, and worth, other studies describe those with high self-esteem as big-headed, narcissistic, exclusivist, and defensive. Although a causal link has not yet been clearly put forth, there are studies that have acknowledged self-esteem as a starting point to the achievement of desired results. Current studies support that self-esteem and emotional intelligence significantly predict academic achievement (Khan et al., 2012), that those with high academic achievement also have high self-efficacy and emotional intelligence

(Gharetepeh et al., 2015), and that the relation between self-esteem and academic achievement is quite clear (Whitesell et al., 2009). Baumeister et al. (2003) revealed that there are also studies regarding self-esteem as a personal construct that the individual can achieve as a result of their experiences. For example, it is said that academic and occupational success is the most likely foundation of self-esteem, and not the result of it. However, there is convincing evidence that it facilitates adaptive persistence following failure. Considering other published studies in which self-esteem was examined as a variable, although self-esteem is considered an important variable in establishing close relationships, there are certain question marks about the quality and continuity of its relationship. That is, the continuity and quality of relationships that start out by making a good impression through high self-esteem are questionable. There are similar doubts about other social relationships too. For example, in-group favoritism within social groups, as in prejudice and discrimination, maintains strong links with high self-esteem. On the other hand, although the causality and other related factors are unknown, strong and stable relationships have been shown to exist between happiness and high self-esteem and also between depression and low self-esteem. In some areas, high self-esteem does not prevent high risk behaviors and while sometimes it can even increase harmful risk-taking behaviors, in other areas it may serve as a more protective function. For example, while high self-esteem is not a factor preventing tobacco smoking, alcohol and drug use, or early-age sexual encounters in children and adolescents, for females it has been shown to be a significant agent in reducing the likelihood of bulimia. On the other hand, the description of those with high self-esteem as being popular, well-liked, smarter, and more attractive may be down to their own illusions. Whereas on the one hand high self-esteem is related to bullying and the supporting of bullying, it is associated with the defense of bullying victims on the other. In other words, both prosocial and antisocial tendencies are considered to be traits that interact with self-esteem (Baumeister et al., 2003).

2.2.2. Variability or Fluctuations of Self-Esteem

As previously mentioned, self-esteem and related factors have been defined and addressed in different ways in different studies. In addition to these differences in the

literature, there are also differences in approach as to whether self-esteem is stable and persistent or variable and fluctuating because self-esteem stability may have more predictive value beyond the level of self-esteem (Kernis, 2005). Though many studies treat self-esteem as a concept that is quite stable (e.g., Rosenberg, 1986) and resistant to change, Oosterwegel et al. (2001) studied self-esteem variability, a concept that is highly related to self-consciousness, social anxiousness, and social avoidance. In fact, the occurrence of fluctuations in a person's self-esteem and changes in their self-evaluation on a daily basis are quite natural, so long as they are not extreme. Thus, Oosterwegel et al. (2001) defined self-esteem status, which can change both during a single day and also on different days, as self-esteem variability.

The ego and self-worth of those with unstable self-esteem are notably vulnerable to the variable effects of daily life experiences (Kernis et al., 1993). Being dispositionally tended to experience fluctuations in one's self-worth feelings specific to context defines self-esteem instability (Jordan & Zeigler-Hill, 2018). Fluctuations in global self-esteem, in other words instability of self-esteem, may be associated with being overly influenced by environmental factors such as the evaluations of others. Enhanced sensitivity to environmental evaluations and an excessive focus on oneself, that is, an overemphasis on self-view, may be symptoms of self-esteem instability (Kernis et al., 1989). According to the psychoanalytic perspective, the high self-esteem variability stems from the needs of the person not being adequately and consistently met in the nurturance relationship established with the early stage caregiver. Non-continuous and unpredictable parental behaviors also cause uncertainty in the child's self-evaluation. In order to overcome this uncertainty in adult life, the person may become overly concerned with the evaluations and judgments of those upon which they developed dependency (Butler et al., 1994). While a person provides consistency about their own self through consistent and continuous feedback received about themselves from their environment, when they receive variable or divergent feedback, their self-conception may not maintain its stability. When feedback is mixed or variable according to the source, learning experiences about one's self may not be homogeneous. These momentary changes in the active identification of the self may increase or decrease at certain stages within their life due to environmental conditions, necessity, or their development in life (Morse & Gergen, 1970). Where an individual's public self-consciousness is high, with each environmental evaluation their self-

esteem may change, either for the better or worse. When faced with a situation that lowers their self-esteem within social settings and encounters, an individual may experience negative affect to the extent that they may experience difficulties in coping and may not be able to achieve internal regulation. At the same time, people with high self-esteem variability are also expected to experience problems in emotion regulation (Oosterwegel et al., 2001), whilst self-esteem lability is associated with depression proneness (Butler et al., 1994).

Kernis et al. (1993) found that instability in those with high self-esteem was revealed to be associated with acceptance and positive emotions when receiving positive interpersonal feedback, and rejection and defensiveness when receiving negative feedback. However, in people with low self-esteem, the receiving of positive interpersonal feedback was not found to be related to instability, but with lesser defensive reactions and greater acceptance. That is, variability experienced in high self-esteem can function in a protective or enhancing way; whereas, in low self-esteem there is selectivity with respect to the situations that create variability – so a person accepts information confirming their reality and rejects information that does not match. Whereas the negative feedback accepted creates instability, rejected positive feedback does not result in instability.

In six measurements applied to a sample of 80 undergraduate students over a 9-month period, Johnson (1998) found that global self-esteem was more unstable than basic self-esteem. He revealed that global self-esteem was related more to the need for others' approval and competence (i.e., earning self-esteem), and argued that negative life events and low levels of basic self-esteem increase this ambivalence. Basic self-esteem (for conceptualization and measurement of basic self-esteem and earning self-esteem, see Forsman & Johnson, 1996) in psychodynamic terms is related more to the healthy functioning of a person's ego, which equates to them leading a fulfilled and harmonious life. That is, they neither feel completely bounded by environmental expectations, nor focus solely on their own individual wants and needs; on the contrary, it relates to a healthy integration of both these attributes. Therefore, global self-esteem may not necessarily imply a sufficient experience of self-worth. Pullmann and Allik (2000), in their study with 197 undergraduate students in Estonia who had a mean age of 21.3 years old, found the relationship between general self-esteem and

personality to be universal, independent of language and culture, and that self-esteem was mostly related to neuroticism. In the repeated measures they conducted at different times within the sample they defined as individualistic culture, the authors of the study stated that the scores for general self-esteem were dynamic, whilst those in the high self-esteem group were stable, and those in the low self-esteem group were relatively divergent. They commented that these differences stemmed from the self-knowledge of individuals with low self-esteem having made them more socially dependent.

There have also been studies published that have argued that self-esteem is not greatly affected by context, but that other factors may impact upon it. Savin-Williams and Demo (1983) stated that the self-feelings of the majority of adolescents in their study were not affected very much by the immediate context. The limited influence remained at the level of slight deviations from their baseline level of self-feeling, but that their gender, birth order, pubertal maturation, number of siblings, and perceived social class were determining factors in their self-feeling fluctuations.

2.2.3. Evolutionary Development and Function of Self-Esteem

The human being's evolving capability to conceptualize the universe and its laws may have allowed cognitive maps to be created, and thus the species' survival through natural selection. Early human beings, who were able to develop internal representations of the universe, could objectify the world, thereby objectifying themselves and forming and defining their "self." This self is now something that can be evaluated, compared, and used to differentiate themselves from others. Selection pressure for the convergence of socially transmitted norms and cognitive maps may have driven humans to evolve into a symbol-using species. Thus, symbol use or language may have facilitated the dissemination, acceptance, and perpetuation of certain shared norms about the evaluation of the individual's self. The self can now be judged against more abstract principles (e.g., normative structures or culture) (Barkow, 1975).

Self-esteem, which is evolutionarily expected to emerge and be molded by life experiences, is primarily shaped by the behaviors and evaluations of caregivers in human beings for whom the duration of offspring care is prolonged and language

becomes a very critical tool. In other words, language and the world created by it can replace the real experiences of human beings who are in a situation of partial detachment from nature. This world made up of language can form the reality of the human being. In other words, self-esteem's ties with real and social experiences is weakened and it has now transformed into a stronger inner voice (Alderson-Day & Fernyhough, 2015; Berwick & Chomsky, 2016; Jackendoff, 2007). In this sense, self-esteem is a systemic process that has both a cognitive component including beliefs about one's self-worth, and an affective component involving positive and negative feelings about oneself, but which mostly functions at the preattentive level (Leary & Baumeister, 2000). Like many mental processes, self-esteem may be serving important adaptive functions through nonconscious or automatic processing. This level of self-esteem can be termed implicit self-esteem (Jordan et al., 2006).

Solitary humans, especially in primitive times, were statistically less likely to survive and reproduce. The necessity to participate in social relationships and groups, even at a minimal level, may have triggered the development and evolution of a number of psychological systems, including self-esteem (Leary et al., 1995). The quest for high social rank, that is, social dominance, of primitive primates and humans evolved into an effort to retain self-esteem in pursuit of adaptation to the cultural environment (Barkow, 1975). According to the relevant literature, increasing positive affect, facilitating goal achievement, and ensuring dominance in social groups due to its adaptive advantages are three main functions of self-esteem motivation. However, the more fundamental reason why it is innate, potent, and universal is its autonomous threat perception function for the protection of interpersonal relationships that fulfills the need for belonging (Leary & Baumeister, 2000). Accordingly, there is also a collective type of self-esteem, which is important for the in-group position of an individual. The individual can also be judged by the extent to which the group they belong to or are part of is respected by out-groups, and this defines the individual's public collective self-esteem (Luhtanen & Crocker, 1992). In their study with 134 Asian-American college students with a mean age of 20.16 ($SD = 1.79$) years old and with 60.4% females, Liang and Fassinger (2008) found that public collective self-esteem was a partial mediator in the relationship between racism-related stress and the problems with self-esteem and interpersonal relationships. Public collective self-esteem refers to one's thoughts, perceptions, or beliefs about how other people

evaluate the social or ethnic group one belongs to. That is, it is about one's beliefs as to whether or not others consider one's ethnic identity and affiliations to be respectable. Considering the partial mediation of this factor, it can be said that a person's racism-related stress experience causes interpersonal and self-esteem problems, and that this is partially due to their ethnicity not being respected by others. In other words, in contexts where discrimination stress is experienced, when a person's ethnic identity or race is not seen as respectable, the individual can experience self-esteem and interpersonal problems. Besides the autonomous function and its collective types, self-esteem is also formed by the individual's history of learning, especially in the context of social ranking.

According to the "pecking order" proposition first articulated by Thorleif Schjelderup-Ebbe (1935, as cited in Barkow, 1975, p. 553), chickens peck each other continuously when they first congregate. Then, over the course of time, the pecking brings out the hierarchy of power in the group and the pecking almost ceases and order is established. Through repeated experience and behavioral conditioning, this is now seen as a form of in-group social learning and stratification. This learning locates each individual hen within the group, and the rank order in the hierarchy designating dominants and submissives, thus serving the function of protecting both winners and losers. This means that winners will not have to continually fight and losers are not faced with having to take unnecessary risks all the time. In other words, the social order process itself benefits all individuals, as well as the group itself (Buss, 2015).

This experience of chickens may also be said to relate to the concept of self-esteem in humans. In addition to their genetic characteristics, self-esteem in humans, like many other psychological constructs, can also be defined as a kind of totality or the transformation of their conditioning –that individuals are exposed to throughout their life– into beliefs (De Houwer, 2020). However, compared to the first-hand experiences of chickens, self-esteem in humans is not just the sum of accumulated direct experiences and conditionings. In the formation of self-esteem, language is now a very important determinant rather than one-to-one experience (Alderson-Day & Fernyhough, 2015). That is, even if a person does not experience any pain directly, their conditioning and the information they learn from their parents and acquire from their environment inform them about themself through language so as to construct

their reality. Therefore, self and self-esteem have become an actuality created by language. For example, even if a child has not yet experienced failure in performing a certain action, by being overprotective or providing verbal and behavioral feedback indicating that they are unable to complete that action, the parents may inadvertently construct and reinforce the child's perception of failure and may even make them quite resistant to attempt such an action in the future. As a tool that distinguishes human beings from many other creatures, language and accompanying behaviors can be a substitute for reality through direct experience. The human offspring is now shaped not only by the caregiver's behavior, but also by what they say to the child, and this configuration, as a highly stable structure, tends to last a lifetime (DeHart et al., 2006; Felson & Zielinski, 1989).

The basis of self-esteem, in which parents are very determinative, commence in the family where the child is born. Development of the self-esteem motive begins with the basic biological needs of a newborn infant, the most significant of which is hunger. It is possible to satisfy these basic biological needs through the existence of another person, the caregiver, and it is the adequacy and qualitative content of that care brings about experiences of pleasure and pain for the infant (Kaplan, 2006). The development of self-esteem, which is also determined by heritable characteristics, is more related to the child's competence and success in their actions and behaviors during young childhood, and the child's definition of this (Harter, 2006). In this sense, during every period of their lives, people have a natural impulse to seek success in order to feel worthy and to avoid failure so as to not feel worthless, and this regulatory effect is mostly triggered by contingencies in self-worth (Crocker et al., 2003). Self-worth contingencies associate with anxiety when self-related threats are present in different domains of life (Lawrence & Williams, 2013).

Self-esteem can function as a defense against anxiety, and this function can be motivated through environmental conditions and threats (Pyszczynski et al., 2004). In a meta-analysis of 103 studies conducted by vanDellen et al. (2011), it was found that compared to people with low self-esteem, those with high self-esteem showed more compensating reactions to threats. When people with high self-esteem encounter negative information about their self and threats to their self-feeling, they use responses better than those with low self-esteem to minimize the potential impact.

Baumeister et al.'s (1989) claims about the inclination of most people to rate themselves above average on self-esteem measures indicates the protective function of self-esteem. Schmitt and Allik (2005) interpreted the negative correlations between high self-esteem with neuroticism in 53 different cultures as a natural buffer function of self-esteem. In a three-part experimental study in which the anxiety-buffering function of self-esteem was derived based on terror management theory, Greenberg et al. (1992) found that raising self-esteem reduced anxiety about the menace of death and physiological arousal related to the anticipation of receiving a painful electric shock. Supporting findings were obtained in a study conducted with 122 Turkish late adolescents, with positive and significant correlations found between self-esteem and openness to experience, and between extroversion and conscientiousness personality dimensions (Aslan, 2012). In short, the universality of self-esteem is an evidence showing that it is a kind of evolutionary adaptation, which has probably evolved to deal with the opportunities and challenges people face in their daily lives (Leary, 2006), and people are motivated to maintain both their state self-esteem –related more to the present moment– and their trait self-esteem –related more to continuance (Leary & Downs, 1995).

Greenberg et al. (1992) drew upon the theoretical approaches of John Bowlby, Karen Horney, Carl Ransom Rogers, and Harry Stack Sullivan, and claimed that the function of self-esteem as of protecting against anxiety starts with early parental interactions and continues with the socializing factors of culture. In the perspective of terror management theory, the core message of caregivers and society is that the individual is valued, safe, and lives in a meaningful universe. This is because the needs of the individual are met, in that they are loved and protected in such a way that the basic and existential human helplessness and fear of the individual are eliminated. By internalizing the fulfillment of their needs, being loved, valued, and feeling safe through affective and cognitive bonds at the primitive level, the individual creates their own sense of self-esteem, which is under their control from that point on. This construct is not independent of the teaching received by the individual from their culture or social standards since self and self-related concepts have a context-dependent nature in experiential terms (McConnell, 2011).

From the perspective of terror management theory, the protective function of self-esteem seems to be valid across all cultures. In a study that supported this argument, it was stated that the positive overall self-worth evaluation is valid in almost all cultures; in other words, it is a universal phenomenon. However, in addition to this universal protective function of self-esteem, self-esteem was found in some studies to vary according to cultural differences, which can be regarded as the most important determinant of the context. For example, in collectivist cultures, self-esteem standard deviations are relatively small, which indicates that people give neutral responses and avoid extreme values. Moreover, when individualistic and collectivistic cultures were compared in terms of self-competence and self-liking, which are the two subcomponents of global self-esteem, individualistic cultures were found to be significantly higher in self-competence, while collectivistic cultures were reported to be significantly higher in self-liking (Schmitt & Allik, 2005). Another study reported that low self-concept clarity was significantly associated with low self-esteem. However, this relationship is not considered to be as strong in contextual cultures as it is in western cultures (Campbell et al., 1996).

Social structure and changing conditions, which cannot be divorced from culture, are also effective in self-esteem differences. In a meta-analysis study on gender differences in self-esteem, it was found that males had higher self-esteem than females, albeit with a small difference, and the age group with the largest effect size was late adolescence (Kling et al., 1999). In another meta-analysis study with very similar results, Zuckerman et al. (2016) demonstrated that self-esteem scores were in favor of males with a small difference. With increasing age, the gender gap increased until late adolescence and then it started to decrease. The gender gap, which became more pronounced after the 1970s, continued to increase until 1995 and then showed a decline. This difference may be related to changes in work life and the increased visibility of females in society; in other words, it may be related to social changes.

A meta-analysis conducted with 446 samples on the relationship between socioeconomic status and self-esteem, which can be seen as society's evaluation of the individual, found a small but significant relationship between high socioeconomic status and high self-esteem. This relationship, which is seen to be weaker in younger-aged children, strengthens during young adulthood and remains relatively high until

middle age, but then declines again in adults aged over 60. On the other hand, effect size, which in females shows an increase over time, decreases with time in males. Compared to income, education and occupation have a stronger relationship with self-esteem (Twenge & Campbell, 2002). In another meta-analysis study published by Orth et al. (2018), which looked at the development of self-esteem in the 4-94 age group on 331 longitudinal independent samples, it was revealed that people's self-esteem changes systematically throughout life. Self-esteem was shown to increase between the ages of 4 and 11, but remained stable from 11 to 15 years old. Up until the age of 30, self-esteem was found to start to rise strongly again, and continued to do so until the age of 60. Self-esteem, which then was shown to remain stable between the ages of 60 and 70 years old, declined slightly towards 90 years; however, the most significant decline was observed between the ages of 90 and 94. The increases seen in self-esteem from childhood onwards was rationalized by an increase in autonomy and sense of mastery, and it was claimed that all of the results were robust in the western cultural context.

Chung et al.'s (2014) 4-year longitudinal study with emerging adults revealed that self-esteem, which declined during the first semester of college, increased and systematically changed over the remainder of the study. According to Chung et al. (2014), emerging adults experience systematic and dynamic changes in their self-esteem that correspond to their developmental needs and challenges in life. Moreover, while preparing for adult life roles, adolescents may sometimes exhibit unrealistic or excessive self-confidence, self-belief, and courage. This situation, which could be said to be developmental and functional, may cause young adults or adolescents to see/show their abilities and self-worth as higher than could be considered normal. Similarly, Leary and Downs (1995) stated that self-esteem motivation has three main functions in the relevant literature: increasing positive affect, facilitating goal achievement, and providing dominance in social groups. However, they further added that the main function of self-esteem, which is universal, innate, and potent, is the autonomous threat perception towards protecting interpersonal relationships in order to meet the individual's inherent need to feel that they belong. In other words, that undergraduates improve their self-esteem or perceive it to be high, which increases their positive affect and facilitates their goal achievement seeking tendency. It also provides continuity by perceiving potential risks to interpersonal relationships that

meet their need for belonging, as well as enabling them to have a place within their social groups and to seek dominance. In another study that supported this claim, Leary et al. (1995) stated that striving for high self-esteem provides personal adjustment by reducing negative affect and stress and at the same time increasing positive affect. In this way, individuals can have a perception of competence based on their survival and reproductive success by establishing and maintaining bonds with others.

To summarize, these results can be interpreted as self-esteem having been shown to vary developmentally and dynamically in sync with the needs and challenges faced in life. That is, when an individual feels the need for development in new periods of their life or when contexts differ, it is expected that they will experience changes in their self-esteem. Their self-esteem will increase as their adaptation and mastery over the environment increases. When all the various definitions and developmental models of self-esteem are considered, it may be stated that the evolutionary framework covers all affective, cognitive, behavioral, and sociological aspects.

2.2.4. Self-Esteem Research on Study Variables

Self-esteem has a unique place among the self-assessment types associated with comparison processes (Morse & Gergen, 1970). In support of this, Barkow's (1975) definition of self-esteem includes the evaluation of relative position, that is, social comparison is an integral constituent of self-esteem. Although Festinger (1954) did not explicitly use the concept of self-esteem in his main paper on social comparison, he suggested that in the absence of physical and social comparison criteria, one of the measures for evaluating an individual's abilities can be their level of aspiration about themself. In other words, the subjective criteria and the level of expectation that a person formulates about themself can be a measure for their self-evaluation. It would be reasonable to think that self-esteem, which entails the evaluation and perception of one's own competencies, may be a concept that is intertwined with the level of aspiration cited by Festinger.

Comparing oneself socially with others commonly decreases self-esteem (Krause et al., 2021), as social exposure or casual encounters with others can instantaneously produce prominent effects on one's self-concept. In this respect, it is also plausible

that the observable behaviors of people who lack consistent knowledge about their self may differ with respect to time, person, and place (Morse & Gergen, 1970). According to Johnson (1998), since global self-esteem entails the need for competency, it is reactive to the incidents experienced and temporary experiences that may affect one's attitude towards the self. Kavaklı and Ünal (2021) recently conducted a study with 311 Turkish university students and found that the negative effect of social media addiction on self-esteem was predicted by the mediating effect of social comparison. Ozimek and Bierhoff (2020) obtained comparable results in their study with a total of 1,029 participants including university students, working adults, and community sample. In three independent studies with experimental and correlational designs, they found that social comparative Internet use decreased participants' performance-oriented state self-esteem in the short term. Furthermore, the association of passive Facebook and career-oriented XING (a business and career-focused social networking site) use with higher depressive tendencies was mediated by both higher ability-based social comparison orientation and lower self-esteem in the long term. Lee (2020), on the other hand, in his study in South Korea with 236 online participants, reported that the negative effect of social comparison orientation on psychological well-being was serially mediated by self-esteem, both alone and with perceived social support. Wilcox and Laird (2000) randomly presented 41 females with images of either normal weight or extremely slender females and then they measured the participants' body-esteem and self-esteem scores. In addition, the participants' facial expressions were observed in order to try to determine whether there was any change perceived in their emotions. After looking at the images of slender females, the participants, who were attentive to personal cues, experienced a decrease in their self-esteem and an increase in dissatisfaction with their own weight due to social comparison. However, the participants who did not pay attention to personal and bodily cues and instead gave importance to situational stimuli, that is, who behaved and felt in accordance with the externally and socially defined situation, experienced a short-term increase in their self-esteem and personal weight satisfaction as a result of identifying themselves with the model in the image presented, albeit only for a short time. For the participants, exposure to the pictures of the models produced a 20% decrease in self-esteem scores, although only for a short period of time. In a study with similar variables, Smith et al. (2013) found that performing negative social comparisons via Facebook was

associated significantly with body dissatisfaction in a university sample consisting of 232 females (M_{age} = 18.72, SD = 1.60).

Social comparison generally does not cover favorable or enhanced exposure; but instead can often involve exposure to unfavorable conditions. In this sense, unfavorable social comparisons often imply threats to self-esteem and the need for defensive mechanisms. In such situations, there are various and sometimes unpredictable ways to maintain self-esteem. One of them is that the person overestimates or glorifies the characteristics or achievements of those who outperform them (Alicke et al., 1997). However, the level of self-esteem is a very significant factor in determining what to do with social comparison information. For instance, whereas individuals with high self-esteem make social comparisons in order to draw others' attention to their own talents and abilities, those with low self-esteem make social comparisons in order to protect themselves and make their weaknesses less visible to others (Baumeister et al., 1989). Gibbons and Gerrard (1989) demonstrated that downward social comparison information improved the mood states of low self-esteem subjects, whilst upward social comparison information enhanced the mood states of high self-esteem subjects. In addition, while people with high self-esteem become disinterested in social comparison when they achieve success, people with low self-esteem, when they succeed, enjoy their success by making social comparison with people they consider to be inferior (Wood et al., 1994). The situation is similar in samples with clinical characteristics. For example, in a study conducted with young adult undergraduate students, it was found that social comparison orientation moderated the relationship between borderline personality disorder (BPD) symptoms and trait and baseline state self-esteem. It was also found that people with high social comparison orientation and high BPD symptoms experience self-esteem difficulties more intensely (Richmond et al., 2021). Perhaps it is for this reason that people exhibiting BPD symptoms see their own flaws more in terms of upward social comparison and engage in reassurance-seeking behaviors in order to feel more safe within the relationship. With downward social comparison, they may aim to reduce the impact of expected rejection and try to protect themselves (Gratz et al., 2020). That is, social comparison is sometimes a functional tool used for the purposes of self-esteem, and that people with different levels of self-esteem can utilize this tool in different ways for their individual purposes. However, the function of social

comparison can also change when the context varies and some differentiating factors such as belonging emerge. For example, Blanton et al. (2000) showed that contrary to the assumption of the self-evaluation maintenance model in the context of negative stereotyping a certain social group, self-esteem increases when an upward social comparison is made with someone from the in-group. In the case of downward social comparison with someone from the in-group, self-esteem was found to decrease. In the same study, the opposite situation was realized when a social comparison was made with one of the out-groups. In other words, while the success of one member of the out-group decreased the self-esteem of the in-group, their failure increased the self-esteem of the in-group. Arguments based on the exposure to the same stereotype, identification with the group, and commonality in the fate of the group can be said to explain this situation.

Being sensitive to social comparison information, especially to the upward type, can stimulate certain emotional experiences. Hui et al. (2022) found that sensitivity in upward social comparison was positively associated with emotional exhaustion, and that self-esteem moderated that relationship. Emotion and related constructs like emotion regulation function quite synchronously with self-esteem in responding to daily stress (Mouatsou & Koutra, 2023). One potential deep-rooted reason for this may be that the relationship established with a caregiver at birth includes an emotional bond as well as one linked to nourishment and protection, and the emergence of a child's self-model is largely determined by how their parents, and especially the mother, sees and treats the child (Bowlby, 2005). At an advanced or more primitive level, a living being's experiences and past learning provide them with a basis for comparison, and through this comparison and individualized experience, the individual determines their social behavior; that is, they may display either aggressive, dominant, submissive, or avoidant behaviors (Buss, 2015). For Halberstadt (1998), the content of parents' feelings about their children and the way in which they express them to their children have a significant impact on the child's perception of themselves as being valued, accepted, and loved, or as worthless, rejected, and unloved. Gilbert et al. (1996) conducted a study with 90 female undergraduate and postgraduate students with a mean age of 24.6 ($SD = 6.3$) years and hypothesized that early childhood relationships may also determine adult social relationships according to the psychodynamic concept of mirroring and the evolutionary view that social rank or dominance hierarchy may

determine human behavior. The researchers found that the subjects' perceptions of early childhood experiences such as being humiliated/put-down, shamed, and not being identified as the favorite child by their parents predicted their interpersonal problems and susceptibility to psychopathology. Brown (1993) underlined that self-esteem, which is closely identified with feelings of being loved and valued by caregivers during the first years of life when the cognitive capacity of the individual is not yet well enough developed, is primarily an affective-based construct. Leary and Downs (1995) claimed that negative affect and decreased self-esteem accompany each other since affect induces the emergence of compensatory behaviors by warning the person about the possibility of social exclusion. Cast and Burke (2002) referred to the protective function of self-esteem in buffering negative emotions. According to Cast and Burke, self-esteem and emotions are intertwined with self-verification processes that are created through the interaction of individual and social resources. Self-esteem, which is built and maintained through self-verification, provides continuity in times of change and disruption, and serves a protective function by buffering negative emotions when self-verification is problematic. As many studies' procedures have affirmed, it is not that easy to disentangle self-esteem manipulation from positive/negative affect or mood manipulation. These two experiences can often be confounded (Greenberg et al., 1992) because as an emotional-based structure, self-esteem also has cognitive and behavioral components (Brown, 1993). Namely, emotion and cognition in the context of self-esteem may not be clearly distinguished from each other and may mutually influence, determine, and produce each other (Cowan, 1982; Dodge, 1991). On the other hand, there are different views; for example, Heatherton and Polivy (1991) stated that mood and self-esteem change are different constructs. In a meta-analysis of 192 studies that partially supports this view with its findings, Blackhart et al. (2009) found that rejection induces a negative emotional state but not a decrease in self-esteem. However, acceptance elevates both positive mood and self-esteem. Moreover, the effect of rejection on emotion in the same study was found to be larger than that of acceptance.

Leary (1990) mentioned four common affective reactions to social exclusion moderated by low self-esteem. The first of these is social anxiety, which is associated with failure to make the desired impression on others and feeling worthless. The second is jealousy, defined by the threat of being ostracized in a valued relationship.

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The third is loneliness, which is about not having the desired inclusionary status. The last one is depression, which can also be characterized by loss of bonds and grief. These four affective responses often coexist and have a marked association with low self-esteem. Moreover, low self-esteem not only eases the experience of challenging emotions and mental states but also accompanies some emotional avoidance reactions, indicating insufficient emotion regulation skills in the face of anxiety. In an example study conducted with young adults with a mean age of 21.96 ($SD = 2.44$) years old, Fernandes et al. (2022) reported that low self-esteem was a significant mediator in the relationship between increased anxiety and emotional suppression. In a study conducted with a sample of adults who have experienced trauma in their last 3 years, Antunes et al. (2021) found that difficulties in emotion regulation increase when attachment-based anxiety rises, and self-esteem decreases when emotion dysregulation increases.

Although samples with different characteristics have emotion-related experiences with varying intensities and consequences, difficulties in emotion regulation are associated with disruptive or challenging responses in a similar way for most people. In a study by Garofalo et al. (2016), in both convicted offender and community samples, emotion dysregulation fully mediated the relationship between low self-esteem and physical aggression, anger, and hostility, which are subdimensions of aggression. On the other hand, in the community sample of the study, emotion dysregulation also fully mediated the relationship between low self-esteem and verbal aggression (Garofalo et al., 2016), whilst another study with highly overlapping research variables yielded similar results (Stefanile et al., 2021). When the results of these two studies and the variables of the current study are evaluated, it can be stated that even in samples with different characteristics, the relationship between self-esteem and interpersonal problems through emotion dysregulation is shown to be highly significant. When a person who is unable to cope with the emotions caused or accompanied by low self-esteem cannot get what they want from interpersonal relationships, they may engage in problematic or aggressive behaviors. One potential explanation for this finding could be that the foundations of self-esteem often begin with affect-based interpersonal relationships (Hepper & Carnelley, 2012) and can generally be accomplished and lost through interpersonal relationships in ongoing life as supported longitudinally (Kiviruusu et al., 2016).

Self-esteem, seen as intrapsychic structure, is generally accepted as an attitude towards the self, but the self-presentational and motivating side of it within interpersonal relationships is considered highly decisive and descriptive (Baumeister et al., 1989). In other words, although both interpersonal and intrapersonal factors have an influence on self-esteem, at the root of all effects are still other people and the reflections of interactions and experiences with them (Leary, 2006). Likewise, in the evolutionary context, self-esteem is predominantly social in origin and reflects affect-based perceptions of others' feelings about the person (Kirkpatrick & Ellis, 2001). In a meta-analysis of 153 different studies conducted on self-esteem in Türkiye, significant risk factors were identified by Seki and Dilmaç (2020), with effect sizes ranging from large to weak, as loneliness, childhood trauma, social appearance anxiety, depression, stress, anxiety, and unsafe attachment. Additionally, they identified protective factors ranging from moderate to small effect size as self-respect and psychological resilience, self-efficacy, life satisfaction, perceived social support, problem-solving skills, empathy, and secure attachment. In another study conducted with 73 gifted and talented children attending third-, fourth-, and fifth-grades in Türkiye, it was revealed that the social support perceived by children from their families predicted their self-esteem, but that the social support they perceived from teachers and friends had no significant effect on their self-esteem. In addition, while the socioeconomic status of the family and the mother's education level were affective on self-esteem, the father's education and the gender of the child were not found to be affective (Albayrak Dengiz & Yılmaz, 2015).

According to the sociometer hypothesis, self-esteem as a systemic agent that monitors the reactions of others and warns the individual person against the risk of social exclusion, that is, it functions as a kind of interpersonal monitor. This assessment process is usually fast and automatic. In this way, the person is motivated to engage in behaviors that reduce the likelihood of their social rejection (Leary et al., 1995). In support of this relationship, a meta-analysis of 83 samples taken from longitudinal studies found that self-esteem and social relationships reciprocally predict each other at all developmental stages and that there is a positive loop between them (Harris & Orth, 2020). In a study conducted with 338 psychiatric outpatients, interpersonal problems and psychological distress were found to explain self-esteem to a higher level and in a more robust way than psychiatric diagnosis (Bjørkvik et al., 2008). Another study by the same researchers with the same sample and variables yielded

supplementary results; with lower self-esteem reportedly associated with higher interpersonal problems, and people with lower self-esteem found to be overly nurturant and submissive. Higher self-esteem, on the other hand, was found to be high in the agency dimension associated with control and dominance. Moreover, the interaction of communion and agency also explained significant variance in self-esteem. In other words, higher self-esteem was associated with higher communion and agency in interpersonal relationships. Interpersonal style explained 21% variance of self-esteem (Bjørkvik et al., 2009).

In their systematic meta-analysis study with 196 samples, Cameron and Granger (2019) found small to moderate associations between trait self-esteem and objective interpersonal indicators (e.g., social acceptance, interpersonal skills and traits, interpersonal behavior, and relationship quality). They also discovered that these associations were moderated by social risk (i.e., potential or actual social rejection and subsequent social pain). In other words, social risk determines when and to what extent self-esteem influences interpersonal behavior, that is, in the absence of rejection and associated pain, self-esteem does not have a very strong influence on interpersonal experience. Another finding from the same study was that self-esteem included a specific self-concept that had a behavioral outcome with stronger links to interpersonal experience. In short, higher self-esteem signifies more positive interpersonal traits, more social acceptance and acting more warmly; and with the influence of all these, it predicts heightened relationship quality. In another study with more comprehensive results, Schmitt and Allik (2005) analyzed data from 16,998 participants from 53 different nations and found that self-esteem scores have significant correlations with romantic attachment styles, neuroticism, and extraversion. In a study conducted with 43 male participants with a mean age of 19.1 years old, a positive correlation was found to exist between global self-esteem scores and testosterone levels. Concerning the results obtained, it was interpreted that the possible enhancement effect of androgens on cognitive and sexual functions may positively affect mood and well-being and may also be associated with self-esteem (Johnson et al., 2007). Schmitt and Jonason (2019), in another study, conducted research based on the evolutionary-adaptive interpretation of the sociometer theory with more than 16,000 participants from 10 different regions of the world, and reported that higher numbers of sexual partners that males had during their lifetime was found to be associated with high self-

esteem. Shackelford (2001) investigated the evolutionary function of self-esteem in life partnerships and found that the higher the self-esteem of male partners in heterosexual relationships, the less likely their female partners were to practice infidelity. Abuse at the hand of male partners with high self-esteem within heterosexual relationships and the jealousy they exhibited was reportedly less likely to be complained about by their female partners. On the other hand, in the same study, derogation of female physical attractiveness by their male partners was shown to correlate with female low self-esteem. Moreover, in relation to spousal similarity, there were strong similarities revealed, especially in the physical and social self-esteem of life partners. For both male and female partners within a heterosexual relationship, there were also significant positive correlations found between global, physical, and social self-esteem and sexual, emotional, and global satisfaction. In summary, the variables associated with adequate self-esteem signify being extroverted and able to establish various relationships without hardship. Thus, the associations between self-esteem and various interpersonal relationships seem pretty consistent.

2.3. Difficulties in Emotion Regulation

A satisfactory interdisciplinary definition of emotion, a universal experience and concept as old as the earliest experiences of humanity, has yet to emerge (Gross & Muñoz, 1995; Mulligan & Scherer, 2012). Although up-to-date studies persist in biology, neuroscience, sociology, psychology, and many other scientific fields, emotion, which has been the subject of most philosophical literature in the past, has also been a concept despised by some thinkers. For instance, Plato, Epictetus, Descartes, and many other ancient philosophers claimed that reasoning and having emotions are opposites. According to them, reasoning is a virtue and achievement peculiar to humans, whereas emotions are primitive drives inhibiting or replacing reason in animals and less developed primates (Niedenthal & Ric, 2017). However, when studies from the current literature are reviewed, it can be seen that emotions are not derogatory for human beings, on the contrary, they serve vital functions like attention (Vuilleumier, 2005), logical reasoning (Jung et al., 2014), problem-solving (Isen et al., 1987), learning, and memory (Tyng et al., 2017).

2.3.1. Definitions, Functions, and Interactive Nature of Emotion

Emotions, which are part of the functional evolution of the human nervous system, help people to manage their attention, to make decisions, communicate, and generally to regulate their behavior. Additionally, emotions help to keep humans together within social groups and to form and maintain close relationships, as well as to provide an understanding of the effects that an environment has on themselves and others (Niedenthal & Ric, 2017). Emotions are also critical in comprehending social cues and relational needs, establishing communication, strengthening affiliation, and protecting oneself (Thompson, 1994). In other words, with their pivotal place in the communication and relationship among humans, emotions have various communicative and social functions, that is, they ensure the conveyance of thoughts and tendencies among people, regulate social encounters, are contagious, and influence behaviors (Lopes et al., 2005). Moreover, emotions, which are a constituent of the information-processing system formed by the biological competencies that humans are born with, interactively contribute to establishing a relationship with the world and to create meaning (Cowan, 1982; Dodge, 1991).

Although different studies have highlighted various aspects of emotions such as arousal states, experiences related to feelings, goal orientation, and expression of behaviors (Cowan, 1982; Dodge, 1991), emotions can generally be defined as inherently regulatory complex states that enable people to adapt to the changing conditions they experience and to modulate their reactions and behaviors in line with these conditions. However, there is a consensus that emotions generally remain within a person's unconscious awareness, except for the rare experiences where they become apparent and noticeable to the individual and/or others (Cole et al., 2017).

In addition to the definition of emotion and its various functions, the function of different emotions in people can also vary. For example, social emotions such as guilt and shame can be interpreted as the in-advance experience of the social costs of one's present or potential behavior in the near or distant future. In other words, emotions can function as a kind of warning, prediction, or anticipation for human beings, who are in some respects more developed than other living beings. They may serve as a kind of control mechanism for the human being, who may otherwise naturally gravitate towards seeking immediate gratification in life. In this sense, emotions, as sometimes

a form of non-physical pain, can be instructive, mitigative, and also protective in nature (Bowles & Gintis, 2011). Such benefits of emotions usually ensue in response to environmental stimuli, and this holistic experience emerges in interaction with cognitive processes.

As emotion is often in harmony and forms an interaction with other components and systems of human experience that all function simultaneously, it seems appropriate to mention here about holistic functioning. According to the social information-processing theory, with the fusion of internal experiences and socially interactive behaviors, the organism responds to the stimulus through the stages of encoding, interpretation, response search, response evaluation, and enactment, respectively (Dodge, 1991). As living creatures who interact with their environment, human beings experience, process, and transform stimuli. The overriding purpose of this holistic and evolving system is human survival and the growth of its species. Emotion, which has strong linkages with arousal of the organism, cannot be dissociated from cognitive activities. Emotion, a fundamental component of the overall information-processing system, is a descriptor of both experience and processing. Cognition and emotion are sub-elements of the overall information-processing system and non-emotional processing is not always possible in any given experience. Emotions can motivate, organize, strengthen, and weaken cognitive activities with the energy they produce, and can finally transcend into experience and the expression of experience (Cowan, 1982; Dodge, 1991). How emotion, one of the components in the formation of this response, unfolds in interaction with physiological arousal, cognitive processes, and social and environmental stimuli has long been the subject of psychological research.

Schachter and Singer's (1962) classical experiment about physiological, cognitive, and social determinants of emotional state revealed that emotional states are functions of both physiological arousal and appropriate cognition related to the arousal. The cognition induced by the immediate situation determines how the individual makes sense of and labels their emotions based on interpretation provided from their own past experiences. Cognitive factors and physiological arousal work interrelatedly in the impressive experiences of individuals. In situations that trigger physiological arousal, if a person does not have precise information to shape their cognition, they can name and describe their emotions according to the most accessible cognition. However,

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when the person holds true or convincing information about the situation, they will not resort to alternative forms of cognition. In addition, the naming and intensity of the resulting emotion will be in the physiological arousal ratio. In short, primarily cognitive factors, accompanied by physiological arousal, are strong determinants of emotional states. In summary, Schachter and Singer's (1962) conclusions showed that cognition precedes emotion, and also determines how the affect is experienced. This prioritization relationship justifies or supports the precedence or decisiveness of self-esteem in the current study over emotion dysregulation.

Although Schachter and Singer's (1962) experiment drew the attention of psychologists to the cognitive components of emotion and made a significant impression on the understanding of the field, some studies have since criticized that the results were not sufficiently verifiable. For example, Reisenzein (1983) found Schachter's cognition-arousal theory of emotion to not be conceptually or empirically convincing, especially with respect to the arguments that arousal is necessary for emotion and that the labeling of unexplained arousal would lead to the emergence of emotion. In the years since, scientific debates about the primacy or independence of emotion and cognition have persisted (see Lazarus, 1984; Zajonc, 1984). However, beyond the causality or priority-posteriority between emotion and its accompanying physiological and psychological structures, cognition and emotion, which are interrelated information-processing components, undoubtedly have regulatory functions that are interconnected with each other (Dodge, 1991). The point that cognitive evolution is achievable with absolute brain volume and the increase in self-control as a result of this whole process (MacLean et al., 2014) may support that cognition and regulation of emotions are experiential concepts that accompany each other in the evolutionary adventure of humans.

2.3.2. Emotion Regulation and Dysregulation

Emotion regulation is a term referring to the process and characteristics of coping with high levels of positive or negative emotions (Kopp, 1989). Emotion regulation can be defined as a set of internal and external processes that involve functionally observing, evaluating, and changing one's emotional reactions in order to achieve goals

(Thompson, 1994). As a kind of psychological activity, emotion regulation is also defined as the changes that respond to the requirements of the conditions with appraisal and action readiness, but can also be modulated by attentional, cognitive, behavioral, and social processes (Cole et al., 2004, 2017). This is because the process of emotion regulation can only be realized through the interaction of all physiological, expressive, cognitive, and behavioral processes (Lopes et al., 2005).

Emotion regulation links cognitive, behavioral, and interpersonal relational components and ensures that they are experienced in harmony. Presenting a broader definition, the effective use of emotion regulation skills may enable an individual to feel more comfortable with aroused emotions and to modulate their experience accordingly, use emotional information in adjustable problem-solving, and reveal emotion in ways more fitting to the needs of the context (Mennin et al., 2002). In this sense, modulation of emotional experience is essential for adaptive outcomes (Lopes et al., 2005). However, for Gross (1999), even emotions having adaptive value are not always helpful; rather, they can also be seen as challenging and trigger the need for regulation. In this context, emotion regulation is the process by which one controls and manages the type, appropriateness, intensity, and timing of the emotion a person experiences and discloses. Besides practice, performing well in emotion regulation is also related to having adequate knowledge about emotions and is subject to developmental growth (Lopes et al., 2005). Since distress is inevitable in human life, it is the developmental task of the infant to learn how to endure, modulate, and tolerate negative affect. The biological makeup of infants shields them from the excessive impact of physiological arousal and discomfort even during the temporary absence of a caregiver and at a stage when cognitive competence is not yet developed. In other words, human beings begin to exhibit emotion regulation right from the very first years of life, even if it is still in its most raw form. However, later in life, the characteristics, needs, and competencies of developmental stages and the impact of social and observational learning (initially and mainly from caregivers) on emotion regulation become more visible (Kopp, 1989). Ongoing growth in strategic behaviors required by social contexts accompanies the individual's lifelong developmental course from childhood to adulthood, and this whole process is closely related to emotion regulation (Thompson, 1994).

On the other hand, emotion regulation strategies should not be handled independent of the context, and similarly should not be addressed as universally correct and always appropriate. Instead, adaptive emotion regulation can only be correctly defined if it is considered to be contextually dependent (Gratz & Roemer, 2004). For example, Kang et al. (2003) revealed that emotion differentiation positively contributes to maintaining healthy interpersonal relationships, self-esteem, and life satisfaction, notably within collectivist contexts or cultures. In a study that supported this result, Mesquita (2001) concluded that emotions are more relational in individuals coming from collectivist cultures. Friedlmeier et al. (2011) stated that cultures are fluid, can be affected by each other and can change, but that cultural standards and environmental conditions can still be highly determinant in emotion regulation, and one should not fall into ethnocentric bias.

After mentioning how the regulation process takes place and its differentiation with contexts, it is seemingly relevant to elaborate upon the topic of dysregulation or impaired emotion regulation. With a developmental and functionalist definition, emotion dysregulation can be described as emotional experience or expression patterns that inhibit or impair purposeful actions. Emotion regulation or dysregulation can be said to be biologically dynamic, intertwined with neurobiological development, the subject of epigenetics, affected by the emotional dynamics of the family and by observational learning, has heritable characteristics, cannot be considered independent of coping or cognitive processes, is aimed at adaptation to the environment and relationships, and whose development can be determined by the secure affective relationship between mother and infant as well as the early physiological synchrony (Thompson, 2019). According to another researcher, emotion dysregulation, which has varying definitions in different studies, refers to the regulation patterns that can promote short-term well-being but disrupt long-term functionality and thereby incur some costs (Cole et al., 2017). In a sense, the effort to cope with the inner experience or emotion is not always achieved through healthy actions. For example, many dysfunctional behaviors, including that of impulsivity and self-harm, can often be the culmination of a maladaptive search for a solution to an intense and painful negative affect (Linehan, 1993). Such unhealthy emotion regulation strategies are often the result of early learning (Morris et al., 2011), as well as the aforementioned multiple factors.

When healthy emotion regulation skills are not developed during childhood, in their adult life they will most likely perpetuate the unhealthy emotion regulation learned from their early years' caregiver. For example, those who are victimized and those who bully often have stories of being maltreated by their parents. These two groups are both composed of people who generally have problems with emotion regulation (Duncan, 1999; Lereya et al., 2015; Shields & Cicchetti, 2001). People using physical violence as a means of emotion regulation are also likely to have a similar unhealthy history going back to their early childhood (Jakupcak et al., 2002). Parents lacking healthy emotion regulation skills are more likely to engage in negative behaviors towards their children, or the purpose of such unhealthy parenting practices may be an attempt to regulate emotions. Since children learn based on the way they experience their emotions from their parents, they may not be able to develop the ability to control their emotions and may adopt some unhealthy behaviors, such as engaging in bullying or being condemned to bullying (Fang & Corso, 2007; Renner & Slack, 2006). That is, it is like submitting to violence and then, when strong enough, taking on the same role or remaining in fixed roles. In short, a person who cannot attain healthy emotion development and regulation skills may engage in some deviant attitudes and behaviors in social relationships, both as a means to enhancing their sense of personal security and also to regulate their own emotions (Beebe & Lachmann, 2014; Thompson & Calkins, 1996).

As a result of the identification of the emotion experienced with the parent, the child in adult life may consider escaping from the emotion as a solution rather than seeking to avoid the person, experience, or object that is actually the cause of the problem. That is fusion; when a child feels humiliated, they may continue to go through their experiences without recognizing that it is not the emotion itself that needs to be resolved or eliminated, but the cause that should be addressed. It stems from the lack of functional contact with negative and unmanageable experiences creating emotion regulation problems. Recognizing and differentiating emotions, as well as the problem and the context can be a solution. In this way, one can search for functional solutions to the conditions causing the problem (Aktar et al., 2017; Amos et al., 2011; Emerson et al., 2019; Shea & Coyne, 2011). In other words, attending to negatively labeled emotions, trying to define, understand and distinguish them, valuing the experience, preventing inappropriate impulsive behaviors, and acting in accordance with both

goals and context can be considered as effective emotion management (Salovey et al., 1995).

On the other hand, extrinsic interpersonal emotion regulation in a healthy way that parents display to their children may enhance the children's adaptive intrapersonal emotion regulation (Dixon-Gordon et al., 2015). Later, the child's emotion regulation competency gradually increases via emotion socialization (Friedlmeier et al., 2011); explicitly, the development of emotion regulation or dysregulation is relational by nature. It commences with the caregiver relationship and proceeds with other relationships within the family environment in accordance with the impact of the emotional climate (Thompson, 2019). Therefore, since humans are exposed to different environmental stimuli from birth, individual differences in the onset, duration of escalation, intensity, persistence, variability, modulation, and recovery of emotional response are to be expected (Thompson, 1994). As such, emotional development emerges from a complex interaction between cultural environment, peer relations, family characteristics, child characteristics, and the factors of the maturation process (Halberstadt, 1998). For instance, developmental processes regarding emotion regulation are influenced by many contextual factors and which are susceptible to the influence of socioeconomic conditions. McLoyd (1998) discovered that the emotional development of children growing up in socioeconomically disadvantaged conditions and their behaviors of disclosing or concealing their emotions may differ compared to other groups. In another study, Garner and Spears (2000) observed that the primary reason for expression of anger in the peer environment by preschoolers from low-income backgrounds was conflict over material possessions, and the primary reason for sadness was being physically assaulted by a peer. In the observational environment where anger expression was found to be more pronounced, more non-constructive reactions were oriented towards anger rather than sadness and seeking help or support from an adult surfaced mostly in the experience of sadness (Garner & Spears, 2000). As such, emotion regulation or dysregulation is a developmental and holistic concept that should be addressed through a multilevel approach (Thompson, 2019).

After explaining and defining emotional regulation and dysregulation, it is worth examining how these two experiential concepts can be distinguished. Emotion dysregulation can be differentiated from competent regulation when emotions are

enduring, and regulation efforts are ineffective and incompatible with context, they inhibit appropriate behaviors, and change either too slowly or too quickly (Cole et al., 2017). Unhealthy attitudes such as denial, suppression, and excessive control efforts do not mean healthy emotion regulation; on the contrary, the acceptance of the emotion and the requirements of the context should be taken as a basis. In this sense, Gratz and Roemer (2004), while measuring skilled emotion regulation, did not mean controlling, avoiding or eliminating negatively labeled emotional experiences and reducing emotional arousal. Rather, what they meant here is to monitor emotions in order to understand, be aware of, and assess them with a view to changing them in an adaptive way. As revealed by the third wave behavioral approach, avoidance of internal experiences such as unwanted thoughts and feelings is seen as a common factor in many psychological disorders (Hayes et al., 1999). Therefore, instead of focusing on the control and denial of emotion, the components of adaptive emotion regulation are seen as accepting and valuing the emotion, setting contextually appropriate goals when evaluating the emotion, being flexible in emotion regulation strategies, and preventing inappropriate and impulsive behaviors by adjusting the intensity and duration of the emotion according to the context (Gratz & Roemer, 2004).

2.3.3. Darwin's Studies and Evolutionary Perspective on Emotions

Likening the laws of nature to the gears of a slow-moving clock, Charles Darwin argued that natural selection, as a matter of course, generates misery, pain, and suffering as well as progress (Darwin, 1872/2009), since every organic being will have to suffer a significant level of destruction as it struggles to augment its numbers in nature (Darwin & Beer, 2008). Emotions, which have a functional role in being flexible and adapting to progressive or sudden changing conditions, have biologically adaptive and psychologically constructive qualities (Thompson, 1994). In other words, from an evolutionary perspective, emotions undoubtedly have useful functions for both survival and reproduction. For example, fear, a basic emotion, can drive a person to fight or flee from a potential threat. A more relational emotion such as jealousy can keep one alert about the fidelity of one's partner within a romantic relationship. Emotional expression can fulfill the same evolutionary motives; for example, responding to a hostile approach with anger can block possible attack and thereby

prevent harm. On the other hand, demonstrating that you are interested in someone and find them attractive can facilitate the development of a relationship with that person (Koerner & Floyd, 2010).

While Charles Darwin, who is identified with the theory of evolution, examined expressions of emotions in humans and animals, he focused especially on how emotions in humans manifest through detailed facial expressions, gestures, and body movements. For Darwin, although human beings have higher faculties than other animal species, the difference between them is a difference of degree, not of kind. For example, memory, imagination, reason, inarticulate language, learning, curiosity, jealousy, love, and esthetics, which are considered to be unique to humans, are also present in animals in some form (Darwin, 1872/2009). However, it does not yet seem easy to discover/explore emotions in living beings whose skills are more finite compared to humans. For example, although indirect inferences can be made, it is difficult to give a precise answer to the question of whether a cricket has emotions or how it experiences them (Buss, 2015). Compared to other creatures acting more on their natural impulses, one advantage that human beings have over other organisms is their emotions. In this sense, it may not be erroneous to consider emotions as a complex form of motives. In other words, whereas living creatures with lesser skills than a human can act with experience/learning and motives, a person can guide their own behaviors through their emotions, which are also contributed to through mental functions and lifelong conditioning. In this respect, emotions both complicate the life of the human individual compared to other living beings and become the source of more superior and functional behavioral potential.

When Darwin studied emotions, he focused more on involuntary, habitual, and limited conscious expression in order to trace heredity. Contending that culture filters and masks emotions, Darwin observed children and those with severe mental disorders, who may both present weaker emotional control (Darwin, 1872/2009). This is because emotions are experiences that are already in existence from birth; therefore, a baby can feel scared, uneasy, insecure, or secure even before their mental faculties have sufficiently matured. That is, humans already have the ability to experience emotions even when they are not conscious of them, but that these emotions are initially largely raw and biologically based (Niedenthal & Ric, 2017; Tooby & Cosmides, 1990).

Drawing on Duchenne's (1862, as cited in Darwin, 1872/2009) work, Darwin (1872/2009) recognized facial expression as a universal non-verbal language emerging at birth. In experiments supporting these arguments, Ekman (1972) found facial expressions in humans to be universal. That is, the ways in which emotions are expressed can be translated as functional markers of the non-verbal communication human beings inherited from their ancestors (Darwin, 1872/2009). The fact that children have this differentiation even in early childhood evidences this argument. For example, Crick et al. (1997) revealed that preschool-aged children (3-5 years old) were able to distinguish between relational and overt aggressive behaviors; compared to males, preschool females were found to display relational aggression more and overt aggression less. On the other hand, high peer acceptance and relational aggression were found to be significantly related only for males. One possible reason for this is that it enables them to achieve status within peer groups. In another study on the ongoing developmental period, Zeman and Garber (1996) found that elementary school children tend to control their emotions more in the presence of their peers. When around their parents or alone, the behaviors they exhibited to maintain some level of control over their emotions notably declined. It was also found that as the age of the children increased, they expressed sadness and anger less, and females exhibited sadness and pain more than males. The researchers explained these results as the tendency of subjects not to risk interpersonal disclosure.

Another example of the association of emotions with the evolutionary processes is intergenerational transmission. From someone they have never seen in their lineage, people can inherit facial and bodily expressions that reflect their emotions and habits (Baker & Crnic, 2005; Darwin, 1872/2009), and these behaviors may accompany them only for a part of their developmental period and then disappear. On the other hand, although people of different ethnic origins and cultures have distinct emotional behaviors and bodily expressions, there are also some shared bodily movements of human communities that have never been in contact with each other. This may imply that these common behaviors, which are not obligatory, are innate or somehow instinctive. On the other hand, geographical and climatic conditions, or natural conditions, are highly determinative in Darwin's evaluations, so it is quite possible for different contextual conditions to bring about variations within the same species. Darwin examined how emotions are expressed through the face and body, and noted,

for example, that a proud person presents their sense of superiority over others by holding their body and head higher and more upright. In a sense, emotions are ways of expressing oneself through non-verbal communication. They are tools showing that sometimes a person is warm, friendly, and loving, and that sometimes, rather than being challenging, they are submissive and acquiescent, whilst at other times they are hostile or dominating (Darwin, 1872/2009).

Alongside the evolutionary accompaniment, intergenerational transmission, and universality of emotions, the social brain of humans promoted cooperation over individuality for the differentiation of their species (Adolphs, 2009). This means that compared to individualism, natural selection makes cooperation and community more rewarding (Darwin, 1872/2009). Presumably due to this vital function of interpersonal relationships (Jackson-Dwyer, 2014), the overwhelming majority of emotional stressors that humans face are essentially and intrinsically interpersonal (Dixon-Gordon et al., 2015). Schachter's (1959) famous experiment demonstrated that people with a similar fate or painful shock anticipation come together socially in an effort to reduce anxiety in a direct way, which is a kind of emotion regulation. In other words, emotions that are intense and difficult to cope with can become less disturbing or feel more manageable in the company of others who are also experiencing the same or similar emotions. In other words, in the presence of uncertainty, potential threat, or novelty, the individual establishes social affiliation with others in order to identify and label the emotion that they are experiencing (Schachter, 1959; Schachter & Singer, 1962). In a supportive manner, Hogg et al. (2008) evaluated different theoretical approaches, then stated that people get together socially to identify themselves with others and belong to social groups because of their fears and needs in social inclusion and reducing uncertainty. However, in social groups formed by this coming together, in-group dynamics may exacerbate pressures for conformity and similarity. Festinger (1954), who first introduced social comparison with theoretical clarity, argued that when uniformity pressure increases in social groups, differences in opinion amongst group members can elicit compelling emotions such as discomfort, derogation, and hostility. Therefore, emotions are not only about trying to come together, but also about being able to stick together.

2.3.4. Emotion Dysregulation Research on Study Variables

Difficulties in emotion regulation are associated with many psychological constructs such as social comparison (Gratz et al., 2020; Ozimek et al., 2020), self-esteem (Oosterwegel et al., 2001; Wood et al., 2003), social interaction (Lopes et al., 2005), interpersonal regulation (Zaki & Williams, 2013), interpersonal problems (Coats & Blanchard-Fields, 2008), social anxiety disorder (Goldin & Gross, 2010), life satisfaction (Kang et al., 2003), mental disorders (Berenbaum et al., 2003), impulsiveness (Euler et al., 2021), alcohol-related disorders (Sher & Grekin, 2007), substance-related disorders (Fox et al., 2007), eating disorders (Bydlowski et al., 2005), generalized anxiety disorder (Mennin et al., 2007), major depressive disorder (Nolen-Hoeksema et al., 2008), borderline personality disorder (Linehan, 1993), bipolar disorder (Johnson, 2005), and other different types of psychopathology (Aldao et al., 2010). In a similar vein, Dimaggio et al. (2017) interviewed 478 treatment-seeking outpatients then found that emotion dysregulation was associated strongly with interpersonal problems and almost all personality disorders like depressive, passive-aggressive, dependent, avoidant, borderline, narcissistic, histrionic, and paranoid.

As can be seen, the association between emotion regulation difficulties with psychopathological concepts is quite common since challenging emotions and the avoidance of contact with emotions are either the cause or the consequence or the accompanying component of most psychological disorders. As the third wave behaviorists particularly emphasized, experiential avoidance as a way of coping with unwanted internal experiences such as feelings and thoughts is dysfunctional and has significant associations with numerous psychological disorders (Hayes et al., 1999). Like the avoidant attitude towards emotions, the nonacceptance of emotions by experiencing negative emotions in the face of any emotional reaction is a kind of maladaptive attitude and makes emotion regulation much more difficult (Gratz & Roemer, 2004). In another supporting instance, from the perspective of biosocial theory, emotional vulnerability, emotional instability, and problems with anger are closely associated with borderline personality disorder (BPD) and emotion dysregulation is the primary descriptor of BPD (Linehan, 1993). Avoidance, confidence seeking, and venting, which are all associated with BPD, are also

considered to be maladaptive emotion regulation strategies (Gratz et al., 2020). Another example can be given in relation to generalized anxiety disorder. Difficulties in understanding emotional experiences and having few skills in the modulation of emotions seem to be associated with generalized anxiety disorder (GAD), since those with GAD may find their emotions repulsive and may try to control, avoid, or dull their emotions through worry or dysfunctional interpersonal behaviors (Mennin et al., 2002). To summarize, considering the variables and contents of the related studies, it can be said that emotion dysregulation is a concept that is often intertwined with psychopathology, and emerges as a precursor, consequence, or some other related factor of psychopathology (Cole et al., 2017).

Apart from the associations of emotion regulation difficulties with severe psychopathologies, mood uncertainty, the state of being unsure about the meaning, causes, and management of a particular emotion, correlates significantly with anxiety, depression and low self-esteem (Marsh & Webb, 1996). Especially, the relationship of self-esteem with emotion-based constructs in the related literature reveals highly consistent findings. Self-esteem and difficulties in emotion regulation generally act dynamically, significantly affect each other, and jointly associate with various behavioral outcomes. For instance, Wells et al. (2020) found that low self-esteem positively relates to impaired emotion recognition and behavioral problems. Weindl et al. (2020) showed that emotion regulation's effect on both trait anger and anger rumination is mediated by self-esteem. In another study, Zuffianò et al. (2022) investigated the dynamic relationships between self-esteem, self-efficacy in managing negative emotions (SRN), and expressing positive emotions (SEP) by collecting daily data from 101 Italian ($M_{age} = 22.35$, $SD = 2.43$) and 237 Spanish ($M_{age} = 21.76$, $SD = 2.58$) university students for a period of 10 days. They found that the relationships between the variables were greater at the trait level than at the state level. Self-esteem's relationship with SEP is stronger than its relationship with SRN. In addition, the fact that SRN accompanies momentary intraday changes in self-esteem has been interpreted as a parallel course of emotion and self-worth. Another important finding from the same study was that elevation in SRN was followed by a next-day rise in self-esteem. In other words, higher efficacy in managing negative emotions can have an uplifting and pervasive effect on self-esteem, even at daily intervals. However, the relationship between emotion regulation and variability of self-esteem can be a

vicious cycle rather than causation. Oosterwegel et al. (2001) revealed that when a person experiences fluctuations in their self-esteem, that is, they experience common ups and downs in life, they become highly susceptible to negative moods and emotions, especially when judging themself negatively.

Here, the judgment of self could be associated with social comparison and the diminishing effect of self-esteem. This means that social comparison, which inherently embodies sociality, has the power to influence one's emotions and related regulation strategies. The study conducted by McIntyre and Eisenstadt (2011) revealed that upward and downward comparison tendencies, depending on the degree of self-discrepancy, have associations with distinct emotional reactions such as agitation, sadness, satisfaction, and cheerfulness. Job burnout, which includes emotional exhaustion, is only significant when there is a strong co-occurrence of social comparison orientation and social media addiction (Han et al., 2020). On the other hand, Möller and Husemann's (2006) study indicated a bidirectional relationship between social comparison types and emotion regulation, whereby different mood states influenced the frequency and direction of internal comparisons, including both upward and downward, while the direction of internal comparisons had both positive and negative affect. This also means that social comparison types can be used as a means to regulate emotions or related states. For instance, viewing the self as more favorable than others is sometimes used as an affect regulation strategy to restore the baseline state (Roese & Olson, 2007). In Bauer et al.'s (2008) study, downward social comparisons were associated with varying trends in regret intensity across different age groups. Supportively, Barber et al. (2010) found that downward social comparison can sometimes be used as an avoidance strategy in affect regulation, but individuals with flourishing emotional health were less likely to use it. In a similar vein, comparing oneself with another person considered to be superior may increase the likelihood of their using avoidant emotional regulation strategies (Gratz et al., 2020).

Furthermore, emotion regulation strategies indicate clear associations with adaptive and maladaptive interpersonal regulatory behaviors, despite being frequently conceptualized as intrapersonal processes (Schwartz-Mette et al., 2021). For example, seeking excessive reassurance in relationships while regulating one's emotions may point to anxiety symptoms that are difficult to control (Dixon-Gordon et al., 2015).

Moreover, as many studies have illustrated, while emotions are influenced by social relations, which are important contextual factors, there are also emotions that typically involve sociality or relationality. Anger, for example, is by its very nature, an intense emotional experience with an interpersonal counterpart. Hostility, which is manifested in one's attitudes and behaviors, includes anger, but may also include motivations for aggressive behavior geared towards harming objects or others. However, it would be a fallacy to consider these feelings as invariably unhealthy and dysfunctional. Behaving in an angry or hostile manner can also bring about a number of individual and relational rewards. A person may engage in angry or hostile behaviors as a means to reducing anxiety or a negative sense of self, feeling good, repairing self-esteem, and improving their public self-image (Kernis et al., 1989). Garofalo et al. (2017) sustained the consistent impact of emotion dysregulation on interpersonal problems in both samples of a community ($N = 274$) and incarcerated offenders ($N = 268$). The researchers also found that defensiveness, which is associated with vulnerability to social rejection risk and negative self-evaluation, is a significant mediator in the relationship of emotion dysregulation with interpersonal ambivalence and aggression. In other words, if individuals with emotion regulation difficulties have negative self-evaluation and cannot adequately protect themselves against the risk of social rejection, they may experience interpersonal ambivalence and aggression. In a similar way, Duarte et al. (2017) found that unfavorable social comparison associated with negative affect has a disruptive effect on self-regulating behaviors. However, the interaction of these constructs may also show self-regulation efforts. In a recent study example, Ozimek et al. (2020) found that emotion regulation difficulties and social comparison orientation were correlated with intensity of Facebook use for self-regulation, and that emotion regulation was noted as one of the primary components of self-regulation. Linehan (1993) claimed that healthy interpersonal relationships are significantly related to a stable sense of self and adaptive spontaneous emotional expression, because controlling impulsive behavior and tolerating socially painful stimuli to a certain extent is somewhat of a necessity within successful relationships. In a complementary way, Salazar Kämpf et al. (2023) found in their meta-analytic study that adaptive emotion regulation is positively associated with cognitive and affective empathy and compassion but negatively correlated with empathic distress,

highlighting how these various elements of social affect and cognition contribute to healthier interpersonal relationships.

2.4. Interpersonal Problems

The social world of an infant human starts with their very first contact with their mother or their first meaningful encounter with a being other than themself and is key to their survival. In nature, the young of reptiles, fish, and invertebrates often require only very basic care immediately after birth or are lucky enough to survive on their own. However, with regards to parental care, the vast majority of mammalian young require looking after by one or both of their parents until they reach a certain maturity (Kölliker et al., 2013). The human being, whilst being an advanced social mammal, cannot survive without the prolonged physical and mental support of a mother figure or caregiver for a considerable period. The staged relationships of infant-mother, child-parent, and adolescent-parent, which evolves towards a process of gradual autonomy and emancipation, ultimately leads to the individual reaching adulthood and who is then able to survive on their own, although they mostly still require social relationships throughout all stages of life (Macfie et al., 2015). Although the individual, once having reached adulthood and subsequently those of an older age, will generally no longer owe their physiological survival to another as they did during the early stages of life, their ability to maintain their own mental and physical health through attachment, as well as their social and emotional well-being in order to survive, is still somewhat dependent upon others (Merz & Consedine, 2009). In short, humans, like most mammals, can only exist in a healthy way by communing with other humans, and this innate need is critical to their survival (Zaidel, 2020). Otherwise, most people face serious health problems in life if they are deprived of social relationships (Umberson & Montez, 2010). For example, solitary confinement sentences imposed by law in some countries as punishment and correction for various serious criminal offences goes to prove how important the human need for social relations is, and how coercive and punishing the lack of human socialization can be if forcibly withheld (Haney, 2018).

The positive or negative behaviors of the social mammalian human being, which has an inherent drive to establish and maintain relationships with its conspecifics (Koerner

& Floyd, 2010), is often the agenda of psychotherapy due to its high association with psychopathology (Girard et al., 2017). Cooperation, collaboration, working together, and being in agreement with other people are generally considered as being positive behaviors. It is a healthy and highly desirable situation for people to establish close, warm, caring, loving, and compassionate bonds with others through the sharing of their thoughts and feelings (Horowitz et al., 1978). However, due to the lack of fulfillment of this natural need, a significant amount of the problems experienced by many psychotherapy clients are actually related to problems of an interpersonal nature (Horowitz, 1979). In support of this inference (Alden et al., 1990), interpersonal problems are considered to be one of the most common subjects broached during psychotherapy (Horowitz et al., 1988) and one of the most frequently expressed problem areas (Fournier et al., 2011).

2.4.1. Interpersonal Theory

One of the most influential researchers who placed interpersonal relationships at the center of his theoretical foundation was psychiatrist Harry Stack Sullivan (1953). Many schools of psychology have given considerable weight to interpersonal relationships in their conceptualizations. Although interpersonal problems are one of the main areas of study in psychodynamic approaches (Horowitz et al., 1988), Sullivan stated that everything in the human mind is formed by way of interpersonal relations instead of structures and conceptualizations such as instincts, drives, unconscious phantasies, and gratification of libidinal needs that Freud claimed to exist in human psychology (Evans, 1996). In this sense, it may be said that interpersonal theories emerged as a repercussion to psychoanalysis and learning aspects of behavioral theories (Horowitz et al., 2006). However, despite some fundamental differences, interpersonal models are both conceptually and empirically interwoven and compatible with many different clinical theories (Roche et al., 2014) and diverse fields of science (Depue, 2006). In other words, the interpersonal approach, which has a very unique structure by including personality and social psychology components, is considered to be integrative due to its overlapping approaches and concepts, as well as its relationship with almost all known psychological theories (Pincus & Ansell, 2013).

Furthermore, Sullivan (1953) significantly influenced the field of social psychology with his thoughts. In conceptualizing the interpersonal theory of psychiatry, he drew upon the cultural studies and concepts of anthropologists as well as many other fields. Culture, which is formed by people and generations coming together, is an important field of study and strongly influences human behavior. Language is, on the other hand, an important conveyor of culture and the most important tool of human experience. Accordingly, experience takes place in three modes in which language plays a leading role: prototaxic, parataxic, and syntaxic. Prototaxic mode includes experiences that are developmentally prior to the use of symbols. Parataxic mode covers the experiences of the period when symbols were used in a private and autistic way. Syntaxic mode, on the other hand, includes the experiences of the individual during the period when they communicate with others through language. These experiential periods are decisive in determining whether an individual's relationship with themself and others is considered functional and healthy. In his approach, the concept of communication is critical and inadequate communication can be the cause of mental disorders. Sullivan, who worked for many years with people diagnosed with schizophrenia, associated psychotic experiences with the experiences in early infancy when language is not yet developed (Sullivan, 1953). That is, interpersonal problems and the means of forming relationships seem to mediate vulnerability to psychopathology. Likewise, interpersonal problems can be mediated by negative self and schemas about others created during early childhood experiences (Gilbert et al., 1996).

Interpersonal theory has its contemporary roots in the work of Sullivan, who argued that interpersonal relationships are crucial for healthy personality development and functioning, and that psychological constructs that appear to be individual are in fact subjective interpretations of the interpersonal (Fournier et al., 2011). According to interpersonal theory, interpersonal experiences mold the self both through the reciprocity of visible behaviors and internally through mental representations (Lukowitsky & Pincus, 2011). From Sullivan's theoretical perspective, throughout developmental periods, people internally change and transform both themselves and others, and these internal structures form internal representations or correspondences of the interpersonal world. The transition from infancy to childhood, especially with language development, is marked by a shift from relationships with parents to relationships with friends and other adults, and thus socialization intensifies. During

this learning period, the focus of social learning and socialization expands (Evans, 1996), and the interpersonal field that comes from this expanding social context consists of the interaction of the various dynamics of multiple organisms. Sullivan defined dynamism as the persistent patterns of energy transformation that repetitively shape interpersonal relations. These dynamisms begin to develop and form patterns through early infanthood and childhood interpersonal experiences and have the power to significantly determine interpersonal experiences in later periods. Thus, the psychiatrist's field of study is the field of interaction that people create. In this sense, parental forces are quite decisive in the constitution of the child (Sullivan, 1953).

Parents' reactions to the child's behaviors towards their natural needs influence their social maturation and the development of a positive sense of self. When a child's healthy and legitimate expectations from their parents are not met, the child may develop anxiety-ridden "bad-me" and "not-me" self-personifications. Since the sense of self cannot be considered in isolation from others, Sullivan's concept of personification consists of relational integrated representations based on actual interpersonal experiences (Evans, 1996). Sullivan (1953) even defined personality as enduring patterns that recur within interpersonal relationships. From this perspective, it may be suggested that interpersonal behavior patterns form the best indicators in defining personality (Alden et al., 1990). In the family, where interpersonal experiences are first established, the child curtails or inhibits their personal needs in order to adapt to the demands of the adult world. According to Sullivan, in the process of socialization, children may even abandon their urgent needs in order to obtain the social approval of their parents and other adults, and to avoid the "bad-me" personifications. A child's need for interpersonal attachment and their need to avoid anxiety may supersede other needs, making it more important for them to conform to the demands of the social world (Evans, 1996).

The concepts of security and self-esteem, which Sullivan (1953) described as the basic motivation of interpersonal relationships, were conceptualized later by Leary (1957) with two main dimensions called affiliation and dominance. Supportively five decades later, Fournier et al. (2011) summarized all related studies by stating that all interpersonal traits or behaviors were different composite versions of two basic interpersonal variables, namely dominance and affiliation. Leary (1957)

conceptualized these two basic dimensions of relationship with two opposite ends: power versus weakness (or being dominant versus being submissive) and love versus hate. However, Kiesler (1983), in his complementarity study of human transactions, defined the dimension of love versus hate as warm and cold with his new taxonomy. These two basic dimensions, also referred to as agency and communion, are highly suggestive and inclusive in defining interpersonal experiences. Agency implies concepts such as superiority, control, assertiveness, and dominance as well as their opposites. Communion, on the other hand, connotes connectedness, togetherness, solidarity, and friendship, and the opposite of these concepts. Therefore, interpersonal relationship styles emerge with the combination of agency and communion in different degrees (Roche et al., 2014).

2.4.2. Interpersonal Circumplex Model

Harry Stack Sullivan (1953) was the first to conceptualize the interpersonal conceptualization of personality in the modern sense, but it was Timothy Leary (1957) and subsequent researchers who systematized and created the interpersonal circumplex. Leary (1957) introduced the first versions of the interpersonal circumplex, which has since been studied methodologically by many researchers (e.g., Kiesler, 1983; Alden et al., 1990; Horowitz et al., 2006) and has provided a rich theoretical foundation for understanding personality and individual differences (Fournier et al., 2011). Equivalent to Sullivan's concepts of security and self-esteem, Leary (1957) introduced a circular structure in interpersonal behaviors by making affiliation and dominance the basic coordinates. This model, with the contributions of other researchers, eventually revealed the circumplex structure in interpersonal relationships.

Alden et al. (1990), who created IIP-C-64 (the Inventory of Interpersonal Problems Circumplex Scale, 64-items), proposed that interpersonal problems in the circumplex model consist of two main dimensions and their derivations. One of the main dimensions is dominance (control) and the other is nurturance (affiliation). The dominance dimension covers the issue of exerting coercive pressure on people, dominating and being overly dominant, while the submissiveness dimension, which is

at the other extreme, covers the issue of non-assertiveness. Opposite the main dimension of nurturance is coldness. In the nurturance dimension, when a person experiences problems in their relationships, they make excessive emotional, cognitive, and behavioral efforts towards others and exert significant effort towards their own satisfaction and contentment. In the opposing coldness dimension, the individual is cold and distant, and experiences problems in being close to others, having special feelings towards them, caring for them, and experiencing and displaying good, positive, and sincere feelings about them (Akyunus İnce, 2012; Alden et al., 1990).

Although the circumplex model gained clarity with the studies conducted in the following years, researchers have put forward certain differences in conceptualization. Alden et al. (1990) stated that there is a consensus among interpersonal theorists on the main intersections that constitute the circumplex model, namely dominance-submission and nurturance-hostility and their derivations. However, Horowitz et al. (2006) stated that there are two main orthogonal dimensions in circumplex models constructed to define interpersonal relationships and that one of them is communion, which implies the connection between people, and the other is agency, which describes the influence of one person on the other. They also stated that in contrast to popular belief, the opposite of communion is not hostility but indifference. Furthermore, contrary to the placement of octants in the circumplex model, Gilbert and Allan (1994) empirically revealed that submissive behavior is not the exact opposite of assertive behavior, and that submissiveness is more related to introversion and neuroticism. They stated that although assertiveness does not have a very clear definition, it can loosely be defined as the ability to assert oneself in different interpersonal settings without nervousness, anger, or aggression, and especially in situations of potential conflict in the field of opinions, rights, and needs. Supportively, Linehan and Egan (1979) stated that assertion is multidimensional and can manifest behaviorally through various social skills including self-expressiveness, assertiveness, and verbal skills.

The theoretical underpinning of IIP-C, which was used as a measurement tool in the current study, suggests that interpersonal relationships are basically shaped between the control/dominance and the affiliation/nurturance dimensions (Akyunus İnce, 2012). With different combinations of these two main dimensions, Alden et al. (1990) identified eight different interpersonal problem areas: domineering/controlling,

intrusive/needy, self-sacrificing, overly accommodating, nonassertive, socially inhibited, cold/distant, and vindictive/self-centered. Each of these domains are examined as follows:

In the *domineering/controlling* interpersonal problem domain, the person with a dominant problem disregards other people's opinions, tends to argue with them and is angry, and can also be seen as severely controlling and manipulative. They may be intolerant against loss of control and have significant difficulty in reassuring themselves about it. They are known for trying to change other people and to exhibiting dominant behavior within relationships (Akyunus İnce, 2012; Alden et al., 1990). In other words, those who prevail in the dominance and control dimension tend to put pressure on, change, influence, and manipulate those they are in a relationship with in order to meet their own expectations. They can be assertive and aggressive towards their partner, yet weak in intimacy. From a humanist perspective, they establish an object-person relationship, which means manipulating, changing, and treating the person as a "thing" rather than acknowledging them as human. Those who are low in dominance and control can open up their feelings to the person they are in a relationship with and express their love for them, act sincerely and candidly in their one-to-one relationships, do not try to change or manipulate them, and generally do not have a hidden agenda about the person they are in a relationship with (Horowitz, 1979).

People who experience overwhelming difficulties in the *intrusive/needy* interpersonal problem area are those who experience significant difficulty being on their own and in doing things alone. In relationships, they can exert a dominance that seems benevolent and they may want to be the center of attention. They may inappropriately over-disclose themselves in relationships and may expect a similar attitude from the other person and may even be coercive in this regard. They may try very hard to be with others and strive to know and be involved in everything in their lives. Interpersonal boundaries in relationships with these people are very weak and often blurred (Akyunus İnce, 2012; Alden et al., 1990).

For people who are dominant in the *self-sacrificing/overly nurturant* interpersonal problem area, the wants and needs of others are considered to be of much more importance than their own. They are known for making excessive efforts to please and

satisfy others. They are over-generous, over-caring, and over-indulgent, and do not consider their own personal resources and limits in what they do for others. They are very unlikely to set and maintain personal boundaries (Akyunus İnce, 2012; Alden et al., 1990).

Those who fall into the overly *accommodating/exploitable* interpersonal problem domain behave in an overly friendly, compliant, and submissive manner. These are people who are hesitant to show their anger and purposefully avoid assertive behavior. They are over-zealous in their efforts to please others, gain their approval, and to maintain their relationships. They cannot maintain personal boundaries and find it difficult to say no. They can be easily persuaded, deceived, or exploited by others. They deliberately avoid revealing their negative or potentially conflictual emotions in order to maintain their relationships (Akyunus İnce, 2012; Alden et al., 1990).

People who are considered to be foremost in the *nonassertive/submissive* interpersonal problem area usually have low self-esteem and low self-confidence. Taking the initiative, assuming an authoritative role, or voicing their distress when they are uncomfortable are all very intimidating experiences for them. They avoid socially challenging situations. Because of their fear of rejection and negative evaluation, they refrain from expressing their needs and wishes and have serious difficulties in being assertive (Akyunus İnce, 2012; Alden et al., 1990).

Those considered to be principally known as being dominant in the area of *socially inhibited/avoidant* interpersonal problem behave in an anxious, timid and shy manner in the presence of others. For them, socializing, participating in groups, social interaction, making demands and expressing their feelings are very challenging experiences (Akyunus İnce, 2012; Alden et al., 1990).

People who are dominant in the *cold/distant* interpersonal problem area have difficulty in forming close bonds with other people and maintaining long-term relationships. They are not considered to be compassionate, sympathetic, warm, forgiving, or generous towards those they are in a relationship with. It is very difficult for these people to feel intimate with others (Akyunus İnce, 2012; Alden et al., 1990).

People who are referred to as being dominant in the *vindictive/self-centered* interpersonal problem domain are usually angry, aggressive, irritable, restless, and

suspicious people with hostile dominance. They are distrustful of others, indifferent to their needs, and prone to taking revenge when they feel they have been harmed. They are insensitive, disrespectful, and unsupportive of the needs and welfare of others. It is very difficult for these individuals to prioritize needs of others (Akyunus İnce, 2012; Alden et al., 1990).

However, these eight interpersonal problem areas are not generally encountered with the same regularity, especially by professionals working in the field of psychological treatment. This is because people experiencing certain sub-areas of interpersonal problems, which are experienced with different intensity and diversity in clinical and community populations, may not voice this or seek help (Alden et al., 1990). This may lead to a biased view of interpersonal problems for clinicians and researchers. For example, people who are dominant, accusatory, intolerant of criticism, and narcissistic may be less likely to seek help regarding interpersonal problems. Since they do not identify with the problem, they may find it more appropriate for people other than themselves to seek help. In support of this, it can be observed that it is usually the victimized parties in relationships that opt for therapy. When they do receive help, however, they may not gain adequate benefit. For example, Horowitz et al. (1993) stated that people in the exploitable octant benefit more from brief dynamic psychotherapy in interpersonal problems, but those in the cold, vindictive, and dominating octants do not gain such benefits.

2.4.3. Evolutionary Base of Interpersonal Relationships

The most amazing and admirable adaptations observed in all living things in nature all originate from the common struggle for life and exposure to severe competition as the inevitable destiny in nature of all organic beings (Darwin & Beer, 2008). For humans and apes, this struggle for survival can be epitomized by the confusion and conflicts between the dominant and those who try to outwit them (Buss, 2015). However, this point of view can be considered to overemphasize the struggle of the individual; therefore, it is first necessary to add that the environment or context is quite decisive as natural selection, which proceeds extremely slowly, plus the existing characteristics and resources of the climate or region of residence are very powerful determinants that

transcend both the individual and the community in which they live (Darwin & Beer, 2008).

To grasp evolutionary perspective on which evolutionary psychology is rooted, it is necessary to know the theory of evolution, albeit at a basic level. The evolution of species through the exposure of genes to random mutation and natural selection underpins Darwin's theory of evolution. Selection of mutations with a high probability of reproduction and survival is called adaptation. Better adaptations pass on their genes to the next generation, and this relatively advantageous selection determines the organism's methods of reproduction and survival (Koerner & Floyd, 2010).

A similar gradual probable progress also exists on the psychological side of evolutionary processes, namely, in the evolved psychological mechanism. The reason is that evolved psychological mechanism, one of the basic concepts of evolutionary psychology, is the cognitive equivalent of biological adaptation. Evolved psychological mechanisms are a set of reliable learning instances (or ways of processing information) that have achieved their functionality in resolving reproductive and survival problems in specific contextual conditions. Indeed, it is the environment and conditions that determine the functionality of each learning instance. Psychological mechanisms independent of the changing or evolving environment and context may not be functional and may not yield healthy results for the organism (Koerner & Floyd, 2010). In this sense, interpersonal relationships have been forged over thousands of years, with human beings coming together with other human beings, whose survival from birth having hinged upon significant and prolonged parental care (Kölliker et al., 2013), and who also subsequently will still need other ongoing social relationships by ensuring acceptance and avoiding rejection (Leary & Cottrell, 2013). In other words, it has taken thousands of years for psychological mechanisms in interpersonal relationships to evolve and for the most functional to persist and be passed on to subsequent generations (Koerner & Floyd, 2010).

In social animals, natural selection usually operates on adaptations that benefit not only the individual but also the community. In the evolutionary perspective, struggle for existence not only refers to an organism's individual struggle or solitude, but also to the fact that it may need others of its own species and it can cooperate, and even establish mutual dependency with other species (Burkart et al., 2009; Darwin & Beer,

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2008). In evolution, one of the main features distinguishing human beings from their distant and close relatives is their usage of cooperative and communicative skills (Hare, 2017) owing to the increasing complexity of their brains (di Porzio, 2020). The expanding brain of the human species came to mean more neurons, increased sensory capability, and more skills diversity in the evolutionary process (Kaas, 2008). Thus, key advantages of a larger brain include inhibition and self-control (MacLean et al., 2014). Greater self-control results in the predominance of prosocial behaviors over destructive behaviors such as aggression. In other words, the distinctive social skills that existed in human beings even at very early stages have, through natural selection, evolutionarily fostered in-group prosociality and made it superior to aggression and violent behavior. This has enabled humans to realize that another individual may have different mental structures, beliefs, feelings, and thoughts than themselves, and to infer them from social contextual clues through observation, which is one of the characteristics of human beings that is significantly more advanced than other primates. Indeed, prosociality is one of the fundamental realities that brought modern humans into being (Hare, 2017).

As a specialized discipline within biology, ethology involves the direct observation of the natural behavior of the organism (Strayer, 1980), and ethologists have described synchronized behaviors that bring organisms together, having adaptive value and involving cooperation and harmony as positive and these are referred to as cohesive behaviors (Duranton & Gaunet, 2016). Ethologists, on the other hand, characterize behaviors that involve psychological distancing from other individuals, including defiance, contempt, disagreement, distrust, rejection, exclusion, hatred, criticism, and opposition as dispersal behaviors. These assertive but aggressive and somewhat hostile behaviors can be referred to as negative behaviors because they prevent organisms from coming together. However, a complex interplay of both cohesive and dispersal behaviors sometimes seems to be essential for the survival of the individual and the species in phylogenetic history (Bekoff, 1972; Horowitz et al., 1978). In support of this, Reader and MacDonald (2003) argued that behavior can vary specific to circumstances and be flexible with the help of the innovative capacity of the organism. Another supporting study reported that socially dominant adolescents ($M_{\text{age}} = 14.0$, $SD = 1.63$) use both prosocial and coercive strategies together. In order to secure their dominant status and popularity, such individuals maintain their position, sometimes

by doing favors and at other times by engaging in aggressive behaviors (Hawley et al., 2008). Otherwise, insistence on compulsively and rigidly engaging in dysfunctional, inappropriate behaviors, the results of which do not serve a conscious purpose, is a sign of maladjustment. On the contrary, adjustment, in this respect, can be defined as demonstrating behaviors that are compatible with one's own personality structure so as to respond to or resist environmental pressures and demands in a flexible manner and to avoid possible damage (Leary, 1957). Evolutionists scientifically speculated that the evolutionary ancestors of modern humans possessed or developed a number of traits for survival and reproduction. Attractiveness to increase reproductive chances, intelligence to solve problems, and aggression to resist danger and to survive (Koerner & Floyd, 2010) are among examples of these traits.

Although the evolutionary process of human adaptation relates closely to the ability to associate with others, relationships within social groups and intraspecific competition are not divorced from evolutionary processes. Due to occupying the same territory, needing the same food, and being exposed to the same dangers, the struggle often revolves around members of the same species (Darwin & Beer, 2008). Therefore, status striving for the implicit aim of survival and reproduction is a universally very powerful motive for human beings, and it operates fast in everyday life, and often without recognition. The identification of status differences between people and the construction of dominance hierarchies are processes that unfold very rapidly in the natural course of everyday life (Buss, 2015). In a supportive study conducted with 97 participants, Kalma (1991) concluded that people can pinpoint their future status in a group even without being spoken to in a newly joined group. Kalma's claim is that rank-ordering can occur at first glance and that it does not require a high level of cognitive information processing. Fisek and Ofshe (1970), on the other hand, found that in task-oriented groups of three people who had previously never met, the formation of a clear hierarchy took only 60 seconds to occur in half of the groups, whilst for other half of the subject groups, the establishment of hierarchy took a little longer, but still just 5 minutes. Thus, rapidly identified rank and dominance hierarchy through the expansive range of cues has naturally persisted as part of evolutionary development and process in humans as well as with many other animals (Koski et al., 2015).

In forming dominance hierarchies, Hobson (2020) summarized five types of information-gathering sources for animals, including humans, in using especially possible conflict situations: individual experience, recognition abilities, social context, transitive inference, and global inference. How the social information acquired from these sources is perceived, processed, and employed defines the aggression strategy of the animal. The absolute fighting ability revealing the dominance hierarchy in animals refers to the concept of *resource holding power* (Parker, 1974) or *resource holding potential* (RHP) (Price & Sloman, 1987). Prior to any potential confrontation with others, animals relatively evaluate and compare their strengths and weaknesses. Those who see themselves as superior to the opposing animal, fight skillfully and win the fight usually have a higher resource-holding potential. On the other hand, those who perceive themselves as inferior and lose usually have low resource-holding potential (Briffa & Lane, 2017; Parker, 1974; Price & Sloman, 1987). The evaluation of resource-holding potential is an important factor in determining how the animal will behave. While being high in RHP can lead to decisive and courageous behavior, being low in RHP can cause hesitation, reservation, or resignation. If the individual considers themself to be high in RHP, they may opt to attack the other in a preemptive strike; however, if they see themself as being low in RHP, they may opt to avoid the confrontation and take flight, or simply submit and determine their behavior according to the will of the animal perceived to be superior. What ultimately emerges here is a hierarchy of dominance. This state of dominance is the definition and characterization of the emerging relationship rather than the immutable or stable characteristics of the individual themselves (Buss, 2015).

The formation of a dominance hierarchy within social groups and access to survival and reproductive resources according to these ranks has led to a number of evolutionary adaptations. Labeling oneself positively or negatively is based on rank judgment, then the individual establishes and sustains social relations according to whereabouts they position themselves (Manning & Dawkins, 2012). Those at the top and those at the bottom of the hierarchy develop adaptive strategies interactively. Subordinate animals behave non-assertively towards dominant animals, while dominant animals can behave confident, secure, and challenging even towards challenging subordinates (Hermann, 2017). These strategies can be more primitive or sophisticated depending on the cognitive development level of the organism (Buss,

2015). Animals at the bottom of the dominance hierarchy display more tense and inhibited behaviors than those at the top (Sapolsky, 1990). One of the prominent forms of inhibition is submission. Submissive behavior can be defined as withdrawing with high tension and inhibition in situations involving challenge or conflict and giving up what is beneficial for oneself (Gilbert, 1992). Drawing on the work of Dawkins (1989, as cited in Buss, 2015, p. 349) and evolutionary biologist Alexander (1961), Buss (2015) argued that crickets remember their past successes and defeats, and that they become more aggressive and dominant when they win and more submissive and avoidant when they lose. Furthermore, defeated by a model cricket, the crickets then lost their subsequent battles with other crickets. It seems that crickets anticipate and hierarchize their fighting abilities in comparison to others and behave according to this hierarchy. It has also been observed that victorious male crickets seek to mate with female crickets more those who lost in battle. That is to say, any organism can unintentionally determine its rank order by making comparisons, mostly with information from past learning, experience and temperament. In a similar experimental study, Chou et al. (2021) revealed that weanling mice and preschool children who are quickly withdrawn, less persistent, and have low emotional intensity are likely to have a subordinate position in the social hierarchy; also, subordinates are more decisive than dominants in the determination of ranking.

The last finding above also demonstrates that interpersonal behaviors do not simply entail responding to a stimulus; rather, they include purposeful behavior for an anticipated reaction from the other party. According to the principle of complementarity, a person acts in accordance with their conscious intention to receive the reaction being sought from the other person. For example, listening to someone in an empathic way may prompt them to develop self-disclosure towards the listener, whereas exerting dominance over someone may lead them to behave in a more submissive manner. In other words, according to the principle of complementarity, the social interactions of individuals are mutually affective and determine their interpersonal behaviors (Horowitz & Vitkus, 1986). On one end of complementarity, there is a kind of invitation behavior to satisfy a certain motive and to acquire the desired response from the other side. That is, behaviors at both ends of social behavior are reciprocal, complementary, and non-random. Behavior and its complement are thereby harmonious, reciprocal, and complementary in the interpersonal space.

Although it seems unlikely to reach precise consistencies regarding behavior and its complement, dominant behavior, for example, may lead to submissive behavior and hostile behavior may bring about hostile or fearful behavior (Horowitz et al., 2006). In a supportive manner, Leary (1957) argued that interpersonal reflexes return to the initial source after interacting with the other person in a way that reinforces the initial social behavior. It means that social behaviors or forms of relationships complement, confirm, and reinforce each other.

Moreover, different ranks in dominance hierarchy differentiates the individuals in many biological measures (Sapolsky, 1990). Barinaga (1996) argued, based on the work of Yeh, Fricke, and Edwards (1996, as cited in Barinaga, 1996), and other complementary studies, that brain chemicals and hormones such as the neurotransmitters serotonin and testosterone are significant predictors of an individual's position in the status hierarchy. In that research study where crayfish were observed, it was seen that hierarchy and status were not fixed but dynamic. A previously subordinate individual could become dominant after winning certain battles. The function of secretions affecting the nervous system has also evolved with status. The specific neuron inhibited by serotonin in the loser position is fired when the dominant position is assumed. The researchers found differences in the nervous systems of crayfish that competed and won or lost. The release of serotonin in the crayfish that won the challenge and became dominant was found to activate a specific neuron. Serotonin release in the loser was observed to inhibit the same specific neuron. In other words, the function of the relevant neurotransmitters in the nervous system varies depending on the status of the crustaceans, and possibly other organisms as well (Barinaga, 1996).

The changes in the nervous system of crayfish, such as being in a dominant or subordinate rank and status, and whether they feel adequate and powerful or not, may also shed light on the human condition. Dissatisfaction with oneself and one's social and societal position is often devastating and can bring about physiological changes. The medical treatments prescribed for those seeking psychological help for such experiences are usually aimed at the nervous system in order to induce improvements through biochemical changes. For example, there are significant positive correlations between dominance and the neurotransmitter serotonin, which some psychiatric drugs

aim to increase in the brain. Serotonin levels may increase or decrease according to in-group and environmental conditions, for example, a dominant alpha will likely have high serotonin levels (Buss, 2015; Hermann, 2017). Supportively, dominance-related issues are commonly associated with a broad spectrum of psychopathologies like mania proneness, narcissistic traits, anxiety, and depression (Johnson et al., 2012). Whilst nonassertiveness is also associated with many pathologies, its most obvious link is with depression and social anxiety, and is significantly related with neuroticism and introversion among personality variables (Gilbert & Allan, 1994). In a supportive study conducted with a Turkish sample, it was reported that the depression group had more negative interpersonal style, higher levels of anger, and more negative self-perception compared to the comparison group (Hisli Şahin et al., 2011). In a similar way, unfavorable social comparison is an important factor in the etiology and maintenance of depression associated with chronic negative self-evaluation (Swallow & Kuiper, 1988). Therefore, many mental illnesses have significant social determinants (Compton & Shim, 2015). In this respect, depression, like many other mental illnesses, is actually the loss or perception of loss of position within an individual's social environment. In other words, the depression resulting from loss of status can be both a prolonged state of sadness and also a means of coping with the potentially harsh evaluations of the social environment (Gilbert, 2006). Depression can disappear with experiences that change the person's perception of themself and their position in the social world. Regaining what was lost or acquiring a new set of things that are valued by the social environment can signal a resolution of depression (Buss, 2015). As a result, many aspects of human mental health can be associated with evolutionary origins and relevant social relationship phenomena and then be evaluated coherently through biopsychosocial models (Nesse, 2015).

Consistent with biopsychosocial framework, as previously mentioned, *resource holding potential* (Price, 1988) is an evolutionary mechanism for establishing dominance hierarchies, especially among nonhuman animals. According to Paul Gilbert, the human equivalent of resource-holding potential is more like *social attention-holding potential* (SAHP), which is the quantity and quality of attention an individual receives from others in a social context. The individual achieves high SAHP by controlling social attention and achieving prestige, and usually this is accomplished in altruistic and helpful ways (Gilbert, 2017). People compete, albeit implicitly, to

attract the attention of others in the social group, to be together with them, and to be valued by them. The person managing to attract the high-quality attention of the group thereby raises their status, whilst those ignored by the group remain at a low status or decrease in status. Being able to grab the attention of the group is closely tied to having a characteristic or skill that is functional or useful for the group and individuals. In other words, having a feature that provides a benefit for an individual means that they can attract the necessary attention and utilize that feature as a resource. Thus, these differences in rank are not made up of brute force, fighting, or threatening behavior, but rather from the ability to attract social attention, which is far more sophisticated and refined (Buss, 2015; Gilbert & Basran, 2019).

Selection will encourage strategies to enhance the dominance of the individual as well as to prevent the dominant from accessing the desired resources. This means mental, emotional, and behavioral development and specialization in their coordinated and refined application. This specialization also implies development of the ability to read the other person's mind. Most of the time, these strategies will not take the form of direct confrontation or physical struggle. Often, especially in modern-day relationships, deception can take the form of hiding one's true agenda or purpose, deceit, flattery, telling hard-to-detect lies, acting too close and friendly, appearing subservient, and many other manipulative behaviors (Buss, 2015). In support of this, it has been observed the social relationships, alliances, and coalitions in animal and human societies can be more determinant in establishing and raising their rank within the group and being dominant in the hierarchy (Strauss & Holekamp, 2019). Therefore, more refined strategies, rather than brute force struggles, may be evolutionarily more adaptive. From this perspective, to raise their status in the hierarchy, people usually follow three basic strategies: manipulation, social networking, and being industrious in their knowledge. In attempting to achieve ascendancy through manipulation, there are a number of behaviors that may not be deemed moral in many social teachings, such as deception, the humiliating of others, using others for personal gain, and overestimating the value of oneself and one's possessions. In social networking, developing and using social skills to establish social ties and friendships, participating in social organizations and being visible can each be used as a means of raising one's status. The method of being industrious in one's knowledge involves moving up the hierarchy by working hard to learn and become more knowledgeable in comparison to

others sharing a similar rank position. People who use their knowledge to increase their rank or to lead, are often good at formulating and organizing strategy, and have a wise and respected status within their social groups. Compared to the first two hierarchical promotion tactics, this last one emphasizes individual effort and individuality. However, a person does not have to use only one of these tactics, and may opt to use each tactic interactively, at different times, and within different contexts (Buss, 2015; Kyl-Heku & Buss, 1996; Lund et al., 2007).

Moreover, prestige is also such a concept which shares some common features with dominance, but is not related to power or fear, instead, it is more linked to expertise and admiration. Barkow (1975) says that the modern-day human is starved for prestige more than anything else desired or is able to possess. From an anthropological perspective, competition, jealousy, seizing power, rituals of vanity and boasting, and even social stratification are all part of the natural human quest for status, respect, and prestige. In social groups, prestige can sometimes be more crucial than dominance, and group members may seek out prestigious people. Prestige may sometimes entail doing things for the benefit of the group at the cost of personal sacrifice and being quite generous and altruistic (Buss, 2015; Maner, 2017). If the individual cannot obtain sufficient positive attention through helpful and supportive behaviors, they may attempt to control the attention they seek in more primitive and hostile ways (Gilbert, 2017). In the civilized world, the traits and skills that are strived for are often those that social groups and society benefit from, appreciate, or value the most. Possessions, earnings, skills, and all efforts to build and advance careers are an attempt to occupy a valued place or status in society. Clothes, consumption habits, modes of social interaction and forms of self-assertion are indirect forms of rank/status representation (Akdemir, 2018). In other words, the whole effort is about surviving in a socially desirable way by being different, advantageous, and superior to others.

2.4.4. Attachment on Interpersonal Relationships

Psychodynamic, social learning, and also cognitive approaches, among many other approaches, agree that the quality of the relationship between parent, especially mother, and child is critical in determining adult psychopathology (Enns et al., 2002;

Gilbert et al., 1996; Stafford et al., 2016; Sümer et al., 2009). The theoretical approach with a special focus on the care relationship that begins with the birth of a child is attachment theory, more commonly credited with John Bowlby. Although Bowlby received his psychoanalytic training under the supervision of Melanie Klein, and attachment theory was originally developed within the object-relations tradition of psychoanalysis, the shift in Bowlby's case evaluation and theoretical perspective distanced him significantly from psychoanalytic theory (Coates, 2004). Afterward, attachment theory has maintained its development in harmony and interaction with many theories, disciplines, and fields of science such as evolution theory, ethology, biology, and cognitive psychology (Bowlby, 2005).

Working in close collaboration with ethologists and affected by the work of leading ethologists such as Konrad Lorenz, Bowlby significantly reconciled Darwin's evolutionary views with his own field of study. Certain basic tenets of evolutionary theory, such as the effect of evolutionary pressure on animals to adapt to environmental conditions, were used to shape his views. Bowlby evaluated the attachment system in an evolutionary biological context (Coates, 2004), and the roots of attachment theory were thus firmly rooted in evolutionary theory. As a result, attachment theory could be defined as an approach that encompasses the sum of the interactions of the organism's innate and evolved psychological mechanisms and the environment (Koerner & Floyd, 2010).

According to attachment theory, close emotional bonds between people cannot be considered independent of biological mechanisms such as the central nervous system. It both corresponds to the biological needs and survival of the individual in evolutionary terms and these biological structures are shaped through the individual's relevant experiences; that is, there are intertwined and mutually nourishing relationships of biological and experiential phenomena. Attachment behavior is organized by a control system that is assumed to be within the central nervous system. The aim of this organizing process is to maintain the optimum level of distance and accessibility between a person and their attachment figure through various means that range from the simplest of behaviors to sophisticated means of communication (Bowlby, 2005; Fitton, 2012). That is to say, at the most basic level, attachment behavior is a survival strategy protecting an infant from predators. For evolutionary

survival, an infant engages in a number of instinctive attachment behaviors such as smiling, crying, chasing, hugging, and sucking to keep their mother close, and the infant activates and maintains their maternal care through exhibiting such functional behaviors (Coates, 2004). However, these relationships are not unidirectional and are promoted by biochemicals (Kirsch & Buchholz, 2020); according to Sullivan, mutual feelings, needs and interactions grounded on the two important needs of human beings as hunger and lust in interpersonal relationships bring about complementarity and satisfaction. Therefore, human beings have an innate tendency to come together to meet their own biological needs as a species, as well as to feel safe and secure which helps them avoid unnecessary anxiety (Sullivan, 1953). If human infants feel safe, they may withdraw from their attachment figure for a certain amount of time and distance. The length and distance of this separation increases in line with healthy development. A key to this separation, which is essential for healthy functioning and mental health, is the establishment of a "secure base" as conceptualized by Ainsworth. However, when they experience feelings of being unsafe and uneasy, alarmed, or anxious, they tend to increase their proximity to their attachment figure (Ainsworth, 1989; Bowlby, 2005). Potential threats, such as loud noises and suddenly appearing strange creatures, instinctively activate attachment behavior. When activated, because of its protection and survival function, the attachment system can even surpass basic drives such as hunger and reproduction (Coates, 2004).

From early on, an infant begins to recognize their own mother by her smell, voice, and touch and they start to discriminate the mother-figure from others. They can distinguish their mother figure in their own mind from strangers in a comparative way and can cry in the presence of a stranger and reject them. With the development of cognitive capacity, from the seventh month onwards, an infant human is able to visualize its mother even when they are not present within the same physical environment. Being able to establish this maternal model enables the infant to establish an interactively functioning model of self and complements it. The personality functioning of a person is realized throughout their life via this interactional self and attachment figure (Bowlby, 2005). It means that an individual's sense of self or what they define as "me" is not an independent, detached, and solid entity from primarily significant other, then others.

Healthy infants are generally socially responsive and exploratory from birth unless frightened or exposed to stressful situations (Bowlby, 2005). In Bowlby's evolutionary-based approach, the extent to which the attachment object is continuous, accessible, and safe can shape the way in which human offspring perceive their self and others as trustworthy or harmful (Gilbert et al., 1996). Providing continuous, consistent, and responsive care to an infant enables them to develop secure attachment (Koerner & Floyd, 2010). Whether the infant can establish secure attachment in the first years of life and be brave in exploring the world depends to a large extent on the parent figure's responsive, accessible, sensitive, loving, and helpful attitudes and behaviors, especially in situations perceived by the child to be frightening. In later years, securely attached individuals are usually resourceful, resilient, friendly, cooperative, and popular in their social world (Bowlby, 2005). Secure individuals generally consider themselves to be either slightly above average or average with respect to their personal characteristics and do not judge themselves as inferior or superior. Compared to those with unhealthy attachment experiences, they show less submissive social behaviors because considering themselves to be like others, cooperating, and making friends are all natural forms of social relating for them. Since their expectations of seeing threatening behaviors from other people are low, their ability to establish and maintain relationships is also higher (Irons & Gilbert, 2005). Ainsworth (1989) mentioned that the affectional bond patterns between infant and parent, including both biologically rooted and universal aspects, tends to strongly influence a person's ties with their sexual partner, friends, and social groups in a way to fulfill their need for proximity at different stages of life.

Insecure attachment experiences, on the other hand, lead individuals to see the world as more competitive and threatening, to perceive themselves as inferior, and to develop healthy or unhealthy strategies and behaviors to cope and be comforted (Irons & Gilbert, 2005). Consistent neglect and persistent failure to meet their needs may cause them to develop avoidant/dismissive attachment. Exposure of an infant to inconsistent care or overinvolved care can cause them to develop anxious ambivalent attachment or preoccupied attachment (Koerner & Floyd, 2010). Bowlby (2005) stated that when an infant experiences uncertainty about whether their parent will be available and they can elicit a response from them when they need help, when their needs are sometimes met and sometimes not met, and when they feel threatened with abandonment for the

purpose of control, it is highly likely that their attachment style will be anxious resistant. This is highly likely to lead to separation anxiety, a dependent or clingy style in relationships, and a timid and fearful approach to exploring the world. People with such an upbringing may feel passive, helpless, sad, and fearful, and may become easily frustrated and impulsive in life. In their social relationships, even if they try to appear indifferent and charming, they may exhibit attention-seeking behaviors and artificial proximity which accompany their implicit hostility.

Benjamin (1974), who conducted a structural analysis of social behavior, stated that individuals internalize the interaction patterns they experience with significant others and treat others and themselves as they were once treated; when they react, they respond as they would do to significant others. As a result of repeated negative relational learning, the person may take measures to protect themself from the very beginning. Whilst these measures do not necessarily offer realistic protection and a healthier life, they may provide a certain level of individual comfort and continuity in interpersonal relationships through the illusion of empowerment and being protected. For instance, individuals with an anxious avoidant attachment style may behave in a harsh, hostile, antisocial, rejecting, humiliating, overconfident, ignoring, and needy manner from the outset due to the expectation/fear of being rebuffed even when they are approached in a helpful manner. They believe that they can live independently and in an emotionally self-sufficient way without the support, love and acceptance of others and they organize their lives accordingly. These people are expected to develop a false self or be narcissistic. In terms of their past lives, it may be seen that they were constantly scolded and rejected when they approached their mothers for needs such as protection and comfort (Bowlby, 2005). Similarly, a person with a dismissing attachment style is likely to behave in a hostile dominant manner in interpersonal relationships (Horowitz et al., 1993).

Moreover, the impact of the early relationships that parents establish with their children on the child also varies according to the parents. Gilbert et al. (1996) found that a father's put-down/shaming behavior is more related to somatic complaints. Care and overprotection of the father, the child not being his favorite, and put-downs were associated with depression. Although the situation was similar for the mother, the father's put-down more strongly predicted somatic complaints and social dysfunction.

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Direct put-down, shaming, and being a less preferred child have strong predictive power on the rank variables of shame and submissive behavior. Therefore, in the sample of Gilbert et al.'s (1996) study, the put-downs of females by their mothers drove them to be submissive and form low rank self-evaluations in their adult lives. The mother's care, put-down, and favorite child selection were shown to have a stronger effect on determining rank judgment than that of the father. Moreover, for the child, whereas not being the favorite child of a parent and put-downs by the mother were found to be strongly related to being overly cold, overly introverted, and sub-assertive in interpersonal relationships, fathers' put-downs seemed to be particularly related to being overly competitive and overly nurturant. These findings indicated that negative attitudes and behaviors of mothers and fathers have distinct interpersonal problem effects on children.

In summary, the attachment patterns seen during the first 2 to 3 years of a human child's life is a strong, persistent, and stable factor in the determination of their relationships. Notwithstanding the infant's innate characteristics, the parents' upbringing style retains its power to shape how the child will attach, and also to regulate and change their relationships. Supportively, there is a widespread belief that early attachment relationships with parents affect mental health. Healthy attachment experiences provide children with a secure and supportive upbringing environment, fostering satisfactory social relationships and a sense of belonging. On the other hand, in social relationships the shaming, rejecting, hurtful, or neglectful behaviors of the dominant person that are experienced in cases of insecure attachment will cause the child to feel insecure, uncomfortable, restless, and constantly on the edge. Thus, negative attachment experiences will make the child much more vulnerable to social comparison and relational risks. In order to cope with comparison and relational threats, individuals will use avoidant, submissive, and implicit/explicit aggressive strategies more extensively (Irons & Gilbert, 2005).

2.4.5. Influence of Community and Culture on Interpersonal Relationships

Culture and contemporary social structure, collectively created over hundreds of years, are powerful factors that can determine how individuals and groups relate to each other

(Smith & Bond, 2019; Weinberg, 2003). Similar to the principle of descending with modification via natural selection in Darwinian evolution, human culture encloses the transmission and change of learned thoughts, behaviors, and artifacts between individuals and generations. Besides that, cultural and genetic evolution interact with each other and together affect both transmission and selection. Therefore, understanding dual inheritance and gene-culture coevolution can provide a more profound background for understanding the present dynamics in human behavior due to the uniqueness of cumulative culture to humans (Creanza et al., 2017). From a supportive point of view, American psychiatrist Harry Stack Sullivan, the founder of interpersonal psychiatry and psychoanalysis, is among those arguing that contrary to classical psychoanalytic drive theory, culture and society are the primary antecedents of personality development and psychopathology (Evans, 1996). However, for an interpersonal behavior to be considered problematic according to evolutionary appraisal, that behavior must be non-adaptive, contrary to its function in evolved mechanism, and inappropriate for the context (Buss, 2015). Therefore, to achieve multifaceted adaptation, human behavior emerges through the interaction of existing environmental stimuli and genetically encoded psychological mechanisms that humans are born with (Geary & Bjorklund, 2000).

In Charles Darwin's evaluations, geographical or natural conditions are considered to be highly determinative for all living things (Darwin, 1872/2009). The scarcity or abundance of resources therefore determines the behavior of human individuals and also the social groups to which they belong. Social behaviors brought about by different contextual conditions can be observed in a wide range from hierarchical to egalitarian and from competitiveness to cohesiveness (Pierce & White, 1999). In this sense, going back quite far in the story of the hierarchy of social needs, a number of propositions can be found. For instance, Bookchin (2013) stated that in the search for necessary resources to survive in primitive times, skilled hunters formed the basis of the "great warrior" and "great man" understanding, and hierarchical structures emerged over time, in which the "great man" was at the top. This proposition about the emergence of the hierarchy has also been the subject of individual analysis of the human psychic structure. For instance, Sigmund Freud used the emergence of the "great man" in his clinical approach as corresponding to the primal father (Elban, 2018). This means that the psychological structuring of the individual and social

structures should not be evaluated as independent of each other (House & Mortimer, 1990).

The co-evolution of the individual, social groups, and society has brought about being mutually defined and determined (Sachs et al., 2004). One of the most common categorizations describing both individual and societal nature is collective versus individualistic duality. In this sense, social psychology studies have divided cultures into two categories, as individualistic and collectivist cultures. Such a division is expressed as the theory of individualism and collectivism. Accordingly, as a generalized classification, western cultures are individualistic whilst Asian and eastern cultures are collectivist. In the individualistic culture, individuals predominantly accept their own thoughts as the criterion behind their thoughts and behaviors. In a collectivist culture, on the other hand, the individual takes more prominently the culture in which they live as the criterion by which their thoughts and behaviors are formed. Later, additions have been applied to the individualist and collectivist theory of culture, with newer models having been established. For instance, self-construal has been revealed to include both individualist and collectivist tendencies. Accordingly, an individual with an autonomous-relational self-construal is able to consider both themself and their environment together in their decision making. Similarly, studies conducted on this theory have revealed that individualistic and collectivist cultures have egalitarian or hierarchical characteristics. In an egalitarian culture, ensuring equality in society is the primary goal, while the objective is to preserve status within the structure of a hierarchical culture (Kağıtçıbaşı, 2017; Oishi et al., 1998; Schwartz, 1994; Singelis et al., 1995; Triandis, 1995, 1996; Triandis & Gelfand, 2012). When Koerner (2006) evaluated the findings of relational models in different cultures, he revealed supportively that vertical collectivism is related to authority ranking, whilst horizontal collectivism is associated with communal sharing. Regarding individualism, he claimed that vertical individualism has a link to market pricing and that horizontal individualism correlates with equality matching. According to these related studies, it can be reasoned that the Turkish culture is closer to the hierarchical collectivist characteristic. Namely, Triandis (1995), who put forward cultural differences with certain categorical distinctions, maintained that both collectivism and individualism have horizontal and vertical versions in the social sense. It can be stated that Türkiye's westernization experience in terms of social structure brings

individualism to the fore and may even be said to encourage it from time to time. In addition, it is possible to claim that features of horizontal collectivism can be observed in Turkish society due to interdependency, cooperation, and support encouraged within Turkish social and societal relations. However, it is also possible to infer from the categories of Triandis (1995) that vertical collectivism is the predominant category that defines the Turkish social structure, despite all this diversity. This is because he claimed that power distance is visible and power relations are evident, there is duty orientation, hierarchy, and authority despite shared beliefs and values and a common belief that the country is exposed to external threats, which are the features that define vertical collectivism. With a supportive approach, Baldwin and Mussweiler (2018) presented that vertical collectivism revolves around submission and position within the social hierarchy, where individuals adhere to authority and sacrifice personal pleasure for the group's benefit. They emphasize differences between themselves and others of lower or higher status as a means to assess and reinforce the hierarchical structure. In this cultural mindset, hierarchical relationships, such as children submitting to parents, highlight the significance of maintaining social order and respecting authority figures. Eventually, it can be stated that the features mentioned here largely exist both historically and currently in the Turkish social structure. Therefore, in collective structures where there is a hierarchy, comparison can be considered as an ordinary activity of daily life for both the individual and the society. The act of making comparisons can also be encouraged for the dynamics and continuity of the social structure. Briefly, it would not be unfounded to claim that the unique structure of Turkish culture and its social characteristics feeds the orientation to make comparisons.

With a validating conceptualization, Koerner and Floyd (2010) stated that vertical collectivism is related to authority ranking. Some historical, cultural, and sociological facts and continuities reinforce this conceptualization in Turkish culture because, to a great extent, beliefs, value systems, customs, traditions, and behavior patterns are in a state of continuity, even though society is constantly changing (İnalcık, 2016). For instance, the generally accepted definitions for "soldier" or "military nation" in the Turkish context historically support a hierarchical social structure (Bozdemir, 1982). Unique historical processes and continuities confirm these descriptors as specific to Turkish society and culture. For instance, the existence of a hierarchical organization

in the pre-Islamic Turks (Dursun, 1992) and the attribution of sanctity to the hierarchical status of the "great men" or heroes in Dede Korkut, which reflects the transition to the Islamic period (Abdurrezzak, 2015), are considered important indicators. Similarly, the hierarchical seating arrangement in the ceremonial dinners of the Turkish culture also continued in the Ottoman period (Beşirli, 2011). Moreover, the essential element of the Ottoman period Turks' social structure was the hierarchical social strata (Aytekin, 2013). Later, Turkish society, which has a collectivist and traditional social structure, entered a modernization process after the 19th century and gained momentum with the revolutions that led to the establishment of the Republic of Türkiye in 1923. However, industrialization and social transformation, which are important pillars of modernization, have not progressed in Türkiye as much as in many other countries. Indeed, it is not possible for one culture to completely transform into another. This duality, which emerged centered on western and Turkish culture, has widely been studied on the concepts of culture and civilization (Güngör, 1980; Ortaylı, 1987). In conclusion, all this chronological flow confirms historical and cultural continuity in terms of hierarchy in societal structures and established relationships.

Social structures and practices related to the collective hierarchy stand out when viewed over a wider geographic region that shares similar values, traditions, and beliefs. For instance, in Middle Eastern and Islamic societies, the basic unit is usually the family rather than the individual. The first place where hierarchy emerges and is taught is within the family unit, and that this hierarchy is legitimized and naturalized in that the dominant protect the weak and have certain limitations and responsibilities. Dependency encouraged by emotions such as emotional interdependence and compassion that find a place in child-rearing and family relationship practices is a factor feeding hierarchy within bilateral relationships. However, these relations of domination and subordination are not class-based, on the contrary, they are often determined by tradition and form a culture of relational ownership in which the strong have responsibilities towards the weak or less strong (Gregg, 2005). Namely, social stratification can emerge with its unique structure due to a number of reasons peculiar to tradition, belief, and culture (Dumont, 1966/1974). In other words, even though social relations in these cultures are not class-based, the counterpart of power and hierarchy in daily social life naturally exists in its own way. This unique structure of culture will undoubtedly influence individuals' psychological development and their

ways of forming relationships. As a supporting example, Akyunus and Gençöz (2016) failed to see any clear distinction between the "nonassertive" and "overly accommodating" dimensions of interpersonal problems in their Turkish sample, which they interpreted to mean that interpersonally submissive behavior in Turkish culture may often be intended to appear friendly and agreeable.

Compared to the Middle East, countries bordering this region and Islamic geography, such as Türkiye, Iran, Pakistan, and the Sudan, each have their own cultural characteristics. However, they also share important similarities and commonalities such as the predominant religion of the country, as well as the long absence of clear boundaries (Gregg, 2005). For example, marriages for the formation of the family unit, as a social institution, are also influenced by the implicit hierarchy within these cultures. In other words, marriages are also points where social strata are revealed. Who can marry whom and the relationship between male and female partners within heterosexual relationships in these cultures are also places where differences of superiority are evident (Dumont, 1966/1974). A recent study conducted with emerging adults in Türkiye found that social status is an important variable besides physical attractiveness in mate selection (Keldal & Karadaş, 2021). Supportively, discourses and stories such as the impossibility of love between a female from a high socioeconomic background and a male from a low socioeconomic background, which are common in Turkish culture, and the notion that "birds of a feather flock together" present a clear image of the social power of hierarchy. Child-rearing practices also change depending on the sociocultural and economic status of families in Türkiye (Şengönül, 2013). For example, families below the middle of the social stratum may raise their children with more fear. This can be translated as cultural transmission and an effort to protect and prepare both the child and their descendants for their own roles in society. Supporting this interpretation with their findings, Lee and Seon (2019) found that the intergenerational transmission of maternal poverty is associated with young adult children's self-esteem. Likewise, Cheng et al. (2015) revealed that besides an increased risk of social anxiety and fear of negative evaluation, lower socioeconomic status results in lower self-esteem in emerging adults. When it comes to the modern period example of Türkiye, it is seen that the hierarchical society structure is still reflected in urban life. Accordingly, "Power Geometry," which expresses there being a hierarchy among people living in cities, refers to the

connections between different social groups and the spaces they utilize in daily city life (working life, entertainment, shopping, etc.). There exists a hierarchy between social groups in the use of space in cities, which forms an element of modernity in today's Türkiye. Although the economic context may be the prominent factor, those living in the complex as a social group and those living in the neighborhood use spaces according to this hierarchy in daily life (Sarı, 2011).

Consequently, Turkish society's historical, cultural, and sociological structure is an important parameter within the context of modern-day Türkiye and the Turkish people with the historical and cultural background to understand present interpersonal relationships.

2.4.6. Interpersonal Problems Research on Study Variables

Perception of rank or status, such as feeling inferior or superior, is a determinant and moderator in many types of social relationships, though it may go unnoticed. This approach is analogous to Adler's view that inferiority is important in psychopathology. For Alfred Adler, craving for power and importance is a very basic and natural desire for a child. In the initial years of his evolving theory, Adler stated that a child's physical inferiority in comparison to others would lead to feelings of social inferiority and that the child would strive for social superiority by establishing social bonding and interdependence to compensate for this. Therefore, feelings of inferiority are directly related to striving for superiority, since one includes striving to compensate for the other. From an evolutionary perspective, Adler argued that the basic motivation of human beings is to form bonds with others, to belong, to feel valued, and to unite for the common good (Ferguson, 2020). That is, feeling inferior and its predecessor comparison behavior in interpersonal relationships can be regarded as an effort to bond with others. In a recent study whose findings can be interpreted as supportive, Kavaklı and Ünal (2021) found that social comparison mediated the relationship between social media addiction and general belongingness in a sample of 311 Turkish university students ($M_{age} = 20.96$, $SD = 2.44$). It can be reasoned as the desire to associate with others being fundamental and natural. Still, the needs such as closeness, feeling secure, and being sure about the target person necessitate social comparison. Although this

experience may seem contradictory, in most relationships involving the desire for intimacy, there is a comparison of superiority, power, and competence in various relational dimensions. In this way, balancing the relationship and feeling secure is what is strived for. As an example, even in the most intimate of relationships, that of life partners, dominance issues are an essential component of the relationship and have the power to determine how the relationship will be sustained (Gillespie, 1971). However, in some situations, performing social comparisons can harm interpersonal relationships with its triggered fears and possible consequences, especially regarding self-esteem and social rejection (Goodman et al., 2021; Liu & Baumeister, 2016). In some respect, the discouraging role of social comparison in building relationships may be highly related to parents and the style in which they raise their children. For example, Yen et al. (2021) found that the higher social comparison orientation of parents is associated with less willingness of their children to contribute to the public good, and the parents' SCO has a stronger effect on game-related decisions of children who socialize more with members outside of their own immediate family. These results indicate that through intergenerational transmission, parents' frequent social comparisons will strongly restrict and negatively impact upon their children's social behaviors in activities that require social interaction and participation. In a study conducted with 89 first-year undergraduates by Benn et al. (2005), it was revealed that those who perceive their parents as rejecting are more homesick, have more feelings of inferiority, and experience more distress in entering new social environments, or have lower levels of interpersonal trust.

On the other hand, although many psychological constructs could accompany the impact of explicit or implicit social comparisons on interpersonal relationships, self-esteem is among the most important (Salerno et al., 2015). It may be the reason that the primary motivation for interpersonal interactions in which people mutually influence each other's behavior is the need for security and self-esteem (Sullivan, 1953). According to Sullivan, the purpose of the self-system that begins to be formed with childhood experiences is to provide security by avoiding anxiety and threats to self-esteem (Siegel, 1987). Likewise, Leary (1957) stated that the interpersonal processes of personality consciously or unconsciously facilitate contact and relationship with others. Using these processes, the individual socially evaluates and positions both themselves and others and constructs their own interpersonal world. The

primary function of this interpersonal mechanism for the individual is to prevent anxiety and to maintain self-esteem. Gebauer et al. (2015) revealed in a supportive manner that across all cultures, extraversion was unique in predicting higher self-esteem, while agreeableness was unique in predicting lower neuroticism. These findings favor the sociometer function of self-esteem as getting ahead in a social environment and for anxiety/neuroticism as getting along with others. In other words, individuals need to ensure they are outrunning others in order to achieve a desirable social status and to progress smoothly towards maintaining positive relationships. To summarize, individuals require both metrics in striving to achieve social success.

The sociometer theory of Mark R. Leary and his colleagues states that self-esteem is an indicator or subjective measure of other people's evaluations (Leary & Guadagno, 2011). According to the sociometer theory, self-esteem is actually the degree of social acceptance; the extent to which others accept an individual determines their self-esteem. Social inclusion, status in the eyes of others, and respect and esteem from others are concepts intertwined with self-esteem (Baumeister & Leary, 1995; Leary et al., 1998). High self-esteem implies social acceptance and inclusion by others. Since people survive, reproduce, and are protected by the social groups they form, the evaluation of the individual by other group members, social acceptance and belongingness are deemed critical (Leary, 2012). Baumgardner et al. (1989) found that people with low self-esteem attach significant importance to interpersonal behaviors and are very watchful of others' positive evaluations of them. People with low self-esteem are more apt to utilize their interpersonal behavioral skills for self-affect enhancement, thereby making them feel more likable, capable, and intelligent. They seize such opportunities to regulate their esteem, but all these efforts usually lead to just a fleeting rise in their esteem. Moreover, while people with high self-esteem make better use of cognitive buffers in negative social feedback, people with low self-esteem use derogation much more frequently.

Since self-esteem monitors the likelihood of social rejection, individuals may display certain attitudes and behaviors in order to protect their self-esteem in response to social comparison. However, efforts to protect self-esteem do not always result in functional and healthy interpersonal attitudes and behaviors. The person may act overly close, pleasing, submissive or cold, or dominant and hostile as a means to alleviating anxiety

experienced due to being unable to bond and the various emotional costs of social rejection (Johnson et al., 2012; Kashdan et al., 2008; Leary & Guadagno, 2011). That is, seeing oneself as inferior to others, in other words, negative social comparison, which seems to be related to interpersonal problems such as coldness, introversion, and low assertiveness (Gilbert et al., 1996). Lee and Kawachi (2017) found that socializing with higher-status people was associated with depressive symptoms, and the detrimental effects of status discrepancy were observed especially in adult males. They discussed that one possible reason behind their study's findings, in which increased perceived unfairness also raised depressive symptoms, may be decreased self-esteem. Likewise, Ahmed et al. (2021) found that self-esteem has a significant negative association with social avoidance/distress. This can be interpreted as the need for closeness changing according to what is expected from the other person. If the person expects to be harmed, they may take some precautions to maintain self-esteem in a complementary way. In an exemplified investigation, Locke (2005) studied the interpersonal expectations of 150 undergraduates ($M_{age} = 20.4$, $SD = 4.3$) by employing a procedure to record imaginary reactions for a period of 1 week. While uncommunal undergraduates reacted by not disclosing in exchange for others not caring, the more agentic responded by arguing in exchange for others criticizing. On the other hand, agentic and uncommunal undergraduates expected others to be unresponsive and reacted to them unsupportively in return. In short, the findings revealed that imaginary reactions commonly evoked anger for agentic undergraduates, insecurity for the unagentic, shame for those who were communal, and disconnection for uncommunal students. In a similar vein, Schwartz and Gottman (1976), in a study with 54 female and 47 male undergraduates, found that low assertive subjects were more concerned with what others thought about them than moderate and high assertive subjects and that they tried to repel others by being selfish or insulting. This can be significant in terms of showing us the motivation or background of the behaviors of those who act cold, self-centered, or hostile in interpersonal relationships. Hence, this interpersonal style's implicit purpose seems to be an attempt to protect self-esteem.

On the other hand, although it is not easy to determine the direction of causality between self-esteem and interpersonal problems, there are studies indicating that problems with self-esteem cause multiple interpersonal problems. For example, Kahle et al. (1980) compared social adaptation theory and self-perception theory with self-

esteem and interpersonal problems variables measured longitudinally in more than 100 male high school students over 3 years during their sophomore, junior, and senior years. According to the results of their study, obtained with the cross-lagged panel correlation technique used to determine causal relationships, self-esteem is the cause of multiple interpersonal problems, as claimed by the social adjustment theory. Another study revealed that although their levels of self-esteem would be no different and have similar psychiatric diagnoses, individuals may not share the same interpersonal problem areas. In a study undertaken by Lo Coco et al. (2012) with 368 treatment-seeking obese individuals, 80% of whom were females, and with a mean age of 44.20 ($SD = 14.62$) years old, it was found that although all obese individuals experienced interpersonal distress, they were not homogeneous in their interpersonal problem areas. It was found that they experienced different types of interpersonal problems, but that the majority had a friendly-dominant interpersonal style. The researchers considered that psychiatric co-morbidity and psychological distress may explain these individual differences. According to the study's cluster analysis results, the obese individuals were grouped in four different clusters: domineering, intrusive, exploitable, and intrusive-overly nurturing. All of the domains were located between friendly-dominant and friendly submissive, and no results were obtained for the hostile domain. The study's findings also showed that obese people did not shy away from social contact, were not found to be cold or distant, and presented a need to get together with others. Although subjects with four different types of interpersonal problems differed in variables such as psychological distress and body dissatisfaction, no significant difference was found in the self-esteem variable. Lo Coco et al.'s (2012) study results seemed to indicate that self-esteem is a persistent variable in diverse interpersonal problems.

Esteem, respect, rank, dominance, and status are highly interrelated and sometimes intertwined concepts, and emotional experiences like anger, fear, and distress accompany them. Self-esteem motivates the importance of social relationships in order to gain the respect of others and to be part of a group, but it is also used as a highly functional status-tracking tool (Hermann, 2017). Social comparison and submissive behavior as social dominance constructs are respectively cognitive and behavioral dimensions of ranking in social relations. One function of social comparison for a living being is to be able to evaluate a potential individual or rival and then to make a

decision without being forced into a conflict or fight scenario. In facing their opponents, a living being may be defeated, retreat, or be forced into submissive behavior without engaging in a fight to prevent injury or as a means to ensure their own survival. A living being that perceives itself as weaker and inferior to a dominant other will feel anxious, which inhibits their behavior and can lead them to behave submissively. In such a situation, the likelihood of displaying defiant behaviors is low and the inclination to withdraw and take a place at the bottom of the struggle is high (Gilbert & Allan, 1994; Parker, 1974). Civilized humans experience this situation out of concern that their self-esteem may suffer a blow and become damaged. People may therefore engage in certain defensive tactics or exhibit behavioral changes in order to avoid loss of status, humiliation, ridicule, or harm (Gilbert, 1992). Such threats to self-esteem, acceptance, and belonging can arouse compelling emotions like social anxiety, embarrassment, loneliness, social sadness, hurt feelings, jealousy, and pride (Brown & Marshall, 2001; Leary, 2021).

Ranking in interpersonal relationships through performing social comparisons and assessing the inference with self-esteem triggers various emotions since being in a subordinate or superordinate position comes at a certain price or with a reward. Those with higher status enjoy higher priority of access to resources, whilst those in a subordinate position have to subsist on whatever is left (Cummins, 2015). Allan and Gilbert (2002) found that if undergraduates ($N = 197$, $M_{age} = 23.4$, $SD = 8.0$) rank themselves unfavorably, which means having inferior self-perceptions and behaving submissively, they modulate and suppress their anger based on the rank of the target. However, this does not mean that they do not experience compelling and often concealed emotions. For instance, when someone higher up in the hierarchy suffers a misfortune or falls, it often causes feelings of happiness and contentment for those lower ranked and those with low self-esteem. The emotion is known in the German language as schadenfreude, and describes the state of enjoying or rejoicing in someone else's misfortune. Being happy with the misfortunes of a dominant person and trying to make them suffer misfortune is a submissive strategy (Feather, 1994). In a kind of disadvantaged situation, people have a number of difficult emotions to overcome (Cundiff & Smith, 2017; Giacolini & Sabatello, 2019; Koski et al., 2015; Wilkinson, 1999). There are also situations where emotions are directed towards the satisfaction of different needs that contradict each other and are difficult to express. According to

the psychoanalytic perspective, the impulse that precedes non-reflexive behavior may not always be translated into behavior, or it may be masked by other behaviors originating from a different impulse. In interpersonal relationships, the coexistence of seemingly contradictory or opposing behaviors such as the desire to harm and to be close is related to the simultaneous existence of two different impulses. According to the analytical view, psychological problems emerge when people are incapable of transforming their impulses into behaviors in a controlled manner. Defense mechanisms originate in the process of transforming impulses into life as plausibly as possible (Horowitz et al., 1978). If the motivation underlying a person's social behavior is unclear, ambiguity may arise, leading to misunderstandings and lack of social support in daily life. In addition, the ambiguous nature of at least one of the two reciprocal social behaviors that accompany a healthy complementary behavior is one of the distinctive features of personality disorders (Horowitz et al., 2006). However, according to phylogenetics, the success of Homo sapiens, the last surviving human species, lies in its ability to reduce its emotional reactivity, increase its self-control, and exhibit more flexible social skills by increasing tolerance (Hare, 2017). Tamir (2016) deduced that hedonic and instrumental motives are the key motives behind emotion regulation. For instance, socially instrumental outcomes behind the four primary emotional states, which are happiness, anger, fear, and sadness, are to promote trust, render self-attractiveness, extend dominance, signal threats to others, and recruit support from others. According to Gilbert's (2017) *social attention-holding potential* (SAHP) theory, emotional mechanisms are functional responses used to resolve adaptive problems within social hierarchies. For example, while a person may experience elation with a rise in status, they may equally experience a sense of shame or rage at their loss of status, and there may be a social anxiety reaction when there is uncertainty about gaining or losing status. Envy can drive the desire to have what others already possess. Depression, on the other hand, may serve as a protective function by facilitating submissiveness to ward off possible attacks from others deemed to be superior. However, these emotions are not passive outcomes, rather they are sometimes functional and sometimes dysfunctional consequences in managing the process or coping with the situation. More clearly, while social anxiety can be a functional emotion to prevent loss of status, shame can be a protective emotion to escape from actual or potential humiliation and scorn. A person experiencing feelings

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of shame that stem from an inability to avoid social situations such as belittlement or being ridiculed or humiliated may see themselves as inadequate, incomplete, or inferior (Gilbert, 1992, 2000, 2017).

Nevertheless, although such emotions sometimes protect individuals from negative consequences, they may not always be functional solutions. The challenging aspect to emotional processes commonly relates to difficulties in emotion regulation (Cludius et al., 2020), and emotion regulation signifies mental health, personality functioning, goal-directed behavior, and interpersonal behavior (Koole & Rothermund, 2011). Using both longitudinal and meta-analytic data, Cameron and Overall (2018) revealed that emotional suppression in daily interactions brought about less acceptance, more distancing, and less satisfaction in various relationships. In contrast, emotional expression in daily interactions predicted greater acceptance, more relatedness, higher satisfaction, and less distancing in those relationships. In the same study, self-esteem was found to be negatively associated with emotional suppression and positively associated with emotional expression at the intrapersonal level. Furthermore, instead of emotional distraction and avoidance reactions, having adequate skills in emotion regulation may become a necessity for long-term functional solutions. Shafir et al. (2017) revealed that seeking distraction relief in the short term was preferred by those with lower self-esteem in an evaluative context on a performed task instead of healthy emotion regulation strategies. In a study exemplifying an unhealthy outcome, Rieger et al. (2010) revealed that negative social evaluation through its induced detrimental affect is essential as both the cause and outcome of eating disorder symptoms. In a study with complementary findings, Ivanova et al. (2017) revealed that interpersonal problems predicted eating disorders through negative affect and emotional instability. One potential reason for this short-term choice of relief may be the experiencing of difficulty in contacting certain emotions. In a supportive study, Gyurak et al. (2012) found that subjects with low self-esteem and low attentional control showed less activity as a response to social rejection in the regions of their brain associated with emotion control. The researchers interpreted this activation deficiency as the subjects having perceived social rejection as being much more arousing and compelling. Supportively, neuroimaging studies have revealed that while the brain networks associated with social pain and envy are activated in upward comparisons, the networks associated with reward are activated in downward comparisons. Diverse

brain activations predict the intentions to be friendly or aggressive towards others, and in some cases, comparisons have recruited mentalizing-related areas of the brain (Swencionis & Fiske, 2014).

In conclusion, although social comparison can produce both positive interpersonal interaction and adverse effects, in general, upward comparison is associated with negative effects while downward comparison is associated with positive effects. However, the probable outcome is determined by the content and relevance of social comparison, as well as the characteristics of the individual, situation, and society (Ding et al., 2018). For instance, antisocial work behaviors were shown by Thau et al. (2007) to be negatively related to interactional justice, but that this same relationship was stronger in those with a high social comparison orientation. In three studies with a total sample of 389 undergraduates, Locke (2003) investigated the relationships between the social comparison dimensions as vertical (status) and horizontal (solidarity) and the values as agentic and communal. Locke found that the upward and contrastive comparisons were less mood-enhancing and helpful than the downward and connective comparisons. While the impact of horizontal comparisons was more remarkable in subjects whose solidarity value was essential to them, the impact of vertical comparisons was not as remarkable in subjects who valued status. Vertical comparisons have been shown to have the most constant and potent influence on status-related feelings, whilst horizontal comparisons have had an equivalent influence over solidarity-related feelings. However, subjects with more agentic value associated themselves more with vertical comparisons. Locke (2003) reported that communal values were found to have consistently magnified the impact of horizontal and connective comparisons. Also, the percentages of performed comparisons were 63% with close targets, 44% on subjective content, and 51% during interactions. Comparisons performed during interactions were found to predict fewer upward but more connective comparisons and more positive feelings. Comparisons that raised agency-related feelings occasionally resulted in the heightening of alienation and distance feelings. In summary, Locke's (2003) research showed that values, especially those that are communal, can be determinative in social comparisons, that comparisons can also be performed to increase closeness, and that comparisons related to status often do not result in positive feelings or beneficial outcomes.

2.5. Summary of the Related Literature

This chapter presented a literature review that addressed the study's variables in four respective sections. The initial section included the literature on the concept of social comparison orientation which forms the exogenous variables of the study. Classical social comparison theory and different theoretical studies conducted after the works of Festinger (1954) were submitted to form a basis for the model of the current study. Then, social comparison orientation, one of the study's main variables, was defined and related studies appraised. The relationship between the evolutionary perspective, which provides a robust theoretical framework to the current study, and the comparison behavior was cited, and then relevant national and international research, including the relationships of social comparison with the other study variables, were presented.

Self-esteem, as one of the mediator variables in the model, and the related literature constituted the second section of the chapter, which outlined various definitions of self-esteem. Then another concept that provides theoretical support to the current study's model, the variability of self-esteem, was discussed together with the related literature. After examining early life experiences and the relationship between culture and self-esteem, how self-esteem functions in an interpersonal context were introduced. The correspondence and function of self-esteem in the evolutionary framework were identified, and then the section was completed with the results of national and international research regarding the associations of self-esteem with social comparison and emotion dysregulation.

The third section provided scientific knowledge about another mediator variable, emotion dysregulation, and its relevance in the current academic literature. After clarifying the definition and functions of emotions, the connection between the organism's response to stimuli and emotion was discussed. Then, the processes of emotion regulation and regulation difficulties were defined. The psychological concepts and structures associated with difficulties in emotion regulation were revealed with the support of published research outcomes. After elucidating the evolutionary perspective on emotion, various details were conveyed through both the theoretical and research dimensions according to relevant national and international literature on issues such as the interpersonal side of emotions.

The fourth section presented the literature related to interpersonal problems, the current study's endogenous variable. The section introduced interpersonal theory and explained interpersonal problem types according to the circumplex model. Coherent research results were presented, together with the relevant theoretical knowledge on evaluating interpersonal relationships according to evolution, the relations of interpersonal relationships with attachment, and the effects of community influence and culture on interpersonal relationships. The relations between interpersonal problems with social comparison, emotion, and self-esteem were presented in terms of their theoretical and research dimensions. Consequently, both the theoretical background and corresponding investigations regarding each of the current study's variable were reported to conclude the chapter.

We can draw the following conclusions from all the sections with a holistic summary. Interpersonal relationships among humans can be understood within the framework of human evolution, which has shaped our social behaviors and patterns of interaction over thousands of years. Throughout human evolutionary history, both cooperation and competition have played pivotal roles in our ancestors' survival and reproductive success, leading to the establishment of dominance hierarchies. Humans have evolved to seek companionship and form social bonding to fulfill their support, cooperation, and protection needs. Within these relationships, individuals engage in social comparison, evaluating themselves with others, which influences their decision to affiliate and compete. Social comparison drives competition, as individuals strive to outperform their peers and gain higher social status while fostering a sense of belonging and unity within their groups. In this intricate network of interactions, self-esteem and emotion regulation assume essential roles as mediators. Self-esteem acts as an interpersonal monitor, continually assessing social acceptance or rejection and shaping individuals' perceptions of their relative status in interpersonal relationships and social groups. It significantly influences how individuals interpret social comparisons and determines their responses to dominance and affiliation situations. Simultaneously, emotion regulation skills play an integral role in managing emotions triggered by social comparisons, interpersonal relationships, and fluctuations in self-esteem. It serves as a crucial mediator, influencing how social comparisons impact interpersonal relationships while interacting with an individual's self-esteem. To sum up, we can better understand the complex dynamics that shape human social behavior

and motivations by comprehensively exploring the interplay between affiliation and dominance within interpersonal relationships, the impact of social comparison, and the mediating effects of self-esteem and emotion regulation. In this context, how this general scientific framework operates in undergraduate students is intended to be examined.

CHAPTER 3

METHOD

The methodological procedures of the study are presented in the seven sections of this chapter. These sections present the overall design of the study, the sampling and the participants, the data collection instruments, data collection procedure, a description of each of the study's variables, the data analysis processes, and the limitations of the study.

3.1. Overall Design of the Study

Structural relationships between social comparison orientation, self-esteem, and emotion regulation difficulties on interpersonal problems of undergraduate students were investigated through the current study's correlational research design. Correlational research is a type of nonexperimental research wherein independent variables or exogenous variables are not subjected to any manipulation by the researchers. As such, the researchers can only define the variables as dependent or independent, but do not control or manipulate them in any way (Tabachnick & Fidell, 2013). Attribution of causality in correlational research can only be hypothesized or supported theoretically, but not statistically or sequentially. Describing the relationships between variables and trying to predict the most likely results in correlational studies (Bordens & Abbott, 2008) necessitates more than basic correlational techniques, hence structural equation modeling (SEM) is applied as one such type of statistical methodology. As a confirmatory approach, structural equation modeling can measure the relationships among latent variables and the relationships of latent variables with their observed variables at the same time (Byrne, 2016). As a result, structural equation modeling was used as the data analysis method in the current

study to both examine the relationships between the study's variables and to test the proposed structural model.

3.2. Sampling and Participants

This section provides an overview of the study's sampling method and describes the key characteristics of the participants involved in the research.

The study sample consisted of volunteer students who continued their undergraduate education at a public university in Türkiye, selected according to the convenience sampling method. Subjects who were aged older than 26 years were excluded from the sample, based on the reasoning that their developmental characteristics may differ from the general population of the sample (see Kasworm, 1980). After certain exclusion criteria had been applied (see section 3.4. Data Collection Procedure), a net total of 570 participants remained in the pooled sample. The demographic details of these remaining 570 participants are presented in Table 3.1.

When the distribution of the research sample is examined according to the faculties that the participants were enrolled to, the following picture emerged: 309 (54.3%) of the 570 participants were students of the Faculty of Engineering, whilst 100 (17.6%) were from the Faculty of Arts and Sciences, 76 (13.3%) were from the Faculty of Economic and Administrative Sciences, 46 (8.1%) were from the Faculty of Education, and 35 (6.1%) were from the Faculty of Architecture. This faculty-based data shows that mainly engineering students were involved in the research.

Looking at the other descriptive data of the sample, it can be seen that 291 (51.1%) of the sample consisted of female students whilst 274 (48.1%) were male. The mean age of the sample was 21.8 ($SD = 1.58$) years old, and the proportion of those aged 21 (24.2%) and 22 (20.9%) years old was higher than the other ages. When looking at the length of time that the participants had been at their current university, it was found that 14.4% were in their second year, 19.5% were in their third year, 30.4% were in their fourth year, and 16.3% were in their fifth year of study, with the mean being 3.81 ($SD = 1.54$) years.

In terms of the cumulative grade point averages (GPA) of the participants, it was seen that the majority (53.9%) held a GPA in the range of 2.00-2.99, with the average GPA being 2.59 (SD = 0.66). When the participant students evaluated their level of income compared to those around them, it was seen that 403 (70.7%) of the 570 participants considered themselves to be of middle income, based on five levels of very low, low, middle, high, and very high. Overall, 103 (18.1%) of the participants stated that they had a high income level, as in one above middle. In other words, in terms of the participants' income level, the sample consisted mostly of those with a middle to above average level of income. The percentage of those who responded as having either a low (8.6%), very low (0.4%), or very high (1.4%) income level was distinctly less than the other two groups (middle and high).

In the demographic variable that assessed the number of siblings that the participants of the study had, the majority (57.7%) had one sibling, that is, they come from families where they were one of two children. Being one of three siblings (17.7%) or an only child (11.6%) was also shown to be relatively common. Looking at the birth order among the siblings, the number of participants who were the eldest child in the family was 310 (54.4%), whilst those who were the middle among siblings was 58 (10.2%), and the number of participants who were the youngest child in the family was 198 (34.7%). In the data set, participant numbers for students who were an only child were initially included in the eldest child category, but this case has been revised and corrected. When the participants who were the only child in their family were excluded, the number who were first-born with one or more siblings was 244 (42.8%). The majority of the sample consists of the first-born and last-born children, with those who were a middle child being significantly fewer.

For the romantic relationship variable, the rate of those who stated that they were in a relationship was 43.9%, whilst 55.8% stated they were not in a relationship. Although no serious difference was found between the rates of singles and couples, singles were in the majority. Considering the status of the participants having sought professional help for mental health issues, the rate of those who had received psychological or psychiatric help from a specialist within the 6 months prior to the study was 12.6%, whilst those who had not sought any help was 86.1%.

They were also asked which social media platforms they used and how often they used them. According to the question of which social media applications the participants used and to what extent they used them, the respondents used YouTube, Instagram, Facebook, and Twitter the most, respectively. Pinterest, LinkedIn, Tumblr, and other applications were found to be used much less intensely by the participants.

In addition to these demographic questions, eight additional descriptive questions created by the researcher aimed to measure their social comparison tendencies and their directions. In other words, the researcher created questions aimed at measuring the direction and field of social comparison, coded as DSC (i.e., the direction of social comparison). Due to the lack of validity and reliability studies, DSC was not considered as a scale and was evaluated as survey questions and therefore together with the demographic data. The eight questions that formed the DSC concerned to whom individuals compared themselves with according to their own subjective rank perception in the fields of academic achievement, social relations, financial means, physical appearance, romantic relationships, health status, sports skills, and hobbies/interests. In other words, does an individual compare themself in any comparison field with those they consider to be inferior to themselves, with those they perceive as being similar, or with those that they consider to be superior to themselves? Response options for determining the direction of social comparison were based on a 5-point rating option (1 = *bottom*, 2 = *lower*, 3 = *middle/similar*, 4 = *higher*, and 5 = *top*).

When the response means for the social comparison fields and directions were ranked from largest to smallest, academic achievement came out on top ($M = 3.81$, $SD = 0.79$), followed by physical appearance ($M = 3.62$, $SD = 0.78$), sports skills ($M = 3.57$, $SD = 0.90$), hobbies/interests ($M = 3.56$, $SD = 0.88$), social relations ($M = 3.53$, $SD = 0.74$), romantic relationships ($M = 3.41$, $SD = 0.84$), financial means ($M = 3.25$, $SD = 0.86$), and lastly health status ($M = 2.96$, $SD = 1.05$). These means show that the participants compared themselves to those they saw as being better or above them in all fields except for health status. Accordingly, this ordered list reveals the ranking order of the areas that the participants most cared about, felt in competition, or wanted to improve. As such, the participants mainly prioritized academic success, followed by physical appearance, sports skills, hobbies, social relationships, and

romantic relationships. The fields that represented the least interest were financial means, with health status last.

At the end of the research form, 34 of the 549 participants added statements in the section titled "You can write the topics you want to specify anything about the research." Most of what was written in this section included contact information such as the participants' e-mail address so as to receive information about the research results. Other responses include offering thanks for conducting the research, whilst one participant criticized the university's inability to provide adequate psychological counselling services, and another criticized why only two options (male and female) were presented in the question about the participants' gender.

Table 3.1

Demographic Characteristics of the Participants (N = 570)

Variable	*f*	%	Range	*M*	*SD*
Faculty					
Architecture	35	6.1			
Arts & Sciences	100	17.6			
Economic & Administrative Sciences	76	13.3			
Education	46	8.1			
Engineering	309	54.3			
No response (missing data)	4	0.7			

Variable	f	%	Range	M	SD
Number of years at current university			1-9	3.81	1.54
1	36	6.3			
2	82	14.4			
3	111	19.5			
4	173	30.4			
5	93	16.3			
6	49	8.6			
7	18	3.2			
8	3	0.5			
9	4	0.7			
No response (missing data)	1	0.2			
Cumulative GPA			0.21-4.00	2.59	0.66
0.00 to 0.99	9	1.6			
1.00 to 1.99	63	11.1			
2.00 to 2.99	307	53.9			
3.00 to 3.99	148	26			
4.00	1	0.2			
No response (missing data)	42	7.4			
Gender					
Female	291	51.1			
Male	274	48.1			
No response (missing data)	5	0.9			

Variable	f	%	Range	M	SD
Age (years)			18-26	21.8	1.58
18	7	1.2			
19	29	5.1			
20	63	11.1			
21	138	24.2			
22	119	20.9			
23	85	14.9			
24	57	10			
25	18	3.2			
26	5	0.9			
No response (missing data)	49	8.6			
Income level					
Very low	2	0.4			
Low	49	8.6			
Middle	403	70.7			
High	103	18.1			
Very high	8	1.4			
No response (missing data)	5	0.9			

Variable	f	%	Range	M	SD
Number of siblings in family (incl. participant)			1-12	2.36	1.14
Only child	66	11.6			
Two	329	57.7			
Three	101	17.7			
Four	32	5.6			
Five	12	2.1			
Six or more	11	2			
No response (missing data)	19	3.3			
Birth order among siblings					
First child	310	54.4			
Middle child	58	10.2			
Last child	198	34.7			
No response (missing data)	4	0.7			
Romantic relationship					
Not in a relationship	318	55.8			
In a relationship	250	43.9			
No response (missing data)	2	0.4			

Variable	f	%	Range	M	SD
Professional mental health help sought in past 6 months (psychological or psychiatric)					
Yes	72	12.6			
No	491	86.1			
No response (missing data)	7	1.2			

3.3. Data Collection Instruments

A total of four reliable and valid scales were used to measure the relevant variables of the study. These scales were the Iowa-Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999), the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), the Difficulty in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), and the Inventory of Interpersonal Problems-Circumplex Scales Short Form (IIP-C; Horowitz et al., 2000, as cited in Akyunus İnce, 2012, p. 39). In addition to these four scales, a demographic information form containing questions determined by the researcher and a survey containing questions about the direction and areas of comparisons were also included. Sample items of the INCOM, RSES, DERS, and IIP-C scales, plus the demographic information form and the survey questions can be seen in Appendices A, B, C, D, and E, respectively.

3.3.1. Demographic Information Form and the Survey Questions

After providing information about the research in the first part of the application form, a set of demographic questions were asked to the participants. The demographic information form (see Appendix E) was developed by the researcher to gather information about the participants' faculty, department, the number of years they were at university, as well as their cumulative GPA, gender, age, relative income level, number of siblings, birth order among siblings, romantic relationship status, whether they had received psychological or psychiatric help in the past 6 months, and the

frequency of their using social media. As previously determined by the researcher, the answers to some of these questions were continuous (e.g., age), whilst some were categorical (e.g., birth order).

In addition to the demographic information form, a set of survey questions which were developed by the researcher were also asked to the participants. It should be noted, however, that the survey is not considered validated or proven as reliable since psychometric studies have yet to be performed. The purpose of the eight-item survey (see Appendix E), coded as DSC (direction of social comparison) on the data collection form, was to measure the social comparison areas of the participant and the hierarchy of their comparison target relative to their self. Eight comparison areas were determined by the researcher from the relevant literature, which were academic achievement, social relations, economic competency, physical appearance, romantic relationships, health status, sports skills, and hobbies (special interests, activities). The participants were then asked for each area whether they compared themselves to someone they considered to be higher, lower, or equal to themselves. In the 5-point scale, the value "3" represents the mid-point with someone considered as equal or similar, while "1" and "2" represent someone considered lower with a degree of difference, and "4" and "5" represent someone considered as higher with a degree difference. For instance, the individual may have compared themself with someone they consider to be at the bottom of the field in terms of academic achievement, or with someone they perceive to be their superior. The questionnaire was excluded from the basic analysis of the research since psychometric studies have yet to be conducted on the survey. Instead, it was included in some of the analyses in order to identify the sample, similar to the demographic information that was recorded.

3.3.2. INCOM, Iowa-Netherlands Comparison Orientation Measure

In the current research, the Iowa-Netherlands Comparison Orientation Measure (INCOM) was used to assess the social comparison orientation of the participant subjects. Gibbons and Buunk (1999) developed and validated the scale to measure individuals' differences and tendencies in social comparison based on Festinger's (1954) social comparison theory. The INCOM, which was originally developed with

samples from the United States and the Netherlands, was adapted to the Turkish context by Teközel (2000). The INCOM consists of 11 items rated on a 5-point, Likert-type scale ranging from 1 = I *disagree strongly* to 5 = I *agree strongly*, and with two items (five and 11) reverse-coded. Receiving higher scores on the INCOM evidences higher orientation in social comparison behavior. The INCOM consists of two subscales, a six-item ability subscale (example: "I often compare myself with others with respect to what I have accomplished in life.") and a five-item opinion subscale (example: "I always like to know what others in a similar situation would do.") (Gibbons & Buunk, 1999, p. 142).

Post-Festinger researchers have said that social comparison can also be undertaken for reasons of self-improvement (Brickman & Bulman, 1977; Taylor & Lobel, 1989; Wood, 1989) and self-enhancement (Thornton & Arrowood, 1966; Wills, 1981). However, Gibbons and Buunk (1999) did not consider the self-improvement motive apart from self-evaluation, and did not see self-enhancement as a continuous phenomenon in Festinger's theory. On the contrary, they evaluated self-enhancement as a motive that occurs according to changing circumstances. Therefore, the self-evaluation element of social comparison forms the focus of the INCOM instrument, and was developed based on Festinger's original theory using its ability and opinion dimensions. These measure two different comparison processes, with the abilities dimension concerning how one does something, while the opinions dimension is about how one should think and feel when compared to others (Gibbons & Buunk, 1999).

3.3.2.1. INCOM Validity and Reliability Studies

The INCOM was developed for the cultures of the United States and the Netherlands in a way that supported the universality of social comparison concept and has since been applied to many samples and thousands of study participants with different characteristics. The INCOM (11-items) was applied to more than 4,300 subjects in 10 different samples in the United States ($M = 3.60$, $SD = 0.58$ for item response), then to more than 3,200 subjects in 12 samples ($M = 3.10$, $SD = 0.68$ for item response) in the Netherlands. For test-retest reliability, the scale was applied twice to one third of the sample from the United States and to one sample from the Netherlands. While

temporal stability or test-retest reliability was measured in correlations ranging from .71 to .60 in the United States sample over a period of 3-4 weeks to a period of 12 months, it was measured as .72 in the Netherlands over a period of 7.5 months (Gibbons & Buunk, 1999).

With the exploratory principal component analysis, a two-factor structure based on abilities (six items) and opinions (five items) was found in both the samples from the United States and from the Netherlands, which contained approximately 1,500 subjects in total. This two-factor structure explained approximately 50% of the total variance across both cultures. However, despite this dual structure, a picture supporting the single-factor structure also emerged. The correlation between the two factors was .61 and all items were loaded in the first factor at values of .46 or above, which also supported the single-factor structure. Then, confirmatory factor analysis was performed on the data of a combined total of 3,115 subjects, created by combining both the samples from the United States and the Netherlands, to provide more meaning with higher values for the two-factor solution. Thus, an INCOM with two factors emerged which is highly related but also distinguishable. The researchers stated that whilst the dimension of ability on its own can conduct the measure adequately, the common goal with the dimension of opinion is self-understanding and therefore the two dimensions should not be considered separately (Gibbons & Buunk, 1999).

In the 12 samples from the Netherlands, which included data from a combined total of 3,274 individuals, the means value from the INCOM varied between 30.78 and 39.17, while standard deviation varied between 6.49 and 9.18, and the Cronbach alpha values ranged between .77 and .85. In the 10 different samples from the United States, which consisted of a combined total of 4,364 individuals, the INCOM means value ranged from 35.33 to 41.27, while standard deviation ranged from 5.75 to 6.88, and the Cronbach alpha values ranged from .78 to .85. With the Cronbach alpha value of the original sample greater than .83 and the item total correlations greater than .36, this pointed to the reliability of the scale as being good based on these statistical outputs (Gibbons & Buunk, 1999).

Gibbons and Buunk (1999) conducted a number of experimental studies on the INCOM's criterion validity from which they revealed, as expected, that those with a high comparison orientation made more comparisons. When the known-groups

technique was used to assess construct validity, the more success oriented United States sample ($M = 39.75$, $SD = 6.39$) had significantly [$F (1, 3055) = 39.44$, $p < .001$] higher comparison orientation scores when compared to the sample from the Netherlands ($M = 38.05$, $SD = 6.79$), as was expected. Females ($M = 39.84$) also scored significantly [$F (1, 3055) = 21.60$, $p < .001$] higher than their male counterparts ($M = 38.80$) in social comparison orientation. In order to ensure the INCOM's convergent validity, its correlations with numerous traits and state measures that assessed related concepts were also examined. Examples of some of these with significant correlations with the INCOM are as follows: interpersonal orientation ($r = .45$, $p < .001$), public self-consciousness (rs = .38 to .49, $p < .001$), attention to social comparison information (rs = .47 and .66, $p < .001$), communal orientation ($r = .31$, $p < .01$), self-monitoring ($r = -.23$, $p < .001$), depression ($r = .19$, $p < .01$), social anxiety ($r = .31$, $p < .001$), state-trait anxiety ($r = .22$, $p < .05$), self-esteem ($r = -.32$, $p < .001$ in the Netherlands' sample, $r = -.18$, $p < .001$ in the United States' sample), optimism ($r = -.36$, $p < .001$ in cancer patients from the Netherlands, $r = -.09$, $p < .05$ in the United States' sample), neuroticism ($r = .31$, $p < .001$), perceived stress ($r = .23$, $p < .01$), and negative affect ($r = .23$, $p < .001$ in the Netherlands' sample, $r = .21$, $p < .001$ in the United States' sample). In addition to the scale's meaningful connection with these structures, in order to ensure the discriminant validity of the INCOM instrument, structures that were not expected to have a meaningful relationship with social comparison orientation such as social support, need for cognition, and life satisfaction were also examined. There were no significant or high correlations found, which was as expected. To summarize, assessments of the psychometric properties of the scale, laboratory works, and many field studies have shown the INCOM to effectively measure social comparison orientation and behavior (Gibbons & Buunk, 1999).

Teközel (2000) adapted the 5-point, 11-item, Likert-type INCOM scale to the Turkish context. Notably, the fifth and 11th items of the scale are reverse coded, as in the original version. As an adaptation to another language (Turkish), the scale was first translated into Turkish and then back to English by different experts. Then, these translations were evaluated by language experts and field experts in determining the final version of the scale. The adapted form was then applied to 121 students with a mean age of 21 years who were fluent in both English and Turkish. Linguistic

equivalence between the original and adapted scales was achieved ($r = .87$, $p < .000$) in both languages with mixed orders and the applications performed 1 week apart (Teközel, 2000).

In the continuation of Teközel's (2000) Turkish adaptation studies, both INCOM and other scales were applied to a sample of 404 undergraduate students with a mean age of 21.3 years old. In these validity studies, the relationships of the INCOM with the Rosenberg Self-Esteem scale ($r = -.23$, $p < .001$), the depression subscale of Symptom Checklist-90 ($r = .23$, $p < .001$), the State ($r = .16$, $p < .01$)-Trait ($r = .34$, $p < .001$) Anxiety Inventory, and the Five Factor Personality Inventory ($r = .36$, $p < .001$ with Neuroticism) were examined and the expected results were obtained. For discriminant validity, the Multidimensional Scale of Perceived Social Support (Eker & Arkar, 1995, as cited in Teközel, 2000, p. 43) was applied to 132 university students and their social support perceptions and social comparison orientations were examined. However, since they are not seen as related concepts, as expected, a high and significant correlation was not obtained. Again, as expected, apart from neuroticism, the fact that the factors of the Five Factor Personality Inventory and INCOM were shown to have no meaningful relationships also supported validity. In an experimental study, it was tested whether or not INCOM-T (as in the Turkish version) separates people with high and low comparison orientation. It was observed that individuals who achieved high scores from INCOM-T used the comparison opportunity significantly ($t = -2.78$, $p < .05$) more than those with low scores (Teközel, 2000).

The mean score that the participants of the study achieved from INCOM-T was 36.4 ($SD = 7.46$), a result which contributes to the construct validity of the scale according to the researcher because Turkish society is considered to be less individual-oriented in success compared to either the United States or the Netherlands. A Cronbach alpha value of .82 was obtained, with item total correlations varying between .26 and .65. Factor analysis results showed that the two-factor ability and opinion structure explained the total variance at 37% and 14%, respectively. As can be understood, the factor structure in the Turkish sample was found to be closer to that of the Netherlands than the sample from the United States (Teközel, 2000).

Turkish adaptation studies of the INCOM (INCOM-T) were also supported by studies similar to those conducted during the developmental phase of the scale. For this

purpose, the psychometric properties of the scale in different samples were examined using the known-groups technique. The relationship with other psychological measures that were expected to be relevant and not relevant were examined. In addition, it was also examined experimentally whether it could distinguish between high and low comparison orientation subjects. Considering the known-groups technique, it was expected that the success orientation of the Turkish sample was lower than that of the two western societies (the United States and the Netherlands). It was an expected result that the social comparison orientation scores were significantly lower than the sample from the United States and slightly lower than the sample from the Netherlands (Teközel, 2000). In short, from these data, it can be concluded that the Turkish adaptation of the INCOM was deemed to be a significant success.

Looking at some other studies that have applied the Turkish version of the INCOM (INCOM-T), the reliability coefficients were found to be good, with .80 from Luszczynska et al. (2004), .79 from Piko et al. (2005), .77 from Çivitci and Şahin-Baltacı (2018), .80 from Büyükmumcu and Ceyhan (2020), and .81 from Demir et al. (2022). Furthermore, in a recent study with a sample of 496 Turkish undergraduates ($M = 21.19$, $SD = 1.54$), exploratory principal component analysis yielded a two-factor structure as expected, which explained 54% of the variance. In that study, the lowest item factor loading was .56, with only item seven loaded on the ability factor, which was contrary to expectation (Demir et al., 2022). Consequently, these other studies that were conducted with Turkish samples revealed that the INCOM-T's psychometric properties are seemed appropriate to be applied in the case of the current study.

In the current study, Cronbach alpha values were examined for the internal consistency of the scale. Accordingly, in the research sample of 549 individuals, the Cronbach alpha coefficient was obtained as .85 for ability comparison, .61 for opinion comparison, and .83 for the total score of the INCOM. These values are considered to be quite sufficient to use in the current study, except for the opinion subscale.

3.3.3. RSES, Rosenberg Self-Esteem Scale

Rosenberg's (1965) Self-Esteem Scale (RSES) was used as a self-report instrument to measure self-esteem of the participants in the current study. Adaptation of the RSES to the Turkish context was conducted by Çuhadaroğlu (1986, as cited in Doğuş & Şafak, 2019, p. 1032). The RSES is a unidimensional Guttman-type scale (also known as cumulative scaling) that can easily be administered over a short timeframe. The self-esteem part of the scale consists of five positive and five negative items, making a total of 10 items. Example positive and negative items are; "On the whole, I am satisfied with myself." and "I feel I do not have much to be proud of." (Rosenberg, 1965, p. 17). Response options in Rosenberg's original form are *strongly agree*, *agree*, *disagree*, and *strongly disagree*. Although different response and scoring forms of the scale have been used in many different research studies, the form used in the current research measures how true or false statements are based on a 4-point, Likert-type type scale as 1 = *totally/very wrong*, 2 = *wrong*, 3 = *true*, and 4 = *totally/very true*. The scale ranks individuals on a single continuum from low self-esteem to high self-esteem. It is assumed that the self-esteem of an individual increases as the score obtained from the scale increases, with a minimum of 10 and a maximum of 40 points.

Rosenberg (1965) defined "self-esteem" as "positive or negative attitude toward the self" (p. 30). What is meant by the concept of self-esteem here is considering oneself to being not very good, better than others, or the best. Similarly, self-esteem refers to a person feeling that they are good enough according to their own standards, that they regard themself as respected and worthy and satisfied with their self, accepting their merits and deficiencies, knowing their own limitations and pushing themselves to develop and grow. When looking at low self-esteem, it is seen that the person underestimates or rejects themself, is generally dissatisfied with their own self, does not find themself to be respected and desires to be otherwise (Rosenberg, 1965).

3.3.3.1. RSES Validity and Reliability Studies

Using the criteria of Guttman (1950, as cited in Rosenberg, 1965, p. 17) and Menzel (1953, as cited in Rosenberg, 1965, p. 17), Rosenberg stated that the scale's reproducibility was 92% (reproducibility can be evaluated as test-retest reliability),

with scalability of 72%, and that these results were considered satisfactory. For the validity of the scale, Rosenberg used the Leary (1957, as cited in Rosenberg, 1965, pp. 19-27) scale evaluations of nursing staff who had observations about the research sample to determine the depression scores. The results showed a significant relationship between the self-esteem scores and the depression evaluations. In other words, where self-esteem is lower, people are considered to be more depressed by their social environment. In addition, low self-esteem has a significant and strong relationship with the scores of people from the depressive affect part of the Guttman Scale. Also, those with low self-esteem present more psychophysiological indicators. Psychosomatic symptoms of neurosis were also shown to be more common amongst those with low self-esteem. For the low self-esteemed sample, their classmates evaluated them sociometrically as passive, not showing themselves socially, and having certain negative features. In short, Rosenberg developed a unidimensional, internally reliable, and valid instrument. The validity criteria expected by the research results were met, with those of low self-esteem having appeared to be more depressed, experienced feelings of unhappiness or discouragement, exhibited symptoms more of neuroticism or anxiety, having low sociometric status, and feeling less respected than others (Rosenberg, 1965).

The Rosenberg scale, which was later adapted by Çuhadaroğlu (1986, as cited in Doğuş & Şafak, 2019, p. 1032) to the Turkish context, consists of 63 items in total. The scale consists of 12 subscales; self-esteem, stability of self, faith in people, sensitivity to criticism, depressive affect, daydreaming, psychosomatic symptom, interpersonal threat, intensity of discussion, parental interest, relationship with father, and feelings of psychic isolation (Çuhadaroğlu, 1990). The first 10 items of the whole scale constitute Rosenberg's Self-Esteem scale (Doğuş & Şafak, 2019). With a sample of high school students in Ankara, Türkiye (Çuhadaroğlu, 1990), Çuhadaroğlu (1986, as cited in Yıldız & Duy, 2015, pp. 526-527), used Pearson Product Moment Correlation to determine the validity coefficient as .71 and the reliability coefficient as .75. In some other studies conducted with Turkish samples, the internal reliability coefficient was found to be .87 (Onayli & Erdur-Baker, 2013), and construct validity with a one-factor structure was confirmed (Barutçu Yıldırım & Demir, 2017).

The current research tested the internal consistency of the unidimensional RSES, with the Cronbach alpha coefficient found to be .89 in the sample of 549 participants. This value seems adequate in confirming the reliability of the scale (Kline, 1999). As a result, the RSES, which is widely used in the field of psychological research, was deemed to be a valid and reliable measurement tool.

3.3.4. DERS, Difficulties in Emotion Regulation Scale

Gratz and Roemer (2004) developed the Difficulties in Emotion Regulation Scale (DERS) to measure emotion regulation difficulties, which is considered a common feature of many different symptoms and maladaptive behaviors in adults. The version of the DERS used in the current study was adapted to the Turkish context by Rugancı and Gençöz (2010) and then revised by Kavcıoğlu and Gençöz (2011). The DERS is a 5-point, Likert-type scale (ranging from 1 = *almost never* to 5 = *almost always*) and consists of 36 items (with 11 items reverse coded) and six factors. As a self-reporting measure, the DERS is applied in order to measure emotion dysregulation or emotion regulation difficulties. Obtaining a high score from the subscales or from the total of the DERS relates to experiencing a greater level of difficulties in emotion regulation.

The six factors of the DERS were named respectively as nonacceptance, goals, impulse, awareness, strategies, and clarity. The first factor, nonacceptance or nonacceptance of emotional responses (e.g., "When I'm upset, I become irritated with myself for feeling that way."), means having secondary negative emotional responses to primary negative emotions; in other words, nonacceptance of distressing emotions. The second factor is goals or difficulties engaging in goal-directed behavior (e.g., "When I'm upset, I have difficulty focusing on other things."), which means experiencing difficulties in concentrating and completing tasks whilst having negative emotions. The third factor of impulse or impulse control difficulties (e.g., "When I'm upset, I lose control over my behaviors.") means having difficulties in controlling one's own behavior whilst experiencing negative emotions. The fourth factor of awareness or lack of emotional awareness (e.g., "I pay attention to how I feel.") means not attending to or acknowledging one's attitudes towards emotions, not paying attention to emotions, or not being aware of them. The fifth factor refers to strategies

or limited access to emotion regulation strategies (e.g., "When I'm upset, I believe that there is nothing I can do to make myself feel better."), which means having the belief that one can do little in terms of effective emotion regulation when feeling upset. The sixth factor is clarity or lack of emotional clarity (e.g., "I am clear about my feelings."), which means individuals being clear about or knowing what they experience emotionally. Each of these six factors, with one exception (correlation between goals and awareness factors), were shown to be significantly correlated with another and form a conceptual unity among themselves (Gratz & Roemer, 2004).

3.3.4.1. DERS Validity and Reliability Studies

Gratz and Roemer (2004) explored the factor structure and psychometric properties of the developed measurement tool with two samples consisting of undergraduate students. The ages of the 357 undergraduate participants were between 18 and 55 years old ($M = 23.10$, $SD = 5.67$), with 73% (260) female, 89% single, and 90% heterosexual. The six factors with 36 items finally accounted for 55.68% of the total variance (Gratz & Roemer, 2004).

The first measurements of the development study showed that the DERS's internal consistency was .93 for the overall scale and at least .80 for each of the individual subscales. Test-retest reliability studies were conducted over periods of 4 to 8 weeks with 21 individuals with a mean age of 25.95 ($SD = 8.94$) years old, which produced good and adequate results with as .88 for the overall scale and between .57 and .89 ($p < .01$) for the subscales. The construct validity evaluation of the DERS was conducted with three different but conceptually related scales and questionnaires, with the NMR (Catanzaro & Mearns, 1990), Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004), and the Emotional Expressivity Scale (EES; Kring et al., 1994). Emotion dysregulation is conceptually parallel to emotional avoidance, hence it was expected that emotion regulation difficulties would positively correlate with experiential avoidance (avoidance of unwanted internal experiences such as emotions and thoughts) and would negatively correlate with emotional expressivity. The construct validity studies met these expectations and showed satisfactory results as the NMR and DERS overall correlation was -.69, and the subscales of the DERS with

NMR changed between -.34 and -.69, $p < .01$; the DERS overall and AAQ correlation was .60 and subscales of the DERS with AAQ changed between .32 and .56, $p < .01$; and the DERS overall and EES correlation was -.23, and not all but the significantly correlated subscales of the DERS with EES changed between -.14 and -.46, $p < .01$. Predictive validity was also found to be adequate, with the results showing that the DSHI (Deliberate Self-Harm Inventory; Gratz, 2001) and the DERS overall correlation for females was .20, $p < .01$, and .26, $p < .05$ for males; the Perpetration History part of the Abuse-Perpetration Inventory (API; Lisak et al., 2000) and the DERS overall correlation for males was .34, $p < .01$, which was in accordance with the literature on the use of partner abuse especially by males as a means of emotion regulation (Gratz & Roemer, 2004).

The first adaptation of the Difficulties in Emotion Regulation Scale (DERS) to the Turkish context was conducted by Rugancı and Gençöz (2010) with a sample consisting of 338 university students (207 females, 131 males) whose mean age was 22.6 ($SD = 1.80$) years old. In their study, the original factor structure of the DERS was tested and the Turkish version was confirmed by reaching a six-factor structure with the removal of one item. The DERS was then reapplied to 59 participants for test-retest reliability at an interval ranging from 20 to 33 days and that was found to be .83. The Turkish version of the six-factor scale structure explained 62.4% of the total variance. Although two items were found to be loaded in different factors, one of them was retained in its original factor, whilst the other (item 10: "When I'm upset, I acknowledge my feelings.") was excluded due to its very low correlation with the total scale ($r = .06$) and effect of lowering alpha coefficients. Thus, the adaptation of the DERS to the Turkish context was completed with the remaining 35 items. The Cronbach alpha coefficients of the DERS Turkish form were found to be between .75 and .90 for the subscales and .94 for the whole scale. In concurrent validity, by checking the correlation between the DERS and the Brief Symptom Inventory (BSI; Derogatis, 1992) for both total scores ($r = .58, p < .001$) and the subscales (ranging from $r = .39$ to $r = .54, p < .001$), quite high positive values were obtained. The only exception was the correlation between the awareness subscale and the BSI total score, which ($r = .16, p < .01$) was found to be much lower. This concurrent validity showed that psychological distress (i.e., BSI) and all subscales and total of the DERS scale, except for the awareness factor, revealed strong correlations with psychological

distress. For criterion validity, the DERS significantly distinguished those with high psychological distress from those with low psychological distress (i.e., BSI scores), but the effect size again remained small for the awareness subscale (Rugancı & Gençöz, 2010).

After the adaptation study of Rugancı and Gençöz (2010), Kavcıoğlu and Gençöz (2011) applied some minor changes to the Turkish expressions of some of the DERS items and achieved quite strong reliability and validity values from their testing. The Turkish form employed in the current study is the product of Kavcıoğlu and Gençöz's (2011) study. Subsequent psychometric study of the latest DERS form revealed by Kavcıoğlu and Gençöz (2011) was conducted by Sarıtaş-Atalar et al. (2015), who investigated the psychometric properties and cultural equivalence of the current Turkish version of the DERS in adolescents. The six-factor structure of the scale was verified (χ^2 (541) = 1349.81, $p < .00$; χ^2 / df-ratio = 2.50, CFI = .91, NNFI = .90, SRMR = .07, and RMSEA = .05.) by confirmatory factor analysis in their study that was conducted with 595 high school students aged 14 to 17 years old ($M = 15.19$, $SD = 0.49$). The concurrent validity of the DERS was performed with the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) and the Childhood Depression Inventory (CDI; Kovacs, 1981), which revealed results as expected. The internal consistency of the DERS in total was .91, and the internal consistency coefficient of the subscales ranged from .60 to .85, with the awareness and clarity subscales revealed to have the lowest internal consistency values (Sarıtaş-Atalar et al., 2015).

Considering other studies with Turkish samples, Sünbül and Güneri (2019) supported the six-factor structure of the DERS (χ^2 / df-ratio = 2.95, RMSEA = .05, CFI = .91, TLI = .90.) and reported a Cronbach alpha value of .84. The Cronbach alpha values in other studies with Turkish samples were found to be .85 by Ozeren (2022) and .90 by Gürcan-Yıldırım and Gençöz (2022).

In the current study, the Cronbach alpha coefficient was computed for internal consistency. In the reliability analysis performed with the 549 participants' research data, the Cronbach alpha value obtained was .94 for the total DERS score, whilst for the subscales it was .86 for clarity, .76 for awareness, .88 for impulse, .88 for non-acceptance, .89 for goals, and .88 for strategies. It may be said that the obtained

Cronbach alpha coefficient values were shown to be high in the current study. As a summary it can be said that both the development and adaptation studies of the DERS and the reliability analysis conducted in the current study confirmed the DERS to be a reliable and valid instrument.

3.3.5. IIP-C, Inventory of Interpersonal Problems-Circumplex Scales Short Form

Horowitz et al. (2000, as cited in Akyunus İnce, 2012, p. 39) developed the Inventory of Interpersonal Problems-Circumplex Scales Short Form (IIP-C or IIP-32) to measure various interpersonal functionality problems in the context of relational affiliation and dominance. The adaptation studies of the Turkish version of the IIP-C employed in the current research were conducted by Akyunus and Gençöz (2016). The IIP-C short form is a 5-point, Likert-type scale (ranging from 1 = *not at all* to 5 = *extremely*), and consists of 32 items (with none reverse coded) and eight subscales. As a self-reporting measure, the IIP-C is applied to measure interpersonal distress with its total score and specific interpersonal problems with its subscales. The IIP-C is clinically beneficial to show the most common types, frequency, and severity of different interpersonal problems and to discriminate between interpersonal and non-interpersonal problems. Obtaining a high score from the total or the subscales of the IIP-C relates to experiencing more significant interpersonal distress or particular interpersonal problems (Akyunus & Gençöz, 2016; Akyunus İnce, 2012).

IIP-C has eight different octants consisting of combinations of affiliation and dominance dimensions as follows: 1) Overcontrolling and overassertive behaviors were identified as domineering/controlling (e.g., "I try to control other people too much."); 2) Suspicious and angry behaviors were identified as vindictive/self-centered (e.g., "It is hard for me to put somebody else's needs before my own."); 3) Inability to experience and show affection toward other people were identified as cold/distant (e.g., "It is hard for me to feel close to other people."); 4) Social anxiety and withdrawal behaviors were identified as socially avoidant/inhibited (e.g., "It is hard for me to socialize with other people."); 5) Nonassertive and passive behaviors were identified as nonassertive (e.g., "It is hard for me to be assertive with another person."); 6) Inability to express anger and being exploitable were identified as overly

accommodating/exploitable (e.g., "It is hard for me to say 'no' to other people."); 7) Excessive attitude or behaviors to please, support, and help others, even at their own expense, were identified as overly-nurturant/self-sacrificing (e.g., "I try to please other people too much."); and, 8) Attention seeking behaviors and being too intrusive were identified as intrusive/needy (e.g., "I tell personal things to other people too much.") (Akyunus & Gençöz, 2016; Akyunus İnce, 2012; Alden et al., 1990).

3.3.5.1. IIP-C Validity and Reliability Studies

Although the theoretical background of the IIP or IIP-C is largely based on the work of Harry Stack Sullivan (1953) and Timothy Leary (1957), it was Horowitz (1979) who conducted the initial studies into developing the raw form of the inventory. However, finalization of the original IIP-C measurement inventory was achieved both theoretically and practically through a process that has taken many years and has been contributed to by various researchers such as Horowitz (1979), Kiesler (1983), Horowitz et al. (1988), and Alden et al. (1990), amongst others.

Following on from Horowitz's (1979) initial study, Horowitz et al. (1988) continued the early formative research into what is now the Inventory of Interpersonal Problems (IIP) in order to measure interpersonal problems. Their first study aimed to determine the psychometric properties of the inventory, whilst the second focused on demonstrating its sensitivity to clinical change. It may be said that both goals were eventually achieved. The initial IIP contained 127 items regarding interpersonal problems. They found six repetitive factors in their study, with four indicating the difficulty of doing something as hard to be social, hard to be intimate, hard to be assertive, and hard to be submissive; while two others indicate that something is done to an excess as too responsible and too controlling. The two-factor (friendliness to hostility and submissiveness to dominance) structure in their study explained 73% of the variance (Horowitz et al., 1988).

After the 127-item IIP scale of Horowitz et al. (1988), Alden et al. (1990) reduced the number of items down to 64 and formed the IIP-C to measure interpersonal functionality problems at the individual level in terms of distress and difficulties experienced. They transformed the IIP scale into a circumplex model, developing it to

meet the needs of its application in the field according to the earlier research by Horowitz (1979) and Horowitz et al. (1988). Alden et al. (1990), based on the study of Horowitz et al. (1988), performed circumplex analysis of the IIP in four phases, primarily constructing a series of circumplex scales for the IIP. All 127 items were studied using two samples (46% male, 54% female), one that consisted of 197 undergraduate students and a second of 273. Then, based on item communalities, item-total scale correlations and thematic content analysis, 64 items were determined by using the combined sample of 470 subjects. Eight circumplex scales were created, each consisting of eight items (64 items in total) by refining the combined sample according to empirical and thematic criteria. The created scales were then cross-validated with a different university sample of 974 subjects (44% male, 56% female) as a third sample. By utilizing the ipsative scores of the subjects, Alden et al. (1990) provided clarity for interpersonal problems and their differentiation according to the circumplex structure. Eight scales with the circumplex feature were therefore obtained through completely statistical methods. For structural stability, the third independent sample ($N = 974$) was then used to confirm the applications. In the third university-based sample, eight interpersonal circumplex spaces of domineering, vindictive, cold, socially avoidant, nonassertive, exploitable, overly nurturant, and intrusive were found to be reliable (Cronbach alpha values ranged from .77 to .85) and intercorrelated (correlations ranged from -.57 to .46). They then tested the IIP circumplex scales for structural convergence with the Revised Interpersonal Adjective Scales (IAS-R; Wiggins et al., 1988) and found shared common circular area between them as expected. After each of these procedures were completed, a clean circumplex structure formed by the eight different scales and consisting of eight items each explained 65.05% of the total variance (Alden et al., 1990).

After Alden et al.'s (1990) study, Horowitz et al. (2000, as cited in Akyunus İnce, 2012, p. 39) developed the short version of the IIP-C as a 32-item inventory that preserved the structure of the original 64-item version. The internal consistency coefficient of the original IIP-32 was .93 for the total score and the subscales ranged between .68 and .87. The inventory's test-retest reliability was found to be .78. Convergent validity studies for the IIP-C were conducted with the 64-item version of the instrument (Horowitz et al., 2000, as cited in Akyunus İnce, 2012, p. 40).

Akyunus and Gençöz (2016) adapted the 32-item Inventory of Interpersonal Problems-Circumplex Scale short form (Horowitz et al., 2000, as cited in Akyunus İnce, 2012, p. 39) to the Turkish context due to the lack of a Turkish measurement inventory of interpersonal difficulties and distress. From the nonclinical population, using the snowball technique and online feedback incentive, a total of 1,298 adults ($n = 411$ males and $n = 887$ females), whose ages ranged between 18 and 68 ($M = 26.85$; $SD = 7.95$) years old, participated in the psychometric properties study of the IIP-C Turkish form. Measures applied to test the reliability were the internal consistency coefficients (.86 for the total IIP-C; .74 and .73 for the split halves), the Cronbach alpha coefficient for the subscales (between .66 and .84), the Guttman split-half reliability test (.90), test-retest reliability (.78, $p < .001$, $n = 89$ for the total IIP-C; between .67 and .85, $p < .001$, $n = 89$ for the subscales), and item total test correlations (between .16 and .59). For concurrent and criterion validity measurements, the Basic Personality Traits Inventory (BPTI; Gençöz & Öncül, 2012, as cited in Akyunus & Gençöz, 2016, p. 39) (between -.38 and .39, $p < .001$, $n = 1009$), the Multidimensional Scale of Perceived Social Support (MSPSS; Eker et al., 2001, as cited in Akyunus & Gençöz, 2016, p. 39) (-.32, $p < .001$, $n = 1003$), the Positive (-.22, $p < .001$, $n = 1002$) and Negative Affect (.45, $p < .001$, $n = 1002$) Schedule (PANAS; Watson et al., 1988, as cited in Akyunus & Gençöz, 2016, p. 39), and the Brief Symptom Inventory (BSI; Derogatis, 1992, as cited in Akyunus & Gençöz, 2016, p. 39) (.52, $p < .001$, $n = 988$) were applied. It can be seen that the IIP-C Turkish form was shown to have positive correlations with negative affect and psychological symptoms, and negative correlations with positive affect and perceived social support as reported in the original study. Although the correlation coefficients were lower than anticipated, all of the correlations in concurrent validity were found to be significant and in the expected direction by using the ipsative data. When the criterion validity was examined, expectation from the inventory to distinguish between high- and low-level psychological symptoms was met (Multivariate $F[8,979] = 30.27$, $p < .001$; Wilks' Lambda $= 0.80$, $\eta^2 = 0.20$); in other words, the subjects who showed higher levels of psychological symptoms experienced more problems across all eight of the interpersonal areas when compared to those who exhibited lower levels of psychological symptoms (Akyunus & Gençöz, 2016).

In addition to the satisfactory psychometric results of the IIP-C Turkish form, it was found to be consistent with the original study in terms of the two-factor structure of relational affiliation and dominance. The affiliation/nurturance dimension in interpersonal relationships was shown to vary between hostile-cold behaviors and friendly-warm behaviors, whilst the dominance/control dimension varied between domineering/controlling behaviors and submissive behaviors. Principal component analysis with varimax rotation was performed in order to determine the two-factor structure validity of the IIP-C scale according to ipsative data (Akyunus & Gençöz, 2016) which is the deviation from mean eliminated scores of all the individual subjects. The reason for using ipsative data instead of raw data here was to eliminate general distress or complaint factor which is defined as a general tendency of patients to express their distress. In this way, subscales for interpersonal problems could be evaluated independently from each other (Alden et al., 1990; Horowitz et al., 1988). The results supported the two-factor structure with eigenvalues above 1 (2.54 and 2.19) which explained variances of 31.71% and 27.38%, respectively, while the total explained variance was established as 59.09% for the Turkish sample. Thus, a result explaining the two-factor structure as relational dominance and affiliation was finally obtained. The internal consistency coefficient was found to range from .66 to .84 for the IIP-C subscales and the Cronbach alpha value for the total IIP-C Turkish form was .86. Considering factor distributions and item loadings, cross-loadings (items 4, 19, and 29) and loadings below .30 (items 3, 6, and 12) were preserved by the researchers so as to allow for cultural comparisons to be performed in future studies. Three nonassertive subscale items (4, 6, and 12) were not found to be adequately distinguished from the overly accommodating subscale, with a .66 correlation coefficient. This overlap was associated by the researchers with the unique structure of the Turkish culture (Akyunus & Gençöz, 2016).

Considering internal consistency values in other studies involving the IIP-C, Akyunus and Gültekin (2023) revealed a value of .91 for the total score and between .69 and .85 for the subscales; Akyüz Yılmaz (2020) found .87 for the total score and between .68 and .88 for the subscales; Faustino and Vasco (2020) found .93 for the total score and between .63 and .89 for the subscales; Bailey et al. (2018) found .93 for the total score and between .73 and .92 for the subscales; and Lo Coco et al. (2018) found .99 for the total score and between .78 and .98 for the subscales in their non-clinical sample.

Moreover, Lo Coco et al. (2018) provided satisfactory model fit ($\chi^2 = 512.871$; $df = 268$; CFI = .96; TLI = .92; RMSEA = .04; SRMR = .02; RMSEA = 90%, and CI = .03-.04) for the eight-factor structure of the IIP-C with Exploratory Structural Equation Modeling.

In the current research, the Cronbach alpha coefficient was calculated for internal consistency of the Turkish form IIP-C and its subscales. The internal consistency coefficients obtained from the 549-participant research sample were .82 for the IIP-C total, .70 for the *domineering/ controlling* subscale, .77 for the *vindictive/self-centered* subscale, .72 for the *cold/distant* subscale, .82 for the *socially inhibited* subscale, .63 for the *nonassertive* subscale, .63 for the *overly accommodating* subscale, .75 for the *self-sacrificing* subscale, and .69 for the *intrusive-needy* subscale. Among these values, the IIP-C total was shown to be sufficient in terms of reliability (Kline, 1999), although the coefficients of the subscales were not high. It can therefore be said that the subscale coefficients were of an acceptable level due to the low number of items (Cortina, 1993).

As a result, when the findings from the different studies above are evaluated, it can be said with certainty that the Turkish version of the IIP-C short form is a reliable and valid instrument.

3.4. Data Collection Procedure

After determining the research variables and the model of the study, the researcher applied to the Human Subjects Ethics Committee from the Applied Ethics Research Center of the Middle East Technical University (METU) for ethical permission to conduct the current study prior to proceeding to the implementation phase. The necessary ethical approval (see Appendix F) was obtained prior to the data being collected.

The researcher collected the study's data between April 2018 and March 2019 from undergraduate students receiving their education at a Turkish public university. In order to increase the diversity of undergraduate departments of the students who would take part in the sample, research permission was sought from the instructors of the mass courses that almost all students take. For the data collection, the researcher went

in person to visit the classrooms of those faculty members who agreed for research data to be collected within their classes in order to apply the study. The researcher first introduced themself to the students who were present in the classroom, talked about the research subject without going into too much detail, and stated that their participation in the study was entirely voluntary. It was mentioned that the data gathered would remain confidential and be seen only by the researcher, and that no specific information would be requested from them as participants that could reveal their identity. The students were also informed that if they agreed to participate in the study, they would not receive any reward, financial or otherwise, and would not be subject to any sanctions or penalization should they opt not to participate.

In addition to the scales to be applied, an informed consent form was provided separately that contained information such as the purpose of the current study, data confidentiality, the students' participation and withdrawal rights, and the contact information of both the researcher and researcher's academic supervisor. The students were advised that should they experience any situation during the application that they felt unable to cope with in terms of their emotional state, there were resources available to them at all times. It was stated that those who agreed to participate in the study were free to cease completing the scales at any point, cancel any fully or partially completed response forms, and maintained the right to withdraw from the study. The prospective study participants were then requested to sign the form or write a statement to approve their participation in the research. However, no information was requested that could reveal either their name or other information that could render them identifiable. The researcher briefly and audibly informed the students about the nature of their voluntary participation in the study, their right to participate and withdraw, and the purpose of the research in terms of ethical responsibility. Students who were not citizens of the Republic of Türkiye, and were unable to read and write Turkish fluently were excluded from the scales' application. The researcher requested that the participant students not converse or interact amongst themselves during the application. The application took between 10 and 20 minutes for each participant to complete, depending on their reading and response speed.

More than 640 students were reached in their classrooms, whilst 12 of them stated they did not want to participate in the research. As such, 24 of the 624 participants were

excluded due to being over the age of 26 years old. Additionally, 30 participants were also excluded due to their having not responded to all of the items in at least one of the scales, whilst others wrote more than one answer where only one was permitted on the related form, and some had left more than 10% of the questions unanswered even though they appeared to have answered the entire scale. As a result, the number of participants were subjected to analysis decreased to a revised total of 570.

3.5. Description of the Variables

The exogenous variables of the current study were ability-based social comparison and opinion-based social comparison, whereas the mediator variables were self-esteem and emotion dysregulation, and interpersonal problems formed the endogenous variable of the study.

3.5.1. Exogenous Variables

Ability-based social comparison was one of the exogenous variables of the current study. The ability-based social comparison included in the related model analyses was obtained from the total score from the ability subdimension of the Iowa-Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999), which measures social comparison orientation.

Opinion-based social comparison was another of the exogenous variables of the current study. The opinion-based social comparison included in the related model analyses was obtained from the total score from the opinion subdimension of the INCOM.

3.5.2. Mediator Variables

Self-esteem was one of the mediator variables of the current study. The self-esteem score used in the model analyses was the total score obtained from the Rosenberg's Self-Esteem scale (RSES; Rosenberg, 1965).

Emotion Dysregulation was another mediator variable in the current study. The emotion dysregulation score used in the model analyses was the total score obtained from the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004).

3.5.3. Endogenous Variable

Interpersonal problems formed the endogenous variable of the current study. The interpersonal problems score used in the model analyses was the total score obtained from the Inventory of Interpersonal Problems-Circumplex Scales Short Form (IIP-C; Horowitz et al., 2000, as cited in Akyunus İnce, 2012, p. 39).

3.6. Data Analyses

The current study aimed to test an evolutionary framework-based model that investigated the relationships between ability comparison, opinion comparison, self-esteem, and emotion dysregulation, and the effects of these variables on interpersonal problems within an undergraduate student sample. Structural equation modeling (SEM) was used to test the hypothesized model in keeping with this purpose. After the necessary procedures were applied prior to the analyses (e.g., screening and data accuracy checks), the relevant SEM assumptions (i.e., independent observations, sample size, missing data, influential outliers, univariate and multivariate normality, linearity, and multicollinearity) were also checked.

First, the measurement model and then the structural model were tested through AMOS 23. Then the relevant analyses were performed using IBM's SPSS version 25 statistical software for descriptive statistics and bivariate correlations. Accordingly, all the data collected for the study were tested with appropriate statistical examination tools in line with predetermined hypotheses.

3.7. Limitations of the Study

The current study has certain limitations which should be considered when evaluating the findings and inferences of the study.

First of all, the use of the convenient sampling method in preference to one of the random sampling methods represents a partial threat to the external validity of the research (McEwan, 2020). Hence, as a limitation of the current study, it should be taken into account that the paper-pencil data was collected from an accessible sample. Another limitation was collecting the data over a wide time range; hereby, external and confounding factors can be issue.

Another limitation pertained to the characteristics of the sample. Since the study was conducted with a nonclinical sample, the results cannot be generalized to clinical samples with similar demographic characteristics. The results obtained from the current study may therefore only be generalized to populations bearing similar characteristics to the research sample. Moreover, the research sample consisted of students from one of the most successful Turkish universities in terms of its academic ranking. Namely, that the study was conducted within one of the most prestigious universities in Türkiye, which is generally preferred by the country's most successful students. The students at this university are generally known as the most successful within their academic and social circles at the point at which they take Türkiye's national university placement exams. Therefore, it is possible that the students in the sample already have a higher than average academic achievement level and motivation for success. Moreover, the proportional excess of engineering faculty students in the sample should also be considered a limitation. To summarize, the environmental factors that the participants were exposed to throughout their lives, including their individual academic background, may have highlighted some of their personal characteristics, such as their competitiveness or pressure to succeed. For these and similar reasons, it may not be correct to generalize the results obtained to all undergraduate students in Türkiye.

Another limitation concerned social desirability bias and observer influence. Interaction between participant students during the application was not permitted by the researcher. However, traditional paper-pencil data collection methods, compared to the online version, can be open to the social influence of participants on each other, as well as the observer/practitioner influence within the classrooms where students are socially together. It should be kept in mind that these situations increase the risk of social desirability bias (see Cooper et al., 2000; Vallejo et al., 2008; Ward et al., 2014).

Another limitation of the study is that interpersonal problems and emotion dysregulation were not analyzed with their sub-dimensions, which may lead to a lack of specificity, masking divergent patterns and incomplete understanding. Another issue to consider was missing data, especially in terms of the questions used to gather the demographic information about the participants. Although complete answers were given to the research scales, 49 of the participants elected not to answer the question about their age in the demographic information section, whilst 42 participants did not answer the cumulative GPA question, and 19 did not indicate the number of siblings that they had. Little's MCAR test (Little & Rubin, 1983) for missing data analysis showed that the missing data from these three demographic questions were missing completely at random (MCAR). Although the analysis results show the missing data to be random, the unanswered demographic questions may indicate a hidden pattern within the research.

Another usual limitation relates to the measurements that were applied in the study. Firstly, one of the limitations of the current study is that two items were excluded from the opinion-based social comparison subscale, though for justified reasons. This situation can affect the results' comparability, interpretation, construct representation, and validity. Moreover, the concepts that the study claimed to measure were limited to the relevant measurement tools' validity, reliability, and psychometric properties. One of the internal validity threats to consider, therefore, was the collection of research data using the self-report method. The accuracy of the results is obviously limited to what the participants comprehend from the measurement tools and to what extent they were genuine in the answers that they gave. Furthermore, according to Epstein and Morling (1995), self-report measures can provide information only about the person's conscious and explicit evaluations, and such information may or may not overlap with the implicit self-evaluations revealed through their experiences, and which would offer a more substantial and more direct effect on their emotions and behaviors. Regarding the current study's research variables, the fact that social comparison is mostly an involuntary function (Gibbons & Buunk, 1999; Kedia, Mussweiler, & Linden, 2014) supports the alleged weakness of the self-report method of data collection. In other words, since social comparison is an unconscious operation or behavior, in most cases, it cannot be said that it measures the intended behavior exactly, even though the INCOM has been shown to be both a reliable and valid instrument. A similar issue

may also be in question in other research variables. For instance, it should be kept in mind that sometimes responders may be defensive when measuring interpersonal problems, whilst a measurement made through an observer-based research method could arguably provide relatively more objectivity.

Furthermore, the current study is founded on the evolutionary framework. Definitely, it could have been constructed differently by considering different theoretical bases such as behavioristic, cognitive, or ecological approaches, and differentiated evaluations and inferences could therefore have been obtained. Additionally, although the relationships between variables were presented as unidirectional in the theory-based model of the current study, many associations of psychological experiences can be bidirectional in the real experiences of the individual. Namely, the responses to the stimuli may not occur in an exact order or direction. Improved certainty of the obtained results may be possible by experimentally testing the hypothesized mechanism in daily life or in laboratory conditions. Therefore, since the current research was not of the experimental design, it did not determine conclusive causation (Collier, 2020). The causality of the results obtained in the current research was not deterministic causality; on the contrary, it was probabilistic causality provided through SEM (Kline, 2016).

CHAPTER 4

RESULTS

There are four main sections in this chapter. The first section addresses the preliminary analysis of the data, and includes the details of the data screening process and the assumptions of structural equation modeling (SEM). The second section reveals the descriptive statistics such as mean values, standard deviations, and correlations, whilst the third section of the chapter contains subsections on the measurement model, the structural model, testing of the proposed model, direct and indirect effects, and testing of the study's hypotheses. A summary of the study's findings is then presented as the fourth section.

4.1. Preliminary Analyses of the Data

Procedures related to data screening and accuracy of the data were conducted prior to performing the analysis of SEM as a part of the preliminary analyses, followed by testing the assumptions of SEM. These tested SEM assumptions were independent observations (Newton & Rudestam, 2013), sample size, missing data, influential outliers, univariate and multivariate normality, as well as linearity and multicollinearity (Ullman, 2013). Each of these preliminary analyses were conducted using IBM's SPSS version 25 and AMOS 23 statistical software.

4.1.1. Screening and Accuracy of the Data

Data screening and data accuracy checks were applied prior to the primary analysis of the whole dataset. First, since the data were entered manually by the researcher, it was tested as to whether or not it had been applied accurately. Random selections were

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made from the application forms previously entered by the researcher, and the accuracy of the entered values were checked. Then, minimum-maximum values, frequencies, mean, and standard deviation values, as well as reverse-coded items were also checked via SPSS 25.

4.1.2. Assumptions of SEM

Before performing the SEM analyses, the assumptions of confirmatory factor analysis (CFA) and SEM for independent observation (Newton & Rudestam, 2013), adequate sample size, missing data, influential outliers, univariate and multivariate normality, as well as linearity, homoscedasticity, and multicollinearity were respectively tested (Ullman, 2013).

4.1.2.1. Independent Observations

Independence of observations is the condition that different participants in the sample do not have commonalities or similarities except for their being in the same sample. In other words, the responses of each participant should be unaffected and independent from each other (Newton & Rudestam, 2013) and there should be no repeated measurement of the same participants. Accordingly, participants should not be able to cause interference to each other, and should not interact with each other in a way that affects their answers given in the research whilst responding to measurement tools. Each participant should independently be able to answer research questions in their own way.

Therefore, in order to ensure this assumption, the researcher informed the participants prior to the application that each participant should give their own subjective answers that they should not look at or show each other their answer form, and there should be no interaction between the participants. Throughout the application, the researcher, who observed the class and maintained control during the response process, immediately intervened in situations where any participant interaction was spotted.

In cases where participant responses are suspected to have affected each other, that is, when there are deficiencies in meeting the independence of observations assumption,

the intraclass correlation coefficient method would normally be applied (Newton & Rudestam, 2013). However, in the current study, it was assumed that the precautions taken and the control measures implemented by the researcher provided the necessary assumption of independent observations.

4.1.2.2. Sample Size

Since SEM is a technique that can be conducted with a large-sized sample (Kline, 2016), the question of how many subjects should be included in the sample is important in terms of testing any proposed model. There have been different suggestions put forward in the literature for adequate sample size. For instance, Anderson and Gerbing (1984) stated that more than 200 participants is deemed sufficient, whilst Bentler and Chou (1987) stated that there should be five to 10 observations per estimated parameter, and Kline (2016) stated that a 20:1 sample size to parameter ratio is ideal, but that less ideal but acceptable would be a 10:1 ratio. In the current study, when only the item numbers of the scales are taken as basis, the total observed variables can be calculated as 89. However, since not all scales were included as latent variables in the structural model, the current study's model has a total of 58 free parameters which includes 24 factor loadings and observed variables, 24 covariance errors, and 10 correlations among the latent and observed variables. The ratio of 570 cases to 58 estimated parameters is just over 9.8:1. This ratio seems insufficient, especially considering Kline's (2016) ideal recommendation of 20:1 or less ideal recommendation of 10:1. On the other hand, a sample of 570 would meet the criteria of Anderson and Gerbing (1984) and also Bentler and Chou (1987). Considering these evaluations, it was accepted that the sample size of 570 was deemed to be adequate for the testing of the current model.

4.1.2.3. Missing Data

When conducting SEM analysis, there should be no missing value within the dataset. This subsection determines the amount of data missing and the imputation method employed to apply corrections to the dataset. Prior to the subsequent analysis, missing value analyses and imputations (Pallant, 2016) were performed. Although the missing

data rates were found to be very low across the sample (the ratio of missing data to full data in the same item varied from 0.2% to 1.2%), Little's MCAR test (Little & Rubin, 1983) was used to determine whether or not the missing data were considered random.

From the results of this analysis, it was revealed that some of the missing data were MCAR (missing completely at random), while the remainder were MNAR (missing not at random). In the first set of data, INCOM (the Iowa-Netherlands Comparison Orientation Measure) was MCAR $\chi^2 = 58.858$ ($df = 49$; $p = .16$); RSES (Rosenberg Self-Esteem Scale) was MNAR $\chi^2 = 50.306$ ($df = 27$; $p = .00$); DERS (Difficulties in Emotion Regulation Scale) was MNAR $\chi^2 = 995.810$ ($df = 799$; $p = .00$); and IIP-C (Inventory of Interpersonal Problems-Circumplex Scale) was MNAR $\chi^2 = 566.031$ ($df = 491$; $p = .01$). In the missing value analysis of the second set of data, INCOM was MCAR $\chi^2 = 40.935$ ($df = 30$; $p = .09$); RSES had no missing values; DERS was MCAR $\chi^2 = 239.407$ ($df = 209$; $p = .07$); and IIP-C was MCAR $\chi^2 = 161.193$ ($df = 153$; $p = .31$). As can be seen, only the RSES, DERS, and IIP-C scales from the first set of data were missing data not at random (MNAR). In the justification of this situation, it may be said that chi-square is sensitive to sample size (Schumacker & Lomax, 2016) and a large sample size can result in a significant chi-square value. In addition, any imputation method will give similar results with a missing value of less than 5% (Tabachnick & Fidell, 2013). When looking at the scales that gave an MNAR result, the sample consisted of more than 200 participants (i.e., $N > 200$) and can therefore be accepted as a large-sized sample. In addition, in the items containing missing data, the ratio of the missing to complete values varied between 0.2% and 1.2%, that is well below the 5% threshold. As a result, since the expectation-maximization (EM) algorithm is more sophisticated than other methods, it was selected over that of other imputation methods such as listwise or pairwise deletion, mean substitution, regression-based substitution, or pattern matching (Kline, 2016; Schumacker & Lomax, 2016). Thus, by imputing missing data according to the EM algorithm, the data were prepared so as to be ready for further analysis.

Furthermore, same analyses were conducted for demographic variables that significantly contained missing data in the sample characteristics. Although there was no serious level of missing data from the responses to the applied scales, the rate of

those participants who did not respond to the descriptive questions such as age and cumulative GPA in demographic information part was found to be relatively high. In the sample, those who did not specify their age constituted 8.6% of the sample ($n = 49$), whilst 7.4% ($n = 42$) did not indicate their cumulative GPA. In addition, 3.3% ($n = 19$) of the participants did not indicate the number of siblings they had. Analysis of the missing data in terms of the participants' age, cumulative GPA, and number of siblings was examined using Little's MCAR test (Little & Rubin, 1983). The missing data in the age variable $\chi^2 = 7.491$ ($df = 4$; $p = .11$), cumulative GPA variable $\chi^2 = 9.068$ ($df = 4$; $p = .06$), and number of siblings variable $\chi^2 = 4.097$ ($df = 4$; $p = .39$) were found to be missing completely at random (MCAR). In the analyses involving the demographic variables, only cases with the relevant missing data were excluded; in other words, the pairwise deletion method (Lewis-Beck et al., 2004) was applied.

4.1.2.4. Univariate and Multivariate Outliers

The current assumption is about checking univariate and multivariate outliers, although the outliers will again be processed whilst analyzing the assumptions of normality in the subsequent step. Since outliers affect values such as mean, standard deviation, and correlation coefficient (Schumacker & Lomax, 2016), and also cause both Type I and Type II errors (Tabachnick & Fidell, 2013), they should be discussed and explained, deleted, or accommodated where necessary (Schumacker & Lomax, 2016). Field (2009) stated that checks should be made as to whether or not problematic outlier cases were entered correctly, and then whether random or intentionally wrong answers were given by a study's participants. Following these checks, Field also stated that the case should be considered with valid reasons to be removed, transformed, or changed.

According to the total scores of the scales applied in the data of the 570-participant sample, when the univariate outliers were viewed with boxplot (in descending outlier order per scale), item number 284 in the INCOM, items numbered 288, 289, 398, 63, and 110 in the RSES, items numbered 398 and 561 in the DERS, and item number 531 in the IIP-C were observed to be univariate outliers. In order to detect univariate

outliers of the study's model by way of an alternative method, the total scores of the scales were transformed to standard z-scores via SPSS 25. When the univariate outliers were then examined using z-scores, it was seen that, in descending outlier order, row numbers 284, 320, 415, 288, 398, and 531 exceeded the +3.29 to -3.29 range (Tabachnick & Fidell, 2013). When the survey forms of these participants were examined, it was found that some of them gave extreme responses across almost all the scales. The remaining participants, on the other hand, responded to the scales by following exactly the same column, regardless of the reversed items. In the univariate outlier analysis, it was also determined that the cases with row numbers 110, 284, and 288 were also multivariate outliers. Consequently, it was concluded that it was the better option to remove the detected univariate outliers based on the boxplot and z-scores methods. According to descending outlier order, the 10 cases numbered as 561, 531, 415, 398, 320, 289, 288, 284, 110, and 63 were removed from the 570-participant dataset, leaving a revised total of 560 participants as the source of the study's research data.

After removing the univariate outliers from the data, multivariate outliers were checked for the remaining 560 participants. Therefore, Mahalanobis distance values were calculated with the total scores of the three scales and 11 items from one scale as used in the model so as to detect multivariate outliers. In actuality, no cases that exceeded the critical chi-square value (Tabachnick & Fidell, 2013) of 36.12 were found, with the highest Mahalanobis distance value being 35.87. As a result, no multivariate outliers were detected greater than $\chi^2 (14) = 36.12$ ($p < .001$) in the data of the 560 cases analyzed. However, when the Mahalanobis distance values were examined, it was understood that the highest 11 cases differed significantly from the remaining cases. The observation numbers of these 11 cases, in descending outlier order, were 7, 140, 198, 499, 261, 549, 443, 283, 429, 79, and 316, with Mahalanobis d^2 values having varied between 35.87 and 29.46. These 11 cases were then excluded from the total dataset based on the gap in Mahalanobis d^2 values between the 11 cases and the remainder of the data (Byrne, 2016). This resulted in a revised total of 549 individual's data having remained to continue the next phase of the analysis. Overall, the univariate and multivariate assumptions were all met based on these statistical steps.

4.1.2.5. Univariate and Multivariate Normality

Maximum Likelihood estimation from SEM analyses requires normality in continuous variables (Kline, 2016), since nonnormality leads to inflated model fit estimates and chi-square values (Collier, 2020). Therefore, providing the assumption of normality for valid results is a prerequisite (Kline, 2016). In cases where the normality assumption cannot be met, it is recommended to use robust the maximum likelihood (ML) estimation method with the Satorra-Bentler scaled chi-square (Ullman, 2006). However, software such as AMOS 23 (Arbuckle, 2014) do not include the robust ML and Satorra-Bentler scaled chi-square (Satorra & Bentler, 1994) options. When normality assumption cannot be met, the recommendation when using AMOS is to conduct 1,000-sample bootstrapping and Bollen-Stine procedure. In this way, by making nonparametric measurements, the nonnormality effect is limited and less biased results can be obtained (Byrne, 2016). Nevitt and Hancock (2001) showed that bootstrapped estimation achieved less biased results compared to ML estimation in the condition of non-normality and large sample size. However, even if these steps resolve the nonnormality problem, sometimes significant ($p < .05$) results are still obtained since Bollen-Stine bootstrapping is very sensitive to sample size, indicating that the model does not fit well (Collier, 2020). In summary, different statistical programs have different processing options in order to eliminate the necessity for normality which is an absolute requirement in SEM analysis using the ML estimation method. However, there are also certain disadvantages as well as advantages for each method, so it seems the best option to cater for the normality assumption wherever possible.

Based on the aforementioned information, the normality assumptions in the current research were tested for both univariate and multivariate normality using the AMOS 23 software. Skewness and kurtosis indices were used for univariate normality (Mardia, 1975), where values should be zero for normal distribution; however, Kline (2016) stated that values up to 3 for skewness and 10 for kurtosis were also acceptable for normality. When the univariate normality of the whole 549-case sample was examined, it was seen that the skewness value ranged between -0.72 and 0.51, meaning that skewness values were within an acceptable range. The kurtosis values varied between -1.00 and 0.62, meaning that this range was also shown to be within the

acceptable limits of univariate normality. The related statistics are detailed as shown in Table 4.1.

For multivariate normality assumption in the 549-case sample, the 4.65 multivariate value represents Mardia's (1970, 1974) coefficient of multivariate kurtosis with a critical ratio of 2.58 showing slight or ignorable deviation from multivariate normality ($p < .001$). There is no absolute upper numerical limit on the value of multivariate normality that researchers have fully agreed upon. Ullman (2006) accepted values greater than 3.00, whilst Bentler (2005) suggested that values greater than 5.00 were an indicator of multivariate nonnormality. On the other hand, Kline (2016) stated that values of up to 10.00 and Gürbüz (2019) stated that values of up to 20.00 for Mardia's coefficient may not pose any serious problem, especially in large samples, when testing multivariate normality. In testing the normality assumption in the current study's research sample, multivariate kurtosis was found to be 4.65 with a 2.58 critical ratio ($p < .001$). These values can be considered highly acceptable in the current study, even when based on the more conservative criteria of Bentler (2005) and Ullman (2006). Consequently, when looking at multivariate normality in the current sample of 549 participants, it was understood that the multivariate normality assumption was met according to Mardia's (1970) coefficient of multivariate kurtosis being 4.65 with a critical ratio of 2.58 ($p < .001$).

As can be seen, both the univariate and multivariate normality assumptions were met. The factors that were effective in ensuring univariate and multivariate assumptions were the elimination of the problematic response forms in the previous stages, and compliance with the suggestion that a reasonable number of outliers should be removed from the sample with valid evaluations (Aksu et al., 2017; Bayram, 2016). In addition, taking only the exogenous variable as a latent variable in the model and taking the scales that measured the endogenous and mediator variables as the total score, or observed variable due to the high item numbers, made it statistically easier to meet the normality assumptions. If all the applied scales were taken as latent variables, it would not be possible to meet the normality assumption with low Mardia's coefficient, hence the Bollen-Stine procedure could be used in addition to bootstrapping. Finally, both univariate and multivariate normality assumptions were

met in the current analyses on the basis of the variables defined in the research model and using a sample of 549 participants.

Table 4.1

Indices of Univariate and Multivariate Normality for the Study Variables

Variable	Minimum	Maximum	Skewness	c.r.	Kurtosis	c.r.
incom1	1.00	5.00	-0.30	-2.85	-0.84	-4.02
incom2	1.00	5.00	-0.18	-1.70	-0.83	-3.97
incom3	1.00	5.00	-0.53	-5.09	-0.51	-2.43
incom4	1.00	5.00	0.20	1.90	-1.00	-4.77
incom5	1.00	5.00	0.36	3.48	-0.61	-2.92
incom6	1.00	5.00	-0.06	-0.57	-0.99	-4.74
incom7	2.00	5.00	-0.68	-6.52	0.38	1.82
incom8	2.00	5.00	-0.67	-6.37	0.62	2.97
incom9	2.00	5.00	-0.44	-4.19	-0.27	-1.28
incom10	1.00	5.00	-0.72	-6.93	0.57	2.72
incom11	1.00	5.00	-0.23	-2.20	-0.65	-3.11
rsestot	17.00	40.00	-0.15	-1.44	-0.51	-2.43
derstot	41.00	146.00	0.51	4.89	-0.19	-0.90
iipctot	37.00	112.00	-0.01	-0.13	-0.52	-2.50
Multivariate					4.65	2.58

Note. $N = 549$, c.r. = critical ratio, all values significant at $p < .001$

4.1.2.6. Linearity and Homoscedasticity

The chronological predecessors of structural equation modeling are regression, path, and confirmatory factor analyses. SEM includes and covers these three statistical

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processing methods, both conceptually and in practice (Schumacker & Lomax, 2016). Linearity and homoscedasticity are one of the common assumptions of regression analyses and SEM. In this section, the linearity and homoscedasticity assumptions of the 549-participant research data will be checked. This will bring additional evidence that the research data are multivariate normal (Tabachnick & Fidell, 2013).

Linearity is the case of a straight, continuous, and consistent relationship between the mean values of outcome and predictor variables when they both increase or decrease. In other words, while one value increases or decreases at a certain rate, the other should also correspondingly increase or decrease at the certain rate. There is, therefore, a predictability in the relationship between the outcome and predictor variables. When this condition is not met, in the case of non-linearity, generalizability of a study's findings is not possible. Although linearity and homoscedasticity conceptually complement each other, it is necessary to look at the definitions of homoscedasticity and heteroscedasticity, since their definitions and operations include certain differences. Homoscedasticity is the case where residual terms are constant at each level of the predictor variables. That is, homoscedasticity is provided if the variance is similar at each level. If the variance is not equal at each level of a predictor variable, the spread of residuals will differ; this situation is referred to as heteroscedasticity (Field, 2009). For SEM, both of these conditions should be met.

One method of checking linearity and homoscedasticity assumptions is the visual examination of scatterplots (Tabachnick & Fidell, 2013). Based on the research model of the current study, a scatterplot was checked using SPSS 25, taking the IIP-C as the dependent variable and the RSES and DERS scales as the independent variables. Field (2009) stated that if the points of a scatterplot are distributed randomly and evenly, then the linearity and homoscedasticity assumptions can be considered satisfied. Therefore, both the linearity and homoscedasticity assumptions were met in the current research according to a review of the generated scatterplot (see Figure 4.1).
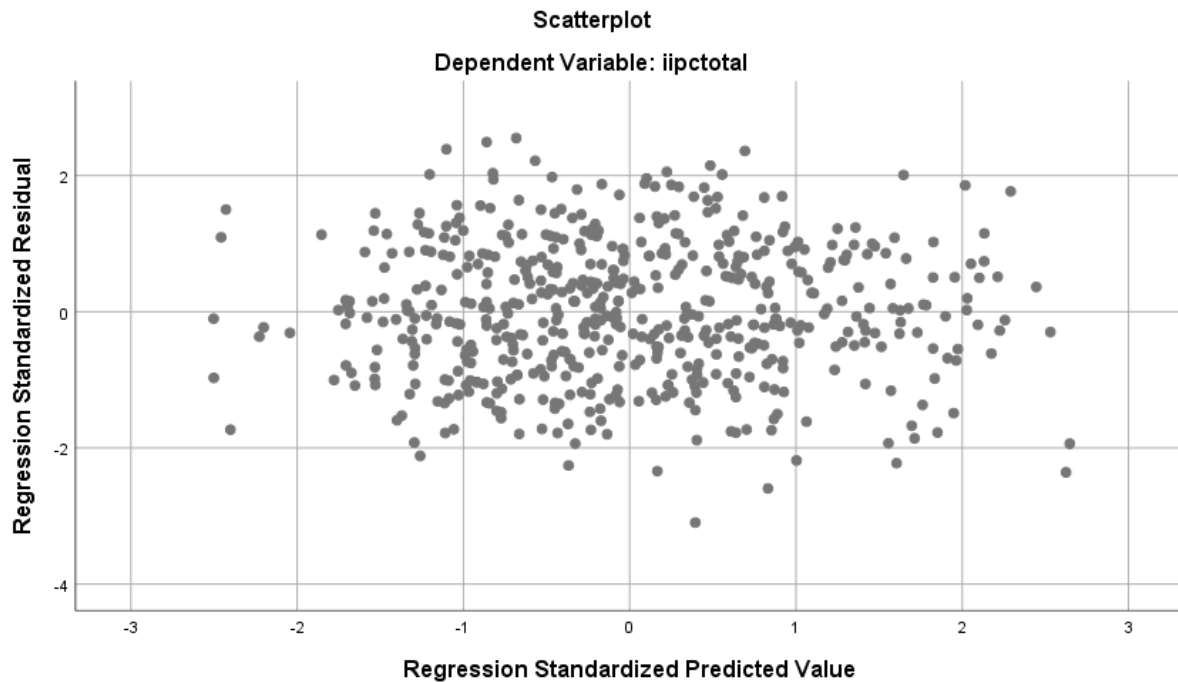
Figure 4.1. Scatterplot of all the study's variables

4.1.2.7. Multicollinearity

Multicollinearity is a necessary assumption of SEM in order to avoid redundant variables in the model.

Separate variables measuring the same construct are referred to as extreme collinearity or multicollinearity; these related variables should not exist in the same analysis simultaneously (Kline, 2016). The rationale behind this is that multicollinearity leads to inflation of the error terms and weakening of the analysis (Tabachnick & Fidell, 2013).

There are three reciprocal signs of multicollinearity; one of these concerns high bivariate correlations among the variables. If inter-correlations among the variables exceed $r = .90$, this indicates the existence of multicollinearity (Kline, 2016). In the case of multicollinearity, one of the related variables should either be deleted or composite scores created. Another method that may be employed to detect extreme collinearity is to check the tolerance value, which is obtained by subtracting the squared multiple correlation value (R^2) from 1 (1 - R^2) (Tabachnick & Fidell, 2013). If the tolerance value is less than .10, this indicates the existence of multicollinearity.

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The final other method that may be employed to detect multicollinearity is variance inflation factor (VIF), which is calculated according to the formula $1 / (1 - R^2)$. If the VIF value is found to be greater than 10 (VIF > 10.0), then it may be considered that the variable is redundant (Kline, 2016).

The results of the IIP-C, DERS, and RSES scales, plus two subscales from the INCOM (ability comparison and opinion comparison), were examined with the research data of the study's 549 participants. The inter-correlations among the variables were found to be between -.55 and .49, whilst the tolerance values varied between .65 and .76, and the VIF values were between 1.32 and 1.54. According to these results, it may be said that no violation for multicollinearity was shown to exist, therefore the multicollinearity assumption was met.

4.2. Descriptive Statistics

The minimum and maximum values, means and standard deviations of the exogenous, mediator, and endogenous variables were calculated as can be seen presented in Table 4.2. In addition to the descriptive statistics, bivariate correlations between the research variables are presented in Table 4.3. While conducting the analyses, the state of the research variables in the model was taken as basis. In other words, those taken as the total score in the research model were included as the total score, and those taken as the subscale were included as the subscale in the descriptive analyses. Therefore, subscale descriptive statistics of the total score variables were not given.

4.2.1. Means and Standard Deviations of the Scales

Prior to testing the measurement and structural model, mean, standard deviation, and score ranges of the exogenous, mediator, and endogenous variables were examined using descriptive statistics, and the results are presented in Table 4.2. The information presented here is the data of 549 participants, prepared and revealed following the preliminary analysis. However, since possible changes to be made in the measurement tools of the variables during testing of the models have not yet taken place, their final structures were not taken a basis here.

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In the current study, the range, mean, and standard deviation of the total score obtained from the INCOM (Gibbons & Buunk, 1999) were also calculated and presented, although it was not included in the measurement and structural model with its total score. While the INCOM scores in the current study ranged from 21 to 55, the mean for the 549 participants was obtained as 37.91 ($SD = 6.44$), and the item-level mean and standard deviation were found as 3.45 ($SD = 0.59$). When the means of INCOM in other studies in the literature were examined, it was seen that the mean value was 38.05 ($SD = 6.79$) in a sample of 599 participants from the Netherlands, 39.75 ($SD = 6.39$) in a United States sample of 2,460 (Gibbons & Buunk, 1999), 33.2 ($SD = 6.2$) in a Hungarian sample of 560, 34.6 ($SD = 6.5$) in a Polish sample of 662, 39.5 ($SD = 5.4$) in a Turkish sample of 539, 35.4 ($SD = 5.7$) in a United States sample of 626 (Piko et al., 2005), and 36.39 ($SD = 7.46$) in a sample of 375 Turkish university students (Teközel, 2000).

The ability comparisons of the current study's participants were measured using the six-item ability comparison subscale of the INCOM instrument (Gibbons & Buunk, 1999), which is formed as a 5-point, Likert-type scale. In the analysis of the 549 participants' data, the ability comparison mean was found to be 18.49 ($SD = 4.79$), while the values ranged between 6 and 30, and the item-level mean and standard deviation were found as 3.08 ($SD = 0.80$). In different studies, it was 3.14 ($SD = 0.90$) in a United States sample of 381 participants (Kim, Callan, et al., 2017), 16.2 ($SD = 7.63$) in an adult sample of 1,058 participants (Schneider & Schupp, 2014), 3.16 ($SD = 0.90$) in a sample of 208 undergraduates (Yang & Robinson, 2018), and 2.55 ($SD = 0.90$) in a Korean sample of 331 participants (Park & Baek, 2018).

The opinion comparison subscale of the INCOM, another exogenous variable in the current study, consists of five items as a 5-point, Likert-type subscale (Gibbons & Buunk, 1999). The current study revealed that the 549 participants' opinion comparison scores ranged from 12 to 25, with a mean of 19.42 ($SD = 2.58$), and the item-level mean and standard deviation were found as 3.88 ($SD = 0.52$). Comparatively, it was obtained as $M = 3.70$ ($SD = 0.67$) in a United States sample of 381 participants (Kim, Callan, et al., 2017), 17.31 ($SD = 6.0$) in a sample of 1,058 adults (Schneider & Schupp, 2014), 3.73 ($SD = 0.85$) in a sample of 208

undergraduates (Yang & Robinson, 2018), and 3.01 ($SD = 0.63$) in a Korean sample of 331 participants (Park & Baek, 2018).

The 4-point, Likert-type version of the Rosenberg self-esteem scale (Rosenberg, 1965), which is one of the mediator variables in the current research model, is used to measure global self-esteem. The 549 participants in the current study received total scores ranging from 17 to 40 from the 10-item scale. The mean of the total scores obtained by the participants in the current study was 30.74 ($SD = 5.05$), and the item-level mean and standard deviation were found as 3.07 ($SD = 0.51$). When compared with the mean values obtained from other studies, it was seen that the current study's mean was similar to that of 427 undergraduate students in China ($M = 30.21$, $SD = 4.45$) (Kong et al., 2015), lower than the mean of 213 African American college students ($M = 33.24$, $SD = 4.60$) (Utsey et al., 2000), higher than the mean of 1,407 adolescents in Malaysia ($M = 28.06$, $SD = 3.69$) (Yaacob et al., 2009), and similar to the mean of 801 university students in Türkiye ($M = 3.10$, $SD = 0.55$) (Barutçu Yıldırım & Demir, 2020).

Measuring difficulties in the participants' emotion regulation is another mediator of the current study's model, by way of the DERS (Gratz & Roemer, 2004) measurement tool, which is a 5-point, Likert-type scale consisting of 36 items. The study's 549 participants received total scores from the DERS ranging from 41 to 146, with a mean of 86.13 ($SD = 20.64$), and the item-level mean and standard deviation were found as 2.39 ($SD = 0.57$). When the mean scores obtained from some other studies were examined, it was seen that it was 77.99 ($SD = 20.72$) in a sample of 260 female undergraduate students (Gratz & Roemer, 2004), 80.66 ($SD = 18.79$) in a sample of 97 male undergraduate students (Gratz & Roemer, 2004), 80.22 ($SD = 18.92$) in a sample of 153 adult violent offenders and 79.46 ($SD = 18.49$) in a sample of 197 adults (Garofalo et al., 2016), 78.81 ($SD = 19.84$) in a sample of 338 Turkish undergraduate students (Rugancı & Gençöz, 2010), and 138 ($SD = 22.9$) in a sample of an adult clinical sample diagnosed with borderline personality disorder (Euler et al., 2021).

The concept of interpersonal problems, the study's endogenous variable, was measured with the Inventory of Interpersonal Problems-Circumplex Scales Short Form (IIP-C: Horowitz et al., 2000, as cited in Fournier et al., 2011, p. 61) which consists of 32 items. In the current study, 549 participants received total scores ranging

from 37 to 112 from the 5-point, Likert-type IIP-C, with a mean score of 74.71 ($SD = 13.65$), and the item-level mean and standard deviation were found as 2.33 ($SD = 0.43$). When the values taken from other studies were explored, it was seen that the mean score was 11.79 ($SD = 4.67$) in a sample of 32 adult psychosomatic outpatients (Schmitz et al., 1999), 1.27 ($SD = 0.53$) in a sample of 115 members of an adult cognitive behavioral group therapy (McEvoy et al., 2014), 69.19 ($SD = 17.58$) in a sample of 229 college students (Wei et al., 2005), 40.33 ($SD = 18.34$) in a sample of 515 undergraduate students (Wei et al., 2003), 87.90 ($SD = 29.21$) in a sample of participants with a high level of psychological symptoms (Akyunus & Gençöz, 2016), 27.44 ($SD = 13.57$) in a sample with a correspondingly low level of psychological symptoms (Akyunus & Gençöz, 2016), and 75.86 ($SD = 15.24$) in a sample of 648 Turkish adults with a mean age of 25.76 ($SD = 4.22$) years (Akyunus et al., 2021).

4.2.2. Bivariate Correlations among the Research Variables

Prior to performing the measurement and structural model analyses, bivariate correlation analysis was conducted in order to examine the relationships among the research variables. Pearson correlation coefficients showing the relationships among the variables are presented in Table 4.3. The strengths of the correlation coefficients (r) obtained were evaluated according to Field's (2009) recommendation, with r values between .10 and .29 indicating a small correlation, between .30 and .49 as a medium correlation, and .50 or above as a large correlation.

When Table 4.3 is examined, it can be seen that there was an expected moderate and positive correlation ($r = .48$, $p < .01$) that was close to strong between the concepts of ability comparison and opinion comparison, which are the subscales or sub-concepts of social comparison orientation (INCOM: Gibbons & Buunk, 1999).

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Table 4.2

Number of Items, Range of Scores, Means, and Standard Deviations of the Research Variables

Variable	Scale/Subscale	Number of Items	Potential/actual score range	*M*	*SD*
Social comparison orientation	INCOM / Total score	11	11-55 / 21-55	37.91	6.44
Ability comparison (sub-concept: Social comparison orientation)	INCOM / Ability comparison	6	6-30 / 6-30	18.49	4.79
Opinion comparison (sub-concept: Social comparison orientation)	INCOM / Opinion comparison	5	5-25 / 12-25	19.42	2.58
Self-esteem	RSES	10	10-40 / 17-40	30.74	5.05
Difficulties in emotion regulation (or emotion dysregulation)	DERS	36	36-180 / 41-146	86.13	20.64
Interpersonal problems	IIP-C	32	32-160 / 37-112	74.71	13.65

Note. Sample size, *N* = 549

Table 4.3

Bivariate Correlations among the Research Variables

	1	2	3	4	5
1. Ability comparison	1				
2. Opinion comparison	.48**	1			
3. Self-esteem	-.31**	-.06	1		
4. Emotion dysregulation	.37**	.10*	-.55**	1	
5. Interpersonal problems	.37**	.13**	-.39**	.49**	1

Note. Sample size $N = 549$, $*p < .05$, $**p < .01$
Ability comparison = INCOM ability subscale; Opinion comparison = INCOM opinion subscale; Self-esteem = RSES; Emotion dysregulation = DERS; Interpersonal problems = IIP-C

Considering the relationship of ability comparison with self-esteem, it can be seen that a negative and moderate correlation ($r = -.31$, $p < .01$) exists between them. As the comparison of the abilities of an individual increases, their self-esteem also decreases. In other words, as an individual's self-esteem increases, their ability comparison with others decreases.

Looking at the ability comparison and emotion dysregulation relationship, it can be seen that a moderate correlation at the level of $r = .37$ ($p < .01$) was revealed. According to the positive correlation between them, as ability comparison increases, difficulties in emotion regulation also increase. That is, as an individual compares their abilities or possessions with those of others, they may experience some confusion and regulation difficulties in their emotions.

Considering the relationship between the ability comparison exogenous variable and the interpersonal problems, which is the endogenous variable, a positive and moderate correlation ($r = .37$, $p < .01$) can be seen. That is to say, those who compare their abilities and their possessions with those of others also experience problems in the field of interpersonal relations. As their ability comparison increases, it seems unlikely they will establish and maintain the desired healthy social relationships.

When the relationships of opinion comparison, one of the exogenous variables, with the other variables are examined, it can be seen that no significant correlation ($r = -.06$, $p > .05$) was found to exist with self-esteem. This result means that those who compare their opinions with others do not have a positive or negative experience about their self-esteem.

Opinion comparison has a positive but weak correlation ($r = .10$, $p < .05$) with emotion dysregulation. As individuals compare their opinions with those of others, they also experience difficulties in their emotional regulation. The interpersonal problems variable also has a similar strength and directional relationship to that of opinion comparison ($r = .13$, $p < .01$). This means that those who frequently compare their opinions with others also experience interpersonal problems. However, one of the things to be considered here is that ability comparison has stronger correlations with the research variables compared to opinion comparison.

Among the research variables, self-esteem and emotion dysregulation are the two variables with the strongest correlation with each other, and are also mediator variables in the current model. Self-esteem and difficulties in emotion regulation have a strong correlation in the negative direction as $r = -.55$ ($p < .01$). As self-esteem increases, difficulties in emotion regulation decrease; or conversely, as self-esteem decreases, difficulties in emotion regulation increase.

The correlation between self-esteem and interpersonal problems is also considerable ($r = -.39$, $p < .01$), with a negative direction and of moderate strength. Accordingly, the higher an individual's self-esteem, the less likely they are to experience problems in relationships with others.

The final bivariate correlation is between emotion dysregulation and interpersonal problems, where there is a positive and almost strong correlation between these two research variables ($r = .49$, $p < .01$). In other words, as an individual experiences difficulties in emotion regulation, they also experience interpersonal problems. Or, having interpersonal problems also indicates an experience of emotion dysregulation. Here, rather than a causality, one may speak of coexistence/comorbidity or cyclicity of the constructs.

Eventually, the bivariate correlations among ability comparison, opinion comparison, self-esteem, emotion dysregulation, and interpersonal problems were analyzed through Pearson correlation coefficients and the obtained results were presented.

4.3. Model Testing

The testing of a research model in SEM consists of two main stages: the measurement model and the structural model. The relationships between observed and latent variables were examined in the measurement model. In the structural model, the hypothesized model was examined in terms of its fitness with the research data (Brown, 2006; Fan et al., 2016). The current section first examines the measurement model with the CFA, followed by the structural model.

4.3.1. Measurement Model

The current subsection addresses testing the measurement model of the research through confirmatory factor analysis (CFA) with the whole sample ($N = 549$). The assumptions of CFA, as in data accuracy, sufficient sample size, missing values, univariate normality, multivariate normality, influential outliers, as well as linearity, and multicollinearity (Ullman, 2013), have already been demonstrated to have been met. As a result, the research data was considered to be ready for further analysis of the model.

The measurement model or CFA is generally used interchangeably for similar purposes when performing a model testing (Ullman, 2006). The main purpose of a measurement model is to determine non-causal relationships between latent and observed variables (Schumacker & Lomax, 2016). Measurement models can be conducted for the construct validity of various scales either separately as individual instruments or together as a set of scales applied within a research study. Awang (2015) stated that researchers should conduct CFA for each measurement model, and that whilst they may run the scales separately as well as pooled, he suggested the pooled approach was the more efficient option. Measurement models constructed with all the variables of a study are already commonplace in the literature (Şimşek, 2007).
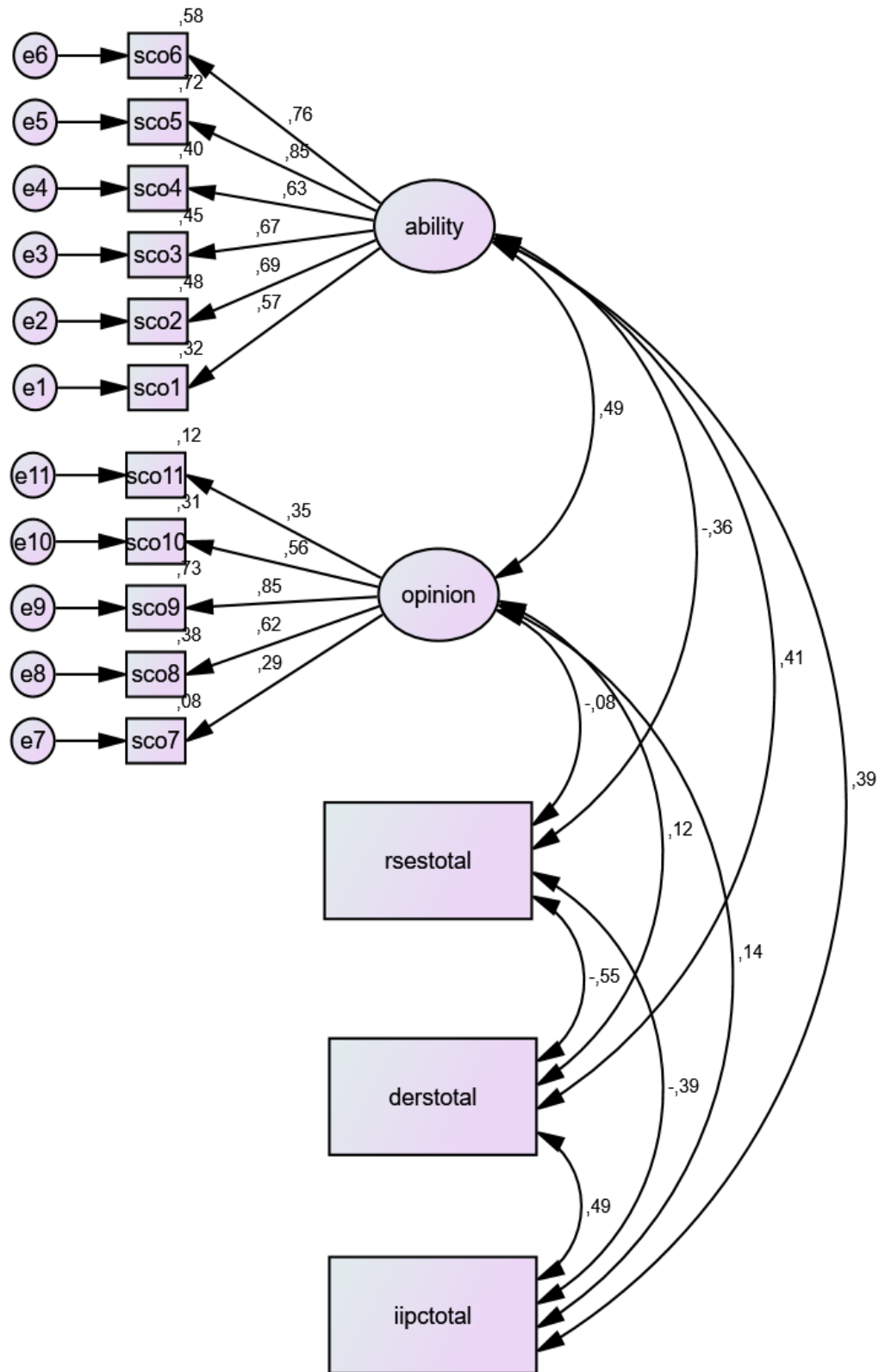
Figure 4.2. Measurement model

Note. ability = INCOM ability subscale; opinion = INCOM opinion subscale; rsestotal = RSES; derstotal = DERS; iipctotal = IIP-C

In the current study, instead of looking at the CFA of the measurement tools separately, the measurement model, in which all the components in the model were taken together, was examined with the total research data of 549 participants.

When evaluating model fit indices, it is recommended to use at least one fit index from each of the absolute fit, incremental fit, and parsimonious fit categories (Awang, 2015; Brown, 2006). Based on this recommendation, the current research included chi-square (χ^2), chi-square (χ^2) / degrees of freedom (*df*) ratio, Bentler Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Non-Normed-Fit Index (NNFI, also known as TLI, the Tucker-Lewis index) as the fit indices (Hooper et al., 2008; Hu & Bentler, 1999; Kline, 2016). As the estimation method, maximum likelihood was selected since its iterative process reaches the statistically best solution (Kenny et al., 2006).

As known, CFA is a theory-driven structural model and the researcher should have priori before the analysis is conducted (Kenny et al., 2006). Therefore, ability comparison and opinion comparison, the two subscales of social comparison orientation (INCOM), as the latent variables of the study, together with the total scores of the observed variables of the model which are emotion regulation difficulties (DERS), self-esteem (RSES), and interpersonal problems (IIP-C), were analyzed as in the structural model. In other words, as can be seen in Figure 4.2, the measurement model was tested with two latent variables and a total of 14 observed variables.

The first measurement model results presented poor model fit statistics, with χ^2 (70) = 511.648, p = .00; χ^2 / df-ratio = 7.31, CFI = .83, NNFI = .78, SRMR = .12, and RMSEA = .11. The obtained values were far from the suggested fit values of $2 < \chi^2 / df < 5$ (Brown, 2006), CFI ≥ .95 (Schumacker & Lomax, 2016), NNFI ≥ .95 (Hu & Bentler, 1999), SRMR < .08 (Browne & Cudeck, 1993), and RMSEA < .06 (Hu & Bentler, 1999). Since model revisions should be applied according to factor loadings, standardized residuals, and modification indices (Hair et al., 2010), first the modification indices were examined, followed by the factor loadings. The highest modification indices (MI) value was 128.02, which belonged to the suggested covariance between the latent variable of ability comparison and the error term of the INCOM social comparison orientation scale's 11th item. The suggested covariance would not be theoretically appropriate since item 11 belongs to the opinion-based

comparison subdimension, which is contrary to the suggested modification indices. Although ability-based comparison and opinion-based comparison together constitute social comparison orientation, they are also two relatively distinct constructs as subscales or sub-latent variables.

In other words, adding the covariance between the latent variable of ability-based comparison and the error term of item 11 would be theoretically incorrect since the total score of social comparison orientation was not used in the current study. When item 11 ("I never consider my situation in life relative to that of other people" [Turkish adaptation: "Hayatta ne durumda olduğumu asla başkalarının durumlarına göre değerlendirmem"]) in the opinion-based social comparison subscale was examined semantically, it can be concluded that it obviously relates to ability comparison and not opinion comparison. In other words, item 11 contains the expressive characteristics, objects, or possessions that a person has instead of an expression that should contain an opinion or view such as in other items in the opinion comparison subdimension. In this instance, participants may normally be expected to perceive item 11 as ability comparison. However, which item should be in which subscale relates to the studies of those who developed or adapted the scale. For this reason, no covariance was drawn between item 11 and the latent variable of ability comparison. Considering this suggested covariance, it was seen that the factor loadings of item 11 (.35) and item 7 (.29) positioned under opinion social comparison were well below the critical value of .50. It is desirable that the standard factor loadings should be greater than the critical threshold of .50 (Civelek, 2017; Gürbüz, 2019), otherwise, the removal of factor loadings below the critical value can be evaluated (Hair et al., 2010).

While conducting CFA, removing items with low factor loading from the model has been advocated by many researchers. However, Awang (2015) stated that the ratio of extracted items to total items in the model should not exceed 20%. Again, Hair et al. (2010) recommended that if the factor loading of any items are smaller than .50 ($< .50$), then the items in question should be evaluated for removal. As a result of these evaluations, INCOM items 7 and 11 were removed from the model due to their low factor loadings and inappropriate covariance associations. When the studies on INCOM were examined, examples of the same situation could also be seen in different papers. As an example, Schneider and Schupp (2014) also removed items 7 and 11

from the opinion subdimension in their study which created the shortened version of the INCOM, having taken only items 8, 9, and 10 into the short scale form of INCOM for the opinion part. Callan et al. (2015) found in their study, in which they used both the 11-item version and the six-item short version of INCOM, that the 11-item version had a worse fit. Similarly, items 7 and 11 of the opinion subdimension were excluded in the six-item version they applied. In summary, there is consistency between the current research and other studies conducted in different cultures in terms of the items removed.

In the measurement model analysis, which was performed after removing items 7 and 11, the results of $\chi^2 (47) = 175.619$, $p = .00$; χ^2 / df-ratio $= 3.74$, CFI $= .94$, NNFI $= .92$, SRMR $= .05$, and RMSEA $= .07$ were obtained. Although a serious level of improvement was achieved in the model, the desired values for a good fit had still not been achieved across all of the fit indices. For this reason, the MI values were re-examined. Byrne (2016) recommended that starting from the largest MI value, only one parameter should be added to a model at a time, since the estimation of any MI is based on a univariate approach in AMOS. When the largest MI value was examined, 19.85 was observed between e1 and e2. INCOM's item 1 and item 2, which belong to the same subscale, were then examined. The semantic similarity was considerable between them, so the recommended modification was applied. When the desired fit values could not be achieved, e2-e3 modification, which had the largest MI value (22.73) was then also applied due to its theoretical suitability. It is recommended that modifications should be made according to the number of items in the scale, with one modification for scales up to five items, two modifications for scales with between six and 11 items, and three modifications for scales with 12 or more items (Gürbüz, 2019). As a result of these two suggested modifications, the desired model fit values were achieved, which are presented in Table 4.4 ($\chi^2 (45) = 129.883$, $p = .00$; χ^2 / df-ratio $= 2.89$, CFI $= .96$, NNFI $= .94$, SRMR $= .05$, and RMSEA $= .06$).

Table 4.4

Summary of Measurement Model Fit Statistics

	χ^2	*df*	χ^2 / *df*-ratio	CFI	NNFI	SRMR	RMSEA
Measurement model	129.883	45	2.89	.96	.94	.05	.06

Note. CFI = Bentler comparative fit index; NNFI = non-normed fit index (known also as TLI); SRMR = standardized RMR; RMSEA = root mean square error of approximation.

These results appear to be good fit and comply with the criteria of χ^2 / *df* < 3 (Kline, 2016; Ullman, 2013), CFI ≥ .95 (Hu & Bentler, 1999), NNFI ≥ .93 (Byrne, 1994), SRMR < .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999), and RMSEA < .06 (Hu & Bentler, 1999). However, the requirement for chi-square *p* value to be nonsignificant for model fit was not ensured, but this was as expected due to the large size of the sample (N > 200). Therefore, this significance was as expected and could therefore be ignored considering the sample size sensitivity of chi-square (Joreskog & Sorbom, 1996; Tabachnick & Fidell, 2013).

The measurement model test results presented in Table 4.5 show that all standard regression weights were found to be significant and vary between .29 and .85, including the extracted items. After excluding items 7 and 11, the lowest R^2 value was .31 and *t* values were greater than ⎹1.96⎸ for each indicator.

Table 4.5

Measurement Model Test Results

Construct	Item	URW	SRW	*SE*	t	R^2
	sco1	1.00	.57			.32
	sco2	1.19	.69	.10	12.06	.48
Ability	sco3	1.15	.67	.10	11.88	.45
	sco4	1.22	.63	.11	11.40	.40
	sco5	1.49	.85	.11	13.50	.72

Construct	Item	URW	SRW	*SE*	*t*	R^2
	sco6	1.34	.76	.11	12.78	.58
	sco7	1.00	.29			.08
	sco8	2.15	.62	.37	5.82	.38
Opinion	sco9	3.58	.85	.60	5.96	.73
	sco10	2.30	.56	.40	5.70	.31
	sco11	1.90	.35	.39	4.86	.12

Note. All *t*-values significant at $p < .001$, URW = unstandardized regression weight, SRW = standardized regression weight, SE = standard error

As can be seen in Table 4.6, the correlations between all variables are significant as expected, except for the correlation between opinion comparison and self-esteem.

Table 4.6

Measurement Model Correlations among Latent and Observed Variables

	Ability	Opinion	RSES	DERS	IIP-C
Ability	1.00				
Opinion	.49**	1.00			
RSES	-.36**	-.08	1.00		
DERS	.41**	.12*	-.55**	1.00	
IIP-C	.39**	.14**	-.39**	.49**	1.00

Note. Sample size $N = 549$, *$p < .05$, **$p < .01$
Ability = INCOM ability subscale; Opinion = INCOM opinion subscale

4.3.2. Structural Model

Once the expected values of the measurement model's fit indices had been met, attention moved to the structural model. The objective here was to establish direct and indirect relationships between the research variables according to the hypothesized model by assuming theoretical causality (Weston & Gore, 2006) and to reach the

expected fit values with the structural equation modeling technique. The research variables of the study were social comparison orientation, self-esteem, emotion regulation difficulties, and interpersonal problems. The same fit indices were then used for the structural model as in the measurement model: chi-square (χ^2), chi-square (χ^2) / degrees of freedom (*df*) ratio, CFI, NNFI, SRMR, and RMSEA (Hooper et al., 2008; Hu & Bentler, 1999; Kline, 2016). Whilst evaluating the results of the analysis conducted with structural equation modeling, overall fit was used to examine the fitness of the model; with squared multiple correlation coefficients (R^2) used to account for variances in the model. Also, parameter estimates were used to evaluate direct, indirect, and total effects in the structural model. The ML method of estimation was used with the structural model since it is known to yield efficient, consistent, and unbiased parameter estimates in large samples under the assumption of multivariate normality (Nevitt & Hancock, 2001).

4.3.3. Testing the Proposed Model

As seen in Section 1.3.1 Proposed Path Model or in the established structural model (see Figure 4.3), the model was formed with two exogenous variables, two mediator variables, and one endogenous variable. The exogenous variables of ability comparison and opinion comparison form a single construct, although they are in fact two subdimensions of social comparison orientation, with one concerning the comparison of abilities and the other the comparison of opinions. The mediator variables were two different constructs, self-esteem and emotion regulation difficulty, whilst the endogenous variable of interpersonal problems was the outcome variable that the model attempted to explain. According to the established theoretical causality, the ability comparison and opinion comparison of individuals with others causes them to meet their self-esteem either safely or with vulnerability. This sometimes causes a sense of confusion or dysregulation in their emotions and feelings, and which can eventually result in a deterioration in their interpersonal relationships. The main assumption includes a potential negative situation encountered in one's self-esteem which causes additional deterioration in their emotion regulation beyond the social comparison orientation. Eventually, interpersonal problems arise at the end or total of all these processes. These resulting interpersonal problems form the dependent or

endogenous variable of the study which can be predicted and explained by the whole model. In other words, deterioration in self-esteem and emotion regulation of an individual with high comparison orientation can cause interpersonal problems. According to the model established in the current study, comparison types can explain interpersonal problems both directly and via mediators. As a mediator, self-esteem predicts interpersonal problems directly as well as indirectly through emotion regulation difficulties.

The structural model (see Figure 4.3) was established and analyzed based on applying the aforementioned changes to the measurement model. The structural model was analyzed using AMOS 23 by applying structural equation modeling technique to the total data of the study's 549 participants. The values of the fit indices obtained were χ^2 (45) = 129.883, p = .00; χ^2 / df-ratio = 2.89, CFI = .96, NNFI = .94, SRMR = .05, and RMSEA = .06 (see Table 4.7). These results show that the proposed model has a good fit with the research sample. The only difference between the structural model and the measurement model was added theoretical causations, or the directions of the single-headed arrows. Therefore, the fit indices obtained as a result of the SEM performed in the measurement model did not change in the structural model, as can be seen in Table 4.7.

Table 4.7

Summary of Model Fit Statistics for Structural/Hypothesized Model

	χ^2	df	χ^2 / df-ratio	CFI	NNFI	SRMR	RMSEA
Structural model	129.883	45	2.89	.96	.94	.05	.06

Note. CFI = Bentler comparative fit index; NNFI = non-normed fit index (or TLI); SRMR = standardized RMR; RMSEA = root mean square error of approximation.

As can be seen in Table 4.7, the obtained values comply with the criteria of $2 < \chi^2 / df < 5$ (Brown, 2006), CFI $\geq$ .95 (Schumacker & Lomax, 2016), NNFI $\geq$ .95

(Hu & Bentler, 1999), SRMR < .08 (Browne & Cudeck, 1993), and RMSEA < .06 (Hu & Bentler, 1999).

As can be seen in Figure 4.3, the factor loadings of the latent variables in the model changed from medium to high, and were all found to be statistically significant. When the covariance between the ability and opinion subscales and the paths between the two latent variables and their observed variables were excluded from the structural model, a total of nine regression coefficients were generated. Three of these nine regression coefficients were not found to be statistically significant; whilst, as expected, the remaining six were significant. The three non-significant regression coefficients relate to the opinion comparison latent variable. All of the direct paths from the opinion comparison exogenous variable were shown to be nonsignificant. In other words, all of the paths from opinion comparison to self-esteem, difficulties in emotion regulation, and interpersonal problems were found to be statistically nonsignificant.

Except for the three paths of opinion comparison previously mentioned, the other six were all found to be significant, and include both direct and indirect effects. All three of the direct paths originating from the exogenous ability comparison variable were significant, meaning that the regression coefficients of ability comparison to self-esteem, difficulties in emotion regulation, and interpersonal problems were shown to be statistically significant. In addition, the paths of the mediator variables amongst themselves and also with the endogenous variable were also revealed to be significant. It is implied, therefore, that the regression coefficients of self-esteem to difficulties in emotion regulation and interpersonal problems; and the regression coefficient of difficulties in emotion regulation to interpersonal problems were also statistically significant. Furthermore, as can be seen from both Figure 4.3 and also in Table 4.8, the standardized regression weights of the significant regression coefficients from small to large were calculated as -.12, .21, .26, .34, -.41, and -.46. Standardized regression weights of the nonsignificant regression weights were, from small to large, -.01, -.01, and .08, whist the effect size of the correlation coefficient between the exogenous variables of ability comparison and opinion comparison was .44.
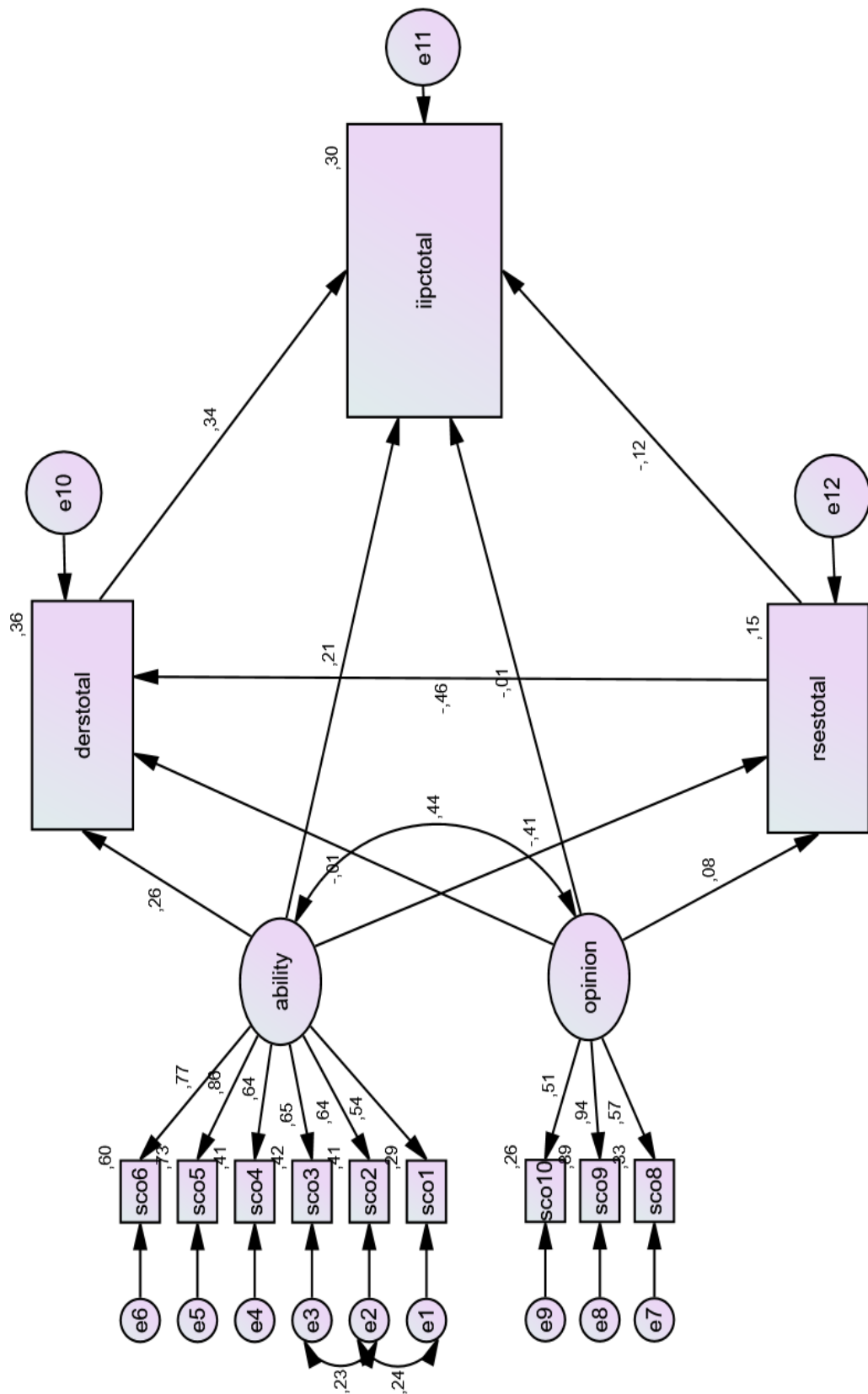
Figure 4.3. Hypothesized structural model with standardized estimates and squared multiple correlations

Table 4.8

Standardized Regression Weights of Model Regression Coefficients

Structural model paths	SE	SRW	*p*
Ability → Self-esteem	.51	-.41	***
Ability → Difficulties in emotion regulation	1.80	.26	***
Ability → Interpersonal problems	1.26	.21	***
Opinion → Self-esteem	.63	.08	.10
Opinion → Difficulties in emotion regulation	2.21	-.01	.79
Opinion → Interpersonal problems	1.53	-.01	.81
Self-esteem → Difficulties in emotion regulation	.16	-.46	***
Self-esteem → Interpersonal problems	.12	-.12	**
Difficulties in emotion regulation → Interpersonal problems	.03	-.34	***

Note. **$p < .01$, ***$p < .001$

In order to examine the variance explained by the endogenous variable and mediator variables in the model, the squared multiple correlation (R^2) was examined. Overall, 30% of the interpersonal problems, as the endogenous variable, were explained with the model. In other words, the total variance explained by the model was 30%. When looking at the variance explained in terms of self-esteem and difficulties in emotion regulation, as the two mediator variables, 15% of self-esteem and 36% of difficulties in emotion regulation were explained by the model (see Table 4.9).

Table 4.9

Explained Variances

Variable type	R^2
Mediator variables	
Self-esteem	15***
Difficulties in emotion regulation	36***
Endogenous variable	
Interpersonal problems	30***

Note. ***$p < .001$, R^2 = squared multiple correlations

4.3.4. Direct, Indirect, Specific, and Total Effects

Direct, indirect, specific, and total effects between the research variables (ability comparison, opinion comparison, self-esteem, emotion dysregulation, and interpersonal problems) were then evaluated. The relevant analyses were conducted using AMOS 23 based on the total data of the study's 549 participants. Estimation of bootstrapped confidence intervals were used and reported in addition to the p value for significance testing. One of the purposes of using this technique, which was developed by B. Efron in the 1970s (Efron, 1979, as cited in Kline, 2016, p. 60), was to estimate statistical precision through bootstrapped significance tests in order to examine the research hypotheses (Kline, 2016). Gürbüz (2019) claimed that bootstrapping, which is a computer-based resampling technique, has been evaluated as being more reliable than both the Sobel test (Sobel, 1982, as cited in Gürbüz, 2019) and the traditional method of Baron and Kenny (1986, as cited in Gürbüz, 2019). Therefore, in the current study, whether or not the indirect effects were significant was checked and reported by way of bootstrapping and bias-corrected (BC) intervals with 95% confidence (Bollen & Stine, 1990). However, based on the suggestion of Kline (2016), since only p value or bootstrapped significance tests can be considered inaccurate when applied in isolation, the significance of magnitudes of indirect effects was taken into consideration together with the research context. Byrne (2016) suggested performing bootstrap following the optimization of the model for the sake of accuracy, and with a

1,000 bootstrapped sample for a better model fit. The requirement of this recommendation was fulfilled with the best form of the model provided in the measurement model, but with 2,000 bootstrapped samples used instead of 1,000 in the current analysis based on the widespread use seen in practice.

In this section, direct, indirect and total effects between exogenous, mediator, and endogenous variables, as well as their specific relationships, were investigated and the results presented in Tables 4.10 to 4.13. First, in looking at the direct relationships between all the variables, only the direct regression coefficients associated with the opinion comparison exogenous variable were not found to be significant. This result was unexpected in terms of the research hypotheses, and therefore provides a meaningful contribution in theoretical terms; as such, details will be included in the Discussion chapter. The three nonsignificant direct paths of opinion comparison to self-esteem (β = .081, [bias-corrected 95% CI = -.360, 2.491], p = .141), emotion dysregulation (β = -.011, [bias-corrected 95% CI = -5.385, 3.875], p = .756), and interpersonal problems (β = -.010, [bias-corrected 95% CI = -3.615, 2.704], p = .778) means that individuals who tend to socially compare their opinions more do not have more positive or negative experiences of self-esteem, emotion dysregulation, or interpersonal problems. In other words, in terms of the current study's research variables, comparing one's own opinions with those of others does not contain negative or positive meanings and relationships.

Table 4.10

Bootstrapped Results of Direct Effects

Direct effect	β	B	BC Interval	p
Ability comparison → Self-esteem	-.411	-3.648	(-4.897, -2.663)	.001
Ability comparison → Emotion dysregulation	.256	9.300	(6.195, 13.076)	.001
Ability comparison → Interpersonal problems	.212	5.094	(2.788, 8.026)	.001

Direct effect	β	B	BC Interval	p
Opinion comparison → Self-esteem	.081	1.042	(-.360, 2.491)	.141
Opinion comparison → Emotion dysregulation	-.011	-.593	(-5.385, 3.875)	.756
Opinion comparison → Interpersonal problems	-.010	-.366	(-3.615, 2.704)	.778
Self-esteem → Emotion dysregulation	-.455	-1.860	(-2.211, -1.517)	.001
Self-esteem → Interpersonal problems	-.122	-.328	(-.577, -.107)	.003
Emotion dysregulation → Interpersonal problems	.338	.223	(.159, .279)	.002

Note. B = unstandardized estimate, BC = Interval: Bootstrapped 95% CI

When the direct relationships of the variables other than opinion comparison were examined, it was seen that all of them were significant, a finding that was expected in theoretical terms. Direct regression coefficients from ability comparison to self-esteem (β = -.411, [bias-corrected 95% CI = -4.897, -2.663], p = .001), emotion dysregulation (β = .256, [bias-corrected 95% CI = 6.195, 13.076], p = .001), and interpersonal problems (β = .212, [bias-corrected 95% CI = 2.788, 8.026], p = .001) were all shown to be significant. When considering the relational narrative of the findings regarding the study's research variables, it may be stated that individuals with a high tendency to compare their own abilities socially also experience lower self-esteem, greater difficulties in emotion regulation, and more significant interpersonal problems. The path between the mediator variables of self-esteem and emotional regulation (β = -.455, [bias-corrected 95% CI = -2.211, -1.517], p = .001) and the path between self-esteem and the endogenous variable of interpersonal problems (β = -.122, [bias-corrected 95% CI = -.577, -.107], p = .003) were also shown to be significant and negative. This result shows that as self-esteem decreases, difficulty in regulating emotions increases, and vice versa. The relationship between self-esteem and interpersonal problems is in the same direction; as self-esteem decreases, problems in

interpersonal relationships increase. The last direct path between the mediator variable of emotion dysregulation and the endogenous variable of interpersonal problems (β = -.338, [bias-corrected 95% CI = .159, .279], p = .002) was also found to be significant but positive. This means that experiencing difficulties in emotion regulation predicts problems in interpersonal relationships. In other words, as emotion regulation difficulties increase, interpersonal problems also increase. It can be seen that the significant paths amongst all the direct paths mentioned here have either a medium or large effect, as can be seen in Table 4.10.

When considering the indirect effects (see Table 4.11), none of the regression coefficients obtained from the opinion comparison variable were found to be significant, whilst all of the remaining indirect effects were significant. The relationship between the opinion social comparison and interpersonal problems variables was not found to be significant through self-esteem (β = -.010, [bias-corrected 95% CI = -1.039, .035], p = .080) or through emotion dysregulation (β = -.004, [bias-corrected 95% CI = -1.215, .874], p = .739). In addition, the relationship between opinion comparison and interpersonal problems, in which both mediators have an indirect involvement with serial mediation, was also not found to be significant (β = -.012, [bias-corrected 95% CI = -1.164, .120], p = .121). Finally, the relationship between opinion comparison and emotion regulation was not found to be significant through self-esteem (β = -.037, [bias-corrected 95% CI = -4.899, .564], p = .125). In other words, all of the indirect relationships in which opinion comparison was an exogenous variable were found to be statistically nonsignificant. The non-significance of these relationships shows that opinion social comparison was not found to predict interpersonal problems through mediators such as self-esteem and emotion regulation, or could not establish any meaningful connection. As with direct effects, those participants who frequently performed opinion comparison were not found to have significant experiences related to self-esteem, emotion dysregulation, or interpersonal problems. In short, no research variable was found to have a significant relationship with opinion-based social comparison, independently or through each other.

Table 4.11

Bootstrapped Results of Specific Indirect Effects

Specific indirect effect	β	B	BC Interval	p
Ability comparison→ Self-esteem→ Interpersonal problems	.050	1.198	.391 2.213	.003
Ability comparison → Emotion dysregulation → Interpersonal problems	.087	2.076	1.327 3.077	.001
Ability comparison → Self-esteem → Emotion dysregulation	.187	6.787	4.663 9.490	.001
Ability comparison → Self-esteem → Emotion dysregulation → Interpersonal problems	.063	1.515	.919 2.355	.001
Opinion comparison → Self-esteem → Interpersonal problems	-.010	-.342	-1.039 .035	.080
Opinion comparison → Emotion dysregulation → Interpersonal problems	-.004	-.132	-1.215 .874	.739
Opinion comparison → Self-esteem → Emotion dysregulation	-.037	-1.939	-4.899 .564	.125
Opinion comparison → Self-esteem → Emotion dysregulation → Interpersonal problems	-.012	-.433	-1.164 .120	.121
Self-esteem → Emotion dysregulation → Interpersonal problems	-.154	-.415	-.551 -.283	.001

Note. B = unstandardized estimate, BC = Interval: Bootstrapped 95% CI

When the indirect relationships of ability comparison, the other exogenous variable in the current research, with the mediator and endogenous variables were examined, it

could be seen that all of them were significant (see Table 4.11). The relationship between ability comparison and interpersonal problems was significant, both through self-esteem (β = .050, [bias-corrected 95% CI = .391, 2.213], p = .003) and also through emotion dysregulation (β = .087, [bias-corrected 95% CI = 1.327, 3.077], p = .001). Again, the relationship between ability comparison and interpersonal problems was shown to be significant (β = .063, [bias-corrected 95% CI = .919, 2.355], p = .001) through serial mediation, where both of these two mediations take place. In addition, the relationship between ability comparison and emotion dysregulation was also shown to be significant through self-esteem (β = .187, [bias-corrected 95% CI = 4.663, 9.490], p = .001). In short, all indirect relationships with the research variables, where ability comparison is an exogenous variable, were found to be significant.

When theoretically and conceptually detailed, it may be stated that those who perform frequent ability comparisons experience lower self-esteem, more difficulties in emotion regulation, and ultimately experience more interpersonal problems. Likewise, looking at the relationship between ability comparison and emotion dysregulation, the self-esteem of those who frequently compare their abilities with others is negatively affected, following which they experience difficulties regulating their emotions. Another significant indirect relationship revealed was the mediation relationship between self-esteem and interpersonal problems through emotion dysregulation (β = -.154, [bias-corrected 95% CI = -.551, -.283], p = .001). This relationship shows that negative self-esteem experiences may cause difficulties in emotion regulation or that these two conditions may coexist and that interpersonal problems may accompany these two psychological experiences in this relationship. When establishing a theoretical causal link, it can be said that frequent ability-based social comparison causes interpersonal relationship difficulties, but that this occurs through negatively affected self-esteem and impaired emotion regulation. It can be added that low self-esteem causes difficulties in interpersonal relationships, but that one of the factors determining this is the inability of the individual to regulate their emotions.

When it comes to the total effects, while cumulative relationships with the starting point of opinion comparison were all found to be nonsignificant, total relationships originating with the ability comparison, self-esteem, or emotion dysregulation

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variables were all revealed to be significant. Total effects refer to the sum of all the paths between the predictor (exogenous) variable and the outcome (endogenous) variable (see Table 4.12). The cumulative effect of all the paths between opinion comparison and interpersonal problems was shown to be nonsignificant (β = -.036, [bias-corrected 95% CI = -4.806, 1.805], p = .374), as with the sum of the paths between opinion comparison and emotion dysregulation (β = -.048, [bias-corrected 95% CI = -8.246, 2.768], p = .322). The cumulative effect or total effects of all the paths between ability comparison and emotion dysregulation (β = .443, [bias-corrected 95% CI = 12.761, 20.413], p = .001) and between ability comparison and interpersonal problems (β = .412, [bias-corrected 95% CI = 7.444, 13.047], p = .001) were found to be significant. The sum of the direct and indirect paths between self-esteem and interpersonal problems (β = -.275, [bias-corrected 95% CI = -.951, -.535], p = .001) were also revealed to be significant. The total effects between self-esteem and emotion dysregulation (β = -.455, [bias-corrected 95% CI = -2.211, -1.517], p = .001), and between emotion dysregulation and interpersonal problems (β = .338, [bias-corrected 95% CI = .159, .279], p = .002) already include direct relationships between these variables and were therefore mentioned in the direct relationships section.

Table 4.12

Bootstrapped Results of Total Effects

Total Effects	β	B	BC Interval		p
Ability comparison → Interpersonal problems	.412	9.882	7.444	13.047	.001
Opinion comparison → Interpersonal problems	-.036	-1.273	-4.806	1.805	.374
Ability comparison → Emotion dysregulation	.443	16.087	12.761	20.413	.001
Opinion comparison → Emotion dysregulation	-.048	-2.532	-8.246	2.768	.322
Self-esteem → Interpersonal problems	-.275	-.744	-.951	-.535	.001

Total Effects	β	B	BC Interval	p
Self-esteem → Emotion dysregulation	-.455	-1.860	-2.211 -1.517	.001
Emotion dysregulation → Interpersonal problems	.338	.223	.159 .279	.002

Note. B = unstandardized estimate, BC = Interval: Bootstrapped 95% CI

After mentioning the direct, indirect, and total effects, the result of specific total indirect effects can also be included (see Table 4.13). The difference revealed between the total indirect relationships and total relationships was that they contained only the sum of indirect relationships and did not include direct relationships. Whilst the sum of indirect relationships between ability comparison and interpersonal problems was found to be significant (β = .200, [bias-corrected 95% CI = 3.576, 6.456], p = .001), the sum of indirect relationships between opinion comparison and interpersonal problems was revealed as not being significant (β = -.026, [bias-corrected 95% CI = -2.441, .633], p = .241).

Table 4.13

Bootstrapped Results of Total Indirect Effects

Total Indirect Effects	β	B	BC Interval	p
Ability comparison → Interpersonal problems	.200	4.788	3.576 6.456	.001
Opinion comparison → Interpersonal problems	-.026	-.907	-2.441 .633	.241

Note. B = unstandardized estimate, BC = Interval: Bootstrapped 95% CI

Each of the results presented here have shown that while all the paths related to opinion-based social comparison were found to be nonsignificant, all the paths related to ability-based social comparison, self-esteem, emotion dysregulation, and interpersonal problems, as the other variables of the research, were revealed to be

significant. In the effects of significant paths, some were small, some moderate, and some were large. In other words, the significant effect sizes in the research model varied between .03 and .46, irrespective of whether the relationship was positive or negative. A more detailed analysis of these results will be presented in the Discussion chapter.

4.3.5. Testing of the Research Hypotheses

Testing the current study's research hypotheses as presented in Section 1.3.1 (Proposed Path Model and Hypotheses) is addressed in the current section based on the obtained results. A total of 15 hypotheses, nine of which are direct and six indirect, will be tested according to the results of the structural model. As the hypotheses involve both direct and indirect relationships, the testing is presented under separate subsections.

4.3.5.1. Testing of the Direct Effects

Hypotheses testing results of the direct relationships are as follows:

<u>Hypothesis 1</u>
Ability comparison will directly have a significant predictive relation to emotion dysregulation. Hypothesis 1 was **accepted** because ability comparison was positively and significantly related to emotion dysregulation ($\beta = .26$, $p < .001$).

<u>Hypothesis 2</u>
Ability comparison will directly have a significant predictive relation to interpersonal problems. Hypothesis 2 was **accepted** because ability comparison was positively and significantly related to interpersonal problems ($\beta = .21$, $p < .001$).

<u>Hypothesis 3</u>
Ability comparison will directly have a significant predictive relation to self-esteem. Hypothesis 3 was **accepted** because ability comparison was negatively and significantly related to self-esteem ($\beta = -.41$, $p < .001$).

<u>Hypothesis 4</u>

Opinion comparison will directly have a significant predictive relation to emotion dysregulation. Hypothesis 4 was **rejected** because opinion comparison was not related to emotion dysregulation significantly ($\beta = -.01$, $p > .05$).

<u>Hypothesis 5</u>

Opinion comparison will directly have a significant predictive relation to interpersonal problems. Hypothesis 5 was **rejected** because opinion comparison was not related to interpersonal problems significantly ($\beta = -.01$, $p > .05$).

<u>Hypothesis 6</u>

Opinion comparison will directly have a significant predictive relation to self-esteem. Hypothesis 6 was **rejected** because opinion comparison was not related to self-esteem significantly ($\beta = .08$, $p > .05$).

<u>Hypothesis 7</u>

Emotion dysregulation will directly have a significant predictive relation to interpersonal problems. Hypothesis 7 was **accepted** because emotion dysregulation was positively and significantly related to interpersonal problems ($\beta = .34$, $p < .01$).

<u>Hypothesis 8</u>

Self-esteem will directly have a significant predictive relation to interpersonal problems. Hypothesis 8 was **accepted** because self-esteem was negatively and significantly related to interpersonal problems ($\beta = -.12$, $p < .01$).

<u>Hypothesis 9</u>

Self-esteem will directly have a significant predictive relation to emotion dysregulation. Hypothesis 9 was **accepted** because self-esteem was negatively and significantly related to emotion dysregulation ($\beta = -.46$, $p < .001$).

As can be seen, three of the nine direct relation hypotheses were rejected and the remaining six were accepted. Furthermore, all of the rejected hypotheses were in relation to the opinion comparison variable.

4.3.5.2. Testing of the Indirect Effects

Hypotheses testing results of the indirect relationships (mediation) are as follows:

Hypothesis 10

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through emotion dysregulation. Hypothesis 10 was **accepted** because ability comparison was positively and significantly related to interpersonal problems through emotion dysregulation (β = .087, [bias-corrected 95% CI = 1.327, 3.077], p = .001).

Hypothesis 11

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem. Hypothesis 11 was **accepted** because ability comparison was positively and significantly related to interpersonal problems through self-esteem (β = .050, [bias-corrected 95% CI = .391, 2.213], p = .003).

Hypothesis 12

Ability comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem and emotion dysregulation. Hypothesis 12 was **accepted** because ability comparison was positively and significantly related to interpersonal problems through both self-esteem and emotion dysregulation as a serial mediation (β = .063, [bias-corrected 95% CI = .919, 2.355], p = .001).

Hypothesis 13

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through emotion dysregulation. Hypothesis 13 was **rejected** because opinion comparison was not related to interpersonal problems through emotion dysregulation significantly (β = -.004, [bias-corrected 95% CI = -1.215, .874], p = .739).

Hypothesis 14

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem. Hypothesis 14 was **rejected** because opinion comparison was not related to interpersonal problems through self-esteem significantly (β = -.010, [bias-corrected 95% CI = -1.039, .035], p = .080).

Opinion comparison will indirectly have a significant predictive relation to interpersonal problems through self-esteem and emotion dysregulation. Hypothesis 15 was **rejected** because opinion comparison was not related to interpersonal problems through both self-esteem and emotion dysregulation significantly (β = -.012, [bias-corrected 95% CI = -1.164, .120], p = .121).

As can be seen, three of the six indirect hypotheses were confirmed whilst three were rejected. As with the direct relations, all of the indirect hypotheses concerning the opinion comparison variable were rejected, whilst all indirect hypotheses regarding ability comparison were accepted.

4.4. Summary of the Results

Prior to the model analyses, it was ensured that all SEM assumptions had be tested and met. Except for the correlation between opinion comparison and self-esteem, all of the remaining study variables were found to have strong, moderate, or weak bivariate correlations with each other, and in the expected direction. However, no significant correlation was obtained between the variables of opinion comparison and self-esteem.

In the measurement model, two items were removed from the opinion comparison subscale for legitimate reasons based on the relevant literature; then, the model fit was achieved by making two modifications within the ability subscale. Then, in the structural analysis of the proposed model, it was determined that the structural model was a good fit to the data. All of the research results were found to be significant, as was expected, and also in the expected direction. The exception were the results related to opinion comparison, where none of the direct and indirect relationships of the opinion comparison variable were found to be significant. On the other hand, all direct and indirect relationships between ability comparison and other variables were found to be significant. When considering the whole hypothesized model, a significant and indirect relationship of ability comparison orientation, as an exogenous variable, with interpersonal problems, as the endogenous variable, through self-esteem and emotion dysregulation was observed. The total variance explained by the model was revealed to be 30%.

CHAPTER 5

DISCUSSION

The final chapter of the current research consists of three main parts. In the first part, findings about the hypothesized direct and indirect relationships are discussed according to the relevant literature. In the second part, implications for practices are detailed, whilst the third part puts forth recommendations for further research on this subject.

5.1. Discussion

In the current study, the model based on the evolutionary framework included ability comparison and opinion comparison as two exogenous variables, self-esteem and emotion dysregulation as two mediator variables, and interpersonal problems as the endogenous variable. In other words, in the hypothesized model, ability and opinion comparison, which are subdimensions of social comparison, predict interpersonal problems directly and through self-esteem and emotion dysregulation. How the model or the psychological mechanism with the evolutionary conceptualization was experienced in a sample of Turkish undergraduates was then tested accordingly. All of the assumed hypotheses were confirmed except for the direct and indirect relationships involving opinion comparison. It can also be stated that the results obtained in the current study showed a strong congruency with the literature.

5.1.1. Discussion on the Direct Effects

In the model, in which ability comparison and opinion comparison are exogenous, self-esteem and emotion dysregulation are mediator variables, whilst interpersonal

problems are endogenous variables, the direct effects between the variables were first examined according to the research hypotheses.

As expected, when the results were evaluated according to the order of the hypotheses, ability comparison was found to have had a significantly positive direct effect ($\beta = .26$, $p < .001$) on emotion dysregulation, hence the first hypothesis (H1) was confirmed. This means that individuals with a high inclination to compare their abilities with others may experience difficulties with emotion regulation. The extent to which the abilities and characteristics of the exposed comparison target are embodied by the individual may trigger certain emotional reactions (Weber et al., 2022). If an individual regards themself as inadequate or deficient in the features they are comparing, there is a high probability that certain emotions, which are difficult to cope with and cannot be regulated, will emerge. The current finding is supported by a substantial body of research in the related literature, including studies conducted by Rentzsch and Gross (2015), Tesser et al. (1988), Wehrens et al. (2010), and White et al. (2006). In a study supporting the results of the current study, Möller and Husemann (2006) revealed that upward and downward social comparisons have bidirectional relationships with emotion regulation. Their findings presented that the direction of internal comparisons influenced positive and negative affect, while distinct mood states affected the frequency and direction of these internal comparisons. Similarly, Marsh and Webb (1996) found that in order to reduce uncertainty and manage their moods, which can also be defined as global affective experience, individuals use social comparison information obtained from people who are considered most like themselves for the purposes of self-regulation. Gratz et al. (2020) found that females with symptoms of BPD are more likely to utilize avoidant emotional regulation strategies when they perform an upward social comparison. In another study, negative social comparison made while using Facebook was discovered to increase rumination and subsequent depressive symptoms (Feinstein et al., 2013). Since rumination includes cognitive and emotive components (Smith & Alloy, 2009), Feinstein et al.'s (2013) study can be said to illustrate that social comparison stimulates a certain degree of inner turmoil and regulation effort, which includes emotion and cognition. In another study, Alicke and Zell (2008) discussed the relationship between social comparison and envy, which is a very difficult feeling to manage when it is strong and malicious. In the same study,

along with certain contextual and personal factors, the effect of social comparison was also found to be significant in the emergence of envy.

The second hypothesis (H2) was also confirmed as it was found that ability comparison had a significantly positive direct effect ($\beta = .21$, $p < .001$) on interpersonal problems. That is, the predisposition to compare one's abilities with those of others is influential on their experiences of interpersonal problems; hence, the more individuals compare their abilities, the more interpersonal problems they experience. This finding is well-supported by a plethora of studies in the corresponding literature. For instance, as social comparison orientation increases, the effort for the self-image standard in which others are decisive has also increased (Wang, 2019); social comparison significantly predicted general belongingness as a mediating variable (Kavaklı & Ünal, 2021); parents' social comparison orientations predicted their children's abstention in activities involving socialization and social games (Yen et al., 2021); and undergraduates who perceive themselves inferior and having rejecting parents experienced distress in new social environments and had low interpersonal trust (Benn et al., 2005). One of the studies endorsing this result was conducted by Gilbert et al. (1996), who concluded that 90 female students ($M_{age} = 24.6$, $SD = 6.30$), who felt put down, shamed and not identified as a favorite child by their parents during childhood, positioned themselves in inferior relative social rank and were prone to experiencing interpersonal problems and psychopathology. In the same study, it was found that feeling inferior in comparison with their siblings also affected the participants' social rank and interpersonal problems. In another study, it was concluded that unfavorable social comparison predicted submissive behaviors in people with eating disorders (Troop et al., 2003). Lee et al. (2020) revealed that parent's forced social comparison through the mediator variables of socially prescribed perfectionism, academic inferiority, and depression, were found to significantly predict aggression, which included physical aggression, verbal aggression, anger, and hostility. Aggression overlapping with some of the subdimensions of interpersonal problems was found to be significantly predicted as an outcome variable, which gives countenance to the results obtained in the current study. In Wolsko's (2012) narrative research with undergraduate students, it was found that in the process of self-evaluation by way of performing upward and downward social comparison, the study's participants sometimes felt inferior and sometimes superior, and that this created a persistent or

unending interpersonal neurosis cycle. In summary, comparisons made over abilities and possessed features and competencies can unearth certain problems and difficulties in interpersonal relations. A number of social behaviors consisting of different composition variations of agency and communion may emerge, with which the individual is not satisfied and considers to be a problem.

The third hypothesis (H3) was also confirmed as it was found that ability comparison had a significantly negative direct effect ($\beta = -.41$, $p < .001$) on self-esteem. In other words, a decrease in self-esteem was found to be associated with continual comparison of one's abilities. Whereas sometimes an individual induces a decrease in their self-worth with the data attained as a result of the ability comparison, sometimes they make ability comparison in order to test, boost, or to confirm their own self-worth that they perceive or accept as being low. In other words, sometimes there can be a directional and sometimes a cyclical/reciprocal effect between the comparison information received from the outside world and an individual's assumed self-esteem. Although the direction here is debatable, the current research assumed that the information received from outside would have an effect on the self. Considering the relevant literature, this result is as expected and supported (see Alfasi, 2019; Hanna et al., 2017; Liu et al., 2017; McComb & Mills, 2021). Richmond et al. (2021) studied social comparison orientation as a moderator between BPD symptoms and self-esteem difficulties. The findings of their study illustrated that among those participants who felt a threat to their self-esteem through experiencing inclusion or rejection within online social interaction, those with moderate and high social comparison orientation were found to have lower levels of state and trait self-esteem. Smith and Insko (1987) argued that comparison of valued abilities has decisive effects on self-esteem, whilst Lee (2020) found that social comparison orientation directly and negatively predicts self-esteem. The findings of Schmuck et al.'s (2019) longitudinal study revealed that upward social comparison negatively affects self-esteem, whilst Vogel et al. (2014) found that exposure to upward social comparison in social media lowers both trait and state self-esteem. In a study by Jones and Buckingham (2005), it was stated that self-esteem moderates females' reactions to social comparison. Contrary to expectations Hobza et al. (2007) found that for males who were exposed to media-portrayed male images, their self-esteem scores did not change. Additionally, they stated that while media images that give the impression of having ideal physical characteristics, status

and wealth affect the body esteem of adult males, these do not influence their state self-esteem. Bergagna and Tartaglia (2018) revealed that the effect of the relationship between self-esteem and social comparison orientation on social media usage is more decisive in female participants, and which supports the research results of Hobza et al. (2007) in which unexpected findings were obtained for males. As such it may be said that male self-esteem may not be affected as much as for their female peers due to media images and comparison images that they are exposed to on social media. However, an evolutionary difference in terms of genders can be considered here; status striving is more dominant in males and males compete more with those they perceive to be of a similar status, whereas females' criterion for dominance and the way in which they display their dominance are distinctly different (Buss, 2015). While physical appearance and attractiveness can be seen to determine females' self-esteem (Shackelford, 2001; Wilcox & Laird, 2000), prosocial behaviors are the way in which they generally show their dominance (Buss, 2015).

In the fourth hypothesis (H4), contrary to expectations, a significant direct effect of opinion comparison on emotion dysregulation ($\beta = -.01$, $p > .05$) was not detected, and therefore hypothesis H4 was rejected. That is, the tendency of an individual to compare their views was not found to be effective on their emotion regulation difficulty. Subsequently, the fifth (H5) and sixth (H6) hypotheses related to opinion comparison were also rejected as they lacked any significant effect on the associated variables. In other words, contrary to expectations, in the fifth hypothesis, the significant direct effect of opinion comparison on interpersonal problems ($\beta = -.01$, $p > .05$) was not detected and therefore hypothesis H5 was rejected. No significant effect of the tendency to compare one's opinions on having interpersonal problems was found. Similarly, in the sixth hypothesis (H6), and contrary to expectations, no significant direct effect was found for opinion comparison on self-esteem ($\beta = .08$, $p > .05$), hence hypothesis H6 was rejected. Any effects of an individual's inclination to compare their opinions on their self-esteem were not confirmed. Although the predicted results in the fourth, fifth, and sixth hypotheses were not obtained and hypotheses H4, H5, and H6 were rejected, when opinion comparison is examined in greater detail, it can be seen that certain related studies from the literature help to explain and support this situation. The different findings acquired in studies on social

comparison orientation are dramatically related to the variability of handling ability comparison and opinion comparison either together or separately. While the inclusion of the social comparison orientation variable in studies is generally considered as a single construct rather than as two separate constructs like ability and opinion (e.g., Gibbons & Buunk, 1999; Huguet et al., 2017; Krizan & Bushman, 2011; Lennarz et al., 2017; Litt et al., 2012; Luszczynska et al., 2004; Michinov, 2007; Michinov & Michinov, 2011; Sherlock & Wagstaff, 2019; Smith LeBeau & Buckingham, 2008), a limited number of studies advocate for their separate treatment and highlight the non-uniformity of comparison contents (e.g., Callan et al., 2015; Friedman et al., 2007; Kim, Callan, et al., 2017; Kim et al., 2021; Park & Baek, 2018; Suls et al., 2000; Yang & Robinson, 2018; Yang, Holden, & Carter, 2018; Zhang et al., 2021). For example, Kim et al. (2021) argued that opinion comparison is not based on social outcomes such as material possession and social status and stated that it should not be combined/confounded with ability comparison. In their hypotheses, the researchers in question mainly associated social network site (SNS) addiction, stress, and lower self-esteem variables, which could result in detrimental consequences, with ability comparison and having dissociated them from opinion comparison. In another study, Kim, Callan, et al. (2017) associated ability comparison with personal relative deprivation and materialism variables, while excluding opinion comparison from the equation. In a study that examined the relationship between social comparison orientation and college social adjustment, Yang and Robinson (2018) revealed that while ability comparison was found to be associated with poorer college social adjustment, opinion comparison was associated with better social adjustment. This result can actually be understandable since the group conformity behaviors of an individual who compares their own views with those of others bring testing the accuracy of their own views and especially social cohesion to the fore. Whilst goals and processes operating in this direction do not always produce ineffective results, their positive outputs may actually outweigh the negative. In other words, it is expected and desired that an individual with high self-esteem, who manages their emotions well and establishes good relationships, will also exhibit the behaviors of conforming to the group. Consequently, someone who makes an opinion comparison does not necessarily have to experience problems due to their self-esteem, emotion regulation and interpersonal relationships.

Furthermore, in Park and Baek's (2018) study, the psychological well-being of those who make opinion-based comparisons over social media were found to increase when they experienced upward assimilative emotions such as optimism and inspiration, and their psychological well-being was revealed to decrease when they experienced upward contrastive emotions such as depression and envy. This result showed that when performing an opinion comparison, the potential individual effect can differ based on the direction of comparison, the positive or negative feeling experienced, and the degree of perceived control. In Yang, Holden, and Carter's (2018) short-term longitudinal model study on the factors associated with the identity development of first-year college students, opinion comparison was not found to affect the global self-esteem of the participants by differing from ability comparison. On the other hand, in their triadic model proposal for social comparison of opinion, Suls et al. (2000) claimed that opinion comparison was based on three different comparison dynamics, those being preference assessment, belief assessment, and preference prediction. In a preference assessment, by learning the opinions of those with characteristics similar to themself, an individual seeks information about the compatibility of their own views and choices with others or group norms. In the belief assessment, on the other hand, individuals take the opinions of the one whom they see as being more of an expert or in some advantageous position, but has features that are identical to themselves, and then compares those opinions with their own in order to form a functional inference. In preference prediction, on the other hand, regarding the view taken from a consistent proxy and their own opinion, there is a comparison and inference about a situation that is likely to be experienced. Also, Gibbons and Buunk (1999), who measured social comparison orientation and suggested the use of unidimensional instrumentation, examined the correlations of ability and opinion factors with numerous scales in their study in which they developed INCOM. In their study, Gibbons and Buunk (1999) found that in both samples from the Netherlands and the United States, the ability subscale was found to have consistently higher correlations of .20 or .25 with self-esteem, depression and neuroticism compared to the opinion subscale. In other words, those with low self-esteem, high depression, and high neuroticism compare their abilities with others rather than their opinions. Despite the recommendations of unidimensionality by INCOM's developers, Yang and Robinson (2018) commented that in the study of Gibbons and Buunk's social comparison orientation development,

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exploratory and confirmatory factor analyses results showed better fit values in a two-factor structure.

In summary, in the light of the findings obtained both from the current research and the aforementioned studies, it may be stated that opinion comparison has a number of content variations and motivations such as obtaining opinions, transferring experiences, thinking differently and searching a solution, forming opinion or choice by gathering information from contextual sources, testing the accuracy and harmony of one's attitudes, thoughts, beliefs, and values, communicating, learning social norms, reducing disagreements, being approved, increasing social interaction, and regulating behavior. Therefore, ability comparison differs from opinion comparison in terms of the rating of skills, success, performance, competition, and judgement. Although not predicted in the hypotheses related to opinion comparison, the finding revealed in the current research will make a valuable contribution to the literature in separately dealing with the two types of comparison.

The seventh hypothesis (H7) was confirmed, as it was found that emotion dysregulation had a significantly positive and direct effect ($\beta = .34$, $p < .01$) on interpersonal problems. This means that experiencing trouble in emotion regulation is effective on interpersonal problems. There have been numerous studies in the relevant literature that support the current finding, with emotion dysregulation and related concepts reported to be associated with notions such as interpersonal problems (Coats & Blanchard-Fields, 2008), interpersonal regulation (Zaki & Williams, 2013), social interaction (Lopes et al., 2005), impulsivity in relationships (Euler et al., 2021), and social anxiety disorder (Goldin & Gross, 2010). Whereas Gross and John (2003) associated the use of suppression strategy in emotion regulation with reduced interpersonal functioning, they related the use of reappraisal strategy to improved interpersonal functioning. In a similar study conducted with 36 female participants with a pre- and post-treatment design, it was found that the participants who made a recovery on resolved attachment patterns displayed improvement in emotion regulation skills such as emotional clarity, clarifying and describing emotions. In virtue of this development, the experience of interpersonal problems such as being nonassertive, overly accommodating, self-sacrificing, intrusive, socially inhibited, domineering and cold was found to decline (Keating et al., 2018). In most studies, due

to past critical or difficult experiences, interpersonal difficulties were evaluated based on the variable of emotion regulation. For example, emotional dysregulation was found to mediate the relationship between adverse childhood experiences and interpersonal difficulties in a study by Poole et al. (2018). In other studies, the joint mediation effects of emotion dysregulation and interpersonal problems were examined and were mostly found to be significant. In a study that exemplified this, Christ et al. (2019) revealed that emotional dysregulation and interpersonal problems were shown to significantly mediate the relationship between childhood emotional abuse and depressive symptoms. In an identical piece of research, emotional dysregulation and interpersonal difficulties were shown to mediate the relationship between anxious attachment and alcohol-related problems (Goldstein et al., 2019). On the other hand, difficulty in emotion regulation and interpersonal difficulties have also been the subject of many psychiatric diagnoses. For example, Mennin et al. (2002) found that since individuals diagnosed with generalized anxiety disorder often find their own emotions to be repulsive, they try to control, dull, and avoid them through exhibiting dysfunctional interpersonal behaviors. In other words, interpersonal relationships, albeit sometimes unhealthy, can be used as a means of compensating for or mitigating emotional difficulties.

In short, emotional difficulties encountered in daily life are often the subject of interpersonal relationships. In a way that supports this, Dixon-Gordon et al. (2015) stated that a significant portion of the emotional stressors encountered in daily life originate from interpersonal relationships. As an evolutionary psychologist, Gilbert (1997) evaluated emotions as functional responses to the problems of social hierarchy within the framework of *social attention-holding potential (SAHP)*. From an evolutionary perspective, it is already a common conviction that the survival of Homo sapiens has been made possible by reducing their emotional reactivity, increasing self-control and developing flexible social skills (Hare, 2017). Besides, since contextual conditions and cultural standards are effective in emotion regulation (Friedlmeier et al., 2011), and in collective cultures where emotions are more relational (Mesquita, 2001), the contribution of emotion differentiation to maintaining healthy interpersonal relationships is considered to be of significant importance (Kang et al., 2003). Thus, in the research context, as in all cultures, emotion regulation will be affective in human relationships.

The eighth hypothesis (H8) was confirmed, with it being found that self-esteem had a significantly negative and direct effect (β = -.12, p < .01) on interpersonal problems. That is, the decrease in the self-esteem of an individual may be influential in their experiencing increased interpersonal problems. Upon scrutinizing the relevant literature that supports the current study's finding, it can be seen that these two concepts are quite intertwined and interactive. According to Sullivan (1953), the basic motivation of interpersonal relationships is the need for security and self-esteem. Self-esteem (Kahle et al., 1980), which causes multiple interpersonal problems when lacking, is rooted in the interactions and experiences an individual has with others (Leary, 2006). Therefore, the function of self-esteem as an autonomous threat perception is to maintain interpersonal relationships that correspond to the need of belonging (Leary & Downs, 1995).

Whether the self-esteem is low or high is highly determinative in this relationship, since in the criterion of approval of others, people with low and high self-esteem will differ (Jones & Buckingham, 2005). Due to this anxiety-provoking situation, people with low self-esteem are generally highly alert and sensitive to interpersonal behaviors (Baumgardner et al., 1989) as, according to the sociometer hypothesis, self-esteem is a kind of interpersonal monitor and protects the individual against the possibility of social exclusion or rejection (Leary et al., 1995). The sociometer theory of Mark Leary and his fellow research colleagues considers self-esteem as the degree of social acceptance which is related to one's status in the eyes of others, the respect one receives, and social inclusion (Leary et al., 1998). In support of this claim, in their meta-analysis, Cameron and Granger (2019) found that relationships ranged from small to moderate between trait self-esteem and interpersonal indicators, but the most striking part was that social risk, which includes rejection and pain, was found to significantly moderate this relationship. On the other hand, self-esteem, which is significantly intertwined with status, respect, and rank, also functions as a status-tracking tool that determines the level of appreciation by those they are attracted to and also in deciding to whom one needs to acquiesce and who should be fought (Buss, 2015). An organism's submissive behavior –which determines its status with inference information– to a dominant living thing in order not to be harmed corresponds to various human behaviors aimed at protecting one's self-esteem as a civilized person (Gilbert, 1992).

When examined, similar results were observed in other studies that support the aforementioned research and theoretical knowledge. For example, in one study, while being high in agency, which includes control and dominance, was associated with high self-esteem, people with low self-esteem were found to exhibit overly nurturant and submissive behaviors (Bjørkvik et al., 2009). Fournier et al. (2011) stated that self-esteem moderates interpersonal circumplexity; whereas Lo Coco et al. (2011) found that self-esteem partially mediated the relationship between binge behaviors and interpersonal problems, whilst Lampard et al. (2011) revealed that it mediated the relationship between interpersonal problems and overevaluation of weight and shape. In a study conducted by Seidler et al. (2021) with clients receiving psychological help, behavioral reactance was found to be an important indicator ensuring the relationship between males with low self-esteem and interpersonal problems. Likewise, through a meta-analysis examining 83 samples from longitudinal studies, Harris and Orth (2020) unveiled a reciprocal predictive relationship between self-esteem and social relationships across all developmental stages. In short, it may be stated that although their place in research models may vary, there are quite stable relationships between self-esteem and interpersonal problems.

The ninth hypothesis (H9) was confirmed, with it being found that self-esteem has a significantly negative and direct effect ($\beta = -.46$, $p < .001$) on emotion dysregulation. This means that a decrease in self-esteem or low self-esteem has an effect on the difficulty of emotion regulation. It may be said that the interaction of self-esteem and emotion regulation in daily life may include circularity or reciprocity, based on Cowan (1982) and Dodge (1991) having both stated that cognition and emotion are sub-elements of the general information-processing system and interactional components of an indissoluble process. In a similar vein, Leary and Downs (1995) asserted that the decrease in self-esteem and negative affect accompany each other, and that affect by acting as a stimulant for the individual against the risk of social exclusion causes compensatory behaviors to emerge. According to a study that supported this claim, the threat to self-esteem is one of the main reasons for the emergence of angry or hostile behaviors (Kernis et al., 1989). The strong mediation of low self-esteem and aggression by emotion dysregulation (Garofalo et al., 2016) reinforces this inference. This situation, which is experienced as part of daily life, is also related to the comparison behavior that is the source of the risk assessment. In other words,

perceived risk may cause certain processes and results to be experienced by triggering both self-esteem and emotion regulation processes. In a study that included these processes, Gibbons and Gerrard (1989) stated that the effect on mood states varies according to the level of self-esteem, which is valid in both upward and downward social comparison situations. Such dynamic processes can also reveal the fluidity of structures assumed to be stable. To illustrate; although the global self-esteem measured in the current study is closer to the trait type, its variability via experience is also possible. In a study supporting this argument, Oosterwegel et al. (2001) explained that for some individuals the changes experienced in self-esteem during the day, which are known as self-esteem fluctuations, are expected. They also stated that there is a consensus in the literature regarding higher fluctuation levels or a wider range implying a more significant problem in emotion regulation. In the same study, depression and dysphoria including long-term negative affect were also explained by low self-esteem. However, the group in which self-esteem predicted depression at the highest level is the one with high self-esteem variability. In other words, the strong relationship between self-esteem and depression could be possible when variability is a moderator variable. The salient situation here is that the self-esteem is variable or unstable. In another study supporting this result, when they controlled social desirability, Kernis et al. (1989) found that those with unstable high self-esteem were more inclined to experience significant levels of anger and motor hostility than those with self-esteem that is stable. In other words, people with unstable high levels of self-esteem are more prone to hostility. However, as self-esteem instability increases, so does awareness of anger, making it easier to report strong emotions such as anger, and this situation should be kept in mind as a limitation of the current research.

Considering other studies including the relationship between self-esteem and emotion regulation, it was found that individuals with low self-esteem employ expressive suppression more frequently as an emotion regulation strategy (Gross & John, 2003), whilst low self-esteem mediates the relationship between increased anxiety and suppression (Fernandes et al., 2022), and mood uncertainty and low self-esteem are significantly correlated (Marsh & Webb, 1996). Moreover, the functioning of emotion regulation in synchrony with self-esteem when responding to daily stress (Mouatsou & Koutra, 2023), the observed decrease in self-esteem accompanying an increase in emotion dysregulation (Antunes et al., 2021), and the mediating role of emotion

dysregulation in the relationship between low self-esteem and various types of aggression (Garofalo et al., 2016) collectively confirm the direct impact of self-esteem on emotion dysregulation in the current study. In addition, although males generally have higher self-esteem, the relationship between emotion regulation and self-esteem associations is known to be higher in females (Gomez et al., 2018), whilst emotion differentiation contributes positively to self-esteem in collective cultures (Kang et al., 2003). In summary, the significant finding obtained in the current study regarding the effect of self-esteem on emotion regulation may be said to be compatible with a significant part of the relevant literature.

5.1.2. Discussion on the Indirect Effects

In the current research, a total of six hypotheses exist for testing indirect effects. Whereas three indirect relationships between ability comparison and interpersonal problems were all confirmed, all three of the indirect relationships between opinion comparison and interpersonal problems were rejected.

When the results were examined respectively, in the 10th hypothesis (H10) of the research, ability comparison was found to have a significant indirect relationship (β = .087, p = .001) on interpersonal problems through emotion dysregulation, hence H10 was accepted. The equivalence of this in daily life practices can be as follows: People who compare their abilities with those of others might experience difficulties in regulating their emotions with the comparison information they obtained, and this difficulty in emotion regulation may result in them experiencing difficulties in their interpersonal relationships. In other words, emotional regulation difficulties is considered to be one of the reasons why people comparing their abilities with others experience interpersonal difficulties. This result is deemed to be compatible with the relevant theoretical background and research. Namely, Festinger (1954) stated that in order to gain better self-evaluative comparative information, one is required to affiliate with and experience interpersonal interaction with others. On the other hand, Gibbons and Buunk (1999) pointed out that in the case of experiencing uncertainty about one's self, compensatory comparison orientation of the individual will increase, and they will exhibit more interpersonal-oriented behaviors and become more sensitive to the

behaviors of others. Individuals can also be attentive to other people and their experiences in order to resolve ambiguity about their own feelings, which are based on their inner experiences, and therefore renders social contact a necessity (Marsh & Webb, 1996). However, uncertainty, comparison information, and the effort to come together can reveal innate experiences such as "rank in social relating" and emotional difficulties, which can affect the process. Gilbert and Allan (1994) underlined that social comparison is the cognitive, whilst submissive behavior is the behavioral dimension of the evolutionary concept known as "rank in social relating." Therefore, social comparison and submissive behavior are rank-derived constructs. Gilbert et al. (1996) stated that seeing oneself as inferior to another (i.e., unfavorable social comparison) is pertinent to interpersonal problems such as sub-assertiveness, introversion, and coldness.

In summary, comparison behavior has the power to significantly determine the interpersonal behavior of the individual. However, the relationship between these two constructs is not the mere determinant of the experience; emotion also affects this process because, as Thompson (1994) stated, the role of emotions is critical in understanding relational needs and social cues, establishing and strengthening affiliations, and maintaining the self. However, emotions are not unattended or uncontrolled components of this process; conversely, the management and regulation of emotions is a developmental phenomenon that is learned from childhood. Zeman and Garber (1996) found that proclivity for controlling one's emotions is higher in children when they are close to their peers (compared to situations in which they are alone or closer to their parents), and as they get older, they display emotions such as sadness and anger much less. Also, the conceptualization of interpersonal emotion regulation, which is a context-sensitive concept (Dixon-Gordon et al., 2015), is qualified to prove the nestedness of these two processes. Another study supporting this result was conducted by controlling personality traits, verbal intelligence, and fluid intelligence variables with a sample of 76 college students with a mean age of 20.9 ($SD = 0.70$) years old, and it was concluded that emotion regulation abilities were related to the quality of social interaction (Lopes et al., 2005). In a study in which the social comparison variable was also included, Fernández-Theoduloz et al. (2019) found that social comparison and guilt-related emotional process enhance social avoidance in unmedicated depressive participants.

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When the studies including the relationships of the variables of the 10th hypothesis (H10) were examined, it was observed that they are often associated with eating disorders and borderline personality disorders. In fact, this situation, which can be deciphered as a compensatory effort and a search for assurance, is expected. For instance, Ty and Francis (2013) found that social comparison and emotion dysregulation significantly mediated the relationship between insecure attachment and disordered eating. Another study revealed that comparing physical appearance on Facebook is related to greater disordered eating (Walker et al., 2015). The mechanism in the current research was supported by another study in which the association of anxious attachment with disordered eating was shown to accrue through emotional deprivation, abandonment, interpersonal rejection sensitivity, and appearance-based rejection sensitivity (De Paoli et al., 2017). In their model test conducted with a clinical sample of 210 people diagnosed with borderline personality disorder, Euler et al. (2021) concluded that emotion dysregulation, which is a critical variable, both directly and as a mediator, significantly predicted the interpersonal problems, which is an endogenous variable. Two of the major components defining borderline personality disorder are emotion dysregulation and interpersonal problems. These two problems denote that the individual is impulsive, has impairment in regulatory mechanisms, and is unable to provide stability. Similarly, in a study conducted with 209 females ($M_{age} = 38.85 \pm 10.41$) from a community sample and 159 undergraduate female students ($M_{age} = 19.01 \pm 1.25$), Gratz et al. (2020) found that social comparison orientation significantly mediated between BPD symptoms and interpersonal emotional regulation strategies. In other words, social comparison orientation significantly mediates the relationship between interpersonal emotional regulation (i.e., *excessive reassurance seeking*: Effort to be sure about the affiliation with the person one is in a relationship with, and the excessiveness of repetitive verbal demands and questions to eliminate possible doubts about the bond; and *venting*: Intense expression of negative emotions to ensure they are recognized by others) and the symptoms of borderline personality disorder, which is known for interpersonal hypersensitivity and intense emotions, thoughts, behaviors, and experiences that are difficult to cope with. To summarize, though the current research was not conducted in relation to a clinical sample and BPD, the variables and contents of the two

aforementioned studies are quite similar to that of the current study, and are thus supportive of the regulation mechanism employed in the current study.

Regarding other supporting studies that validate the findings of the 10th hypothesis (H10), an extensive body of literature exists on the subject matter. For instance, Wehrens et al. (2010) revealed that social comparison prompts a wide range of emotional responses, encompassing both positive and constructive feelings, as well as those that are detrimental and negative; however, White et al. (2006) indicated that individuals who engage in frequent social comparison are more likely to exhibit defensiveness and experience guilt, shame, and envy. In their systematic experiments, Boecker et al. (2022) found that emotional reactions (including sympathy, contentment, envy, and schadenfreude), as well as behavioral responses such as prosocial and antisocial behaviors to others, were predicted by social comparison processes in terms of variability in social rank and the relevance and direction of comparison. Similarly, Allan and Gilbert (2002) discovered that when undergraduates perceive themselves as being unfavorably ranked, resulting in lower self-perceptions and submissive behavior, they adjust and inhibit their anger depending on the target's rank. Utilizing both longitudinal studies and meta-analytic data, Cameron and Overall (2018) discovered that the act of suppressing emotions during daily interactions led to decreased acceptance, increased distancing, and reduced satisfaction in a range of relationships. Conversely, expressing emotions during daily interactions was found to be associated with greater acceptance, enhanced connectedness, higher satisfaction, and reduced distancing within those relationships.

In congruence with the study's 11th hypothesis (H11), a significant and indirect relationship was revealed between ability comparison and interpersonal problems through self-esteem ($\beta = .050$, $p = .003$), hence H11 was accepted. In social comparisons exposed in daily life, the subjective information that an individual obtains when comparing their own abilities with those of others may be perceived as a threat to their own self-esteem, which may in turn result in decreased self-esteem and the individual experiencing greater interpersonal problems. As an alternative to the dynamic expression of this indirect effect, with a more trait-based narrative, it can also be conveyed as follows: Low self-esteem is an important factor in interpersonal problems of people who frequently compare their abilities with others. This result is

compatible with both the existing known theory and the findings of the current research. Having sufficient or a high level of self-esteem is associated with envisioning oneself as being "good enough" (Rosenberg, 1965), and having this personal conviction is usually possible through comparison-based self-evaluation in a social context in which comparison target is involved (Festinger, 1954). On the other hand, since the self-presentational side of self-esteem can be quite prominent in interpersonal relationships (Baumeister et al., 1989), the overall acceptance level of self, which is included in the definition of self-esteem (Rosenberg, 1965), strongly interacts with social acceptance especially in social risk situations (Cameron & Granger, 2019). Similarly, in sociometer theory's conceptualization of self-esteem, the acceptance of others and the value they attach to the person are considered to be important (Leary, 2012) since, according to the sociometer hypothesis, the main function of self-esteem is being the interpersonal monitor keeping track of the risk of social exclusion (Leary et al., 1995). Thus, threats to self-esteem motivates people to seek social approval (Leary & Downs, 1995). Barkow (1975) supported this mechanism by stating that the search for high social rank among primates and primitive humans evolved into an effort to maintain self-esteem. In other words, the need to protect and advance one's esteem usually lies behind interpersonal behavior patterns (Baumeister et al., 1989).

However, with its cognitive and affective components, self-esteem, which functions as a defense against anxiety (Greenberg et al., 1992; Pyszczynski et al., 2004) and helps individuals cope with daily life stressors (Cast & Burke, 2002), often requires systemic action taken at the preattentive level (Leary & Downs, 1995). Therefore, it is not easily and solidly discerned in its daily life functions and with its dynamic functioning it is receptive to the modifying effect of contextual factors. Morse and Gergen (1970) stated that casual social exposures and encounters can affect one's self-concept. In one of the studies that illustrated that self-esteem can be dynamic rather than static, Johnson (1998) reported that 80 undergraduate students' global self-esteem, measured at six different points within a 9-month period, was found to be unstable, and Johnson interpreted this situation in accordance with the knowledge that global self-esteem includes the need for competence and approval.

As previously mentioned, the self-worth of those with unstable self-esteem is vulnerable to the effects of their daily experiences (Kernis et al., 1993). This concept,

known as self-esteem variability, is closely associated with self-consciousness, social anxiousness, and social avoidance (Oosterwegel et al., 2001). According to the psychoanalytic perspective, self-esteem variability develops through several experiential processes. People whose parents' caring behaviors are inconsistent and discontinuous may develop dependency as their nurturance needs are not being met. Their knowledge and self-evaluation can become excessively dependent upon others, and if these "others" are in turn actual people, or have the potential to become such "others," who can meet the dependency needs of the individuals, then their judgments and evaluations can become much more critical to the individual (Butler et al., 1994; Greenier et al., 1995; Oosterwegel et al., 2001). That is, self-evaluation turns into a process taking shape over the other. From this theoretical knowledge and the results of the current and prior research, it may be stated that an individual who performs ability comparisons beyond the comparison targets encountered in daily life, evaluates the information and inferences in accordance with their own self-esteem. If the conclusion reached is negative and challenging for their self, then they will likely seek out the "other" in order to gain their approval, be appeased, find consolation, or to reject/falsify the information/conclusion they had reached about themselves. Here, where the other's judgment about the person is deemed to be positive and desirable, the person obtains a resource to change their compelling judgment about themself. If the early experiences and previous learning include negative aspects that are humiliating and make them feel inadequate, the person may display cold, dominant, or even hostile attitudes towards this "other" person. On the other hand, if they did not experience sufficient feelings of mastery, which is considered important for the development of self-esteem, and if they sought approval or exhibited anxiety in their interpersonal relationships, they may act in an intrusive, overly nurturant, or submissive manner. However, since not all the factors that can determine interpersonal behaviors were examined interactively in the current model, and what form of interpersonal difficulty an individual will experience exactly is difficult to be included in the discussions of the current research. On the other hand, what the current model does clearly reveal is that, regardless of the type of interpersonal difficulty, the ability comparison information can compel self-esteem, which is otherwise insufficient to cope with daily stressors, and which creates certain problems in the interpersonal relationships of the individual. Suls's (1977) conceptualization of gossip can be given

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as supportive for this holistic inference, since Suls claimed that through gossip, one obtains social comparison information in a way that does not harm one's self-esteem, and with which one can learn the norms of the group or the relationship and use this for the purposes of adaptation and closeness.

When other studies supporting the current study's finding obtained in connection with the 11th hypothesis (H11) were examined, it was found that social media addiction, through social comparison, has been shown to predict both self-esteem and general belongingness (Kavaklı & Ünal, 2021). In another study, when individuals with high narcissism scores were exposed to social comparison threat by being told that their friends performed better in a task involving competition, they were found to mitigate intimacy with their friends (Nicholls & Stukas, 2011). On the other hand, when females with BPD symptoms compared themselves to those that they regard as better than themselves, their focus was more on their own flaws and deficiencies, whilst in the presence of people they were unfamiliar with or unknown to, they experienced a fear of rejection more (Gratz et al., 2020). In another study, upward social comparison and self-esteem mediated the relationship between social media use and subjective well-being (Wang et al., 2017), with positive affect and life satisfaction, as the components of subjective well-being, found to be strongly correlated with interpersonal competencies (Emmons & Diener, 1985). In another study that supported the current study's result, social comparison orientation, through self-esteem, was reported to predict psychological well-being (Lee, 2020). Moreover, the association of socializing with high-status people with a decrease in self-esteem (Lee & Kawachi, 2017), the robust explanation of the variance in social inhibition, over-accommodation, and excessive self-sacrifice by malignant self-regard (Huprich et al., 2016), the vital role of interpersonal problems as a variable in explaining self-esteem (Bjørkvik et al., 2008), the mediating role of self-esteem in the relationship between binge behavior and interpersonal problems (Lo Coco et al., 2011), and the highly interactive nature of self-evaluation, self-esteem, and interpersonal problems (Schütz, 2001) are all examples of studies that support the confirmed hypothesis (H11).

The 12th hypothesis (H12) was devoted to the testing of a serial mediation relationship. By means of both self-esteem and emotion dysregulation, a significant and indirect relationship ($\beta = .063$, $p = .001$) was found between ability comparison and

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interpersonal problems, and as such the 12th hypothesis of the current study was confirmed. With a dynamic and hypothetical causal expression, this situation can be explained as follows: An individual comparing their own abilities with that of others may experience a threatening decrease in their own self-esteem, and that this decrease may trigger difficulty in emotion regulation. As a result of the combined effect of this process, the individual may experience interpersonal problems. In a more static or trait-based narrative, it can be expressed as follows: Low self-esteem and emotion regulation difficulties, respectively and combined, are important factors in the interpersonal problems of an individual comparing their own abilities with those of others.

When the opinion social comparison variable is excluded, there are many direct and indirect studies supporting this hypothesis, which includes the entire research model. First of all, it should be noted that individuals with high social comparison orientation exhibit more interpersonal orientation and are therefore more interdependent. They have an inherent interest in others' views, evaluations, and feelings about them, and in order to regulate their own emotions they generally seek out and need the support and help of others (Buunk & Gibbons, 2007; Gibbons & Buunk, 1999; Gratz et al., 2020). Therefore, as the individual's social comparison orientation increases, they need contact with others more so as to evaluate their own self and to regulate their emotions. Gebauer et al. (2015) revealed in a supportive way that the unique roles of extraversion and agreeableness in predicting respectively self-esteem and lower neuroticism point to the individuals' desire to acquire social status and maintain positive relationships. In this way, relational acceptance increases self-esteem and positive mood (Blackhart et al., 2009); conversely, as attachment-based anxiety increases, difficulty in emotion regulation increases, and as emotion regulation difficulty increases, self-esteem decreases (Antunes et al., 2021). In a similar vein, Taylor and Lobel (1989) stated that for different psychological needs of individuals, social comparison processes serve three main purposes: The desire to make self-evaluations with others, have affiliations with others, and to obtain information about them. If the individual feels under threat, the processes of evaluating themselves against others, gathering information about them, and having affiliations with others can take place simultaneously. In addition, the comparison information obtained during this process can affect the self-esteem of the individual and trigger various intense emotions. In another study, Vohs and

Heatherton (2004) found that where a threat to an individual's self-image is perceived, those with high trait self-esteem perform downward social comparison and as a result their interpersonal likability was shown to decrease, whilst those with low trait self-esteem increased their interpersonal likability when they performed upward social comparison. In their study, it was also established that in the face of ego threat, individuals with high trait self-esteem displayed more independent self-construal features in defending their self, while those with low trait self-esteem showed more interdependent self-construal features.

In line with the aforementioned research result, Gratz et al. (2020) stated that social comparison, especially with its upward and downward trends, can also function as a kind of intrapersonal emotional regulation strategy against possible threats to one's self-esteem. In another study with similar findings, Taylor et al. (1990) stated that by actively using their social environments when under stress, people systematically gather information and affiliate themselves with others, and thereby increase their coping and problem-solving abilities. They commented that because of dependency motivation, the support provided through upward affiliation is sometimes obtained from authority figures rather than peers. In another study that shed light on the dynamics of intimacy and feeling close within interpersonal relationships, Locke and Nekich (2000) found that through spontaneous social comparisons, undergraduate students frequently compared subjective characteristics such as their own feelings against those who were closest to them. By this means, communal outcomes such as feeling connected during interactions and in doing so being focused on similarities rather than differences were found to increase. In the same study, in which agentic traits predicted downward comparison and sense of confidence, the researchers commented that daily life agency and communion jointly shape social comparison. In a study conducted with female university students, Patrick et al. (2004) found that participants with high contingent self-esteem performed upward comparisons more, and as a result experienced negative changes and increased body shame. In short, as evidenced by all the research findings and comments conveyed so far, social comparison is a multifaceted, dynamic, and holistic process that interact with self-related structures and emotions, and both affects and is affected by interpersonal relationships.

Considering other studies supporting the current hypothesis (H12), Gratz et al.'s (2020) study revealed that social comparison orientation, low self-esteem, emotion dysregulation, and interpersonal problems were found to be highly intertwined and strongly correlated with symptoms of borderline personality disorder (BPD). Identity disturbance, fear of abandonment, unstable interpersonal relationships, intense emotions and emotional fluctuations, paranoid thoughts, impulsivity, and self-injury-oriented behaviors are the most common and well-known symptoms of BPD. As these symptoms of BPD increase, the individual compares themself to others in order to reduce their own fear of abandonment and as a means to stabilizing their sense of self, hence SCO can indeed function as a socially-oriented method of emotion regulation. Although Gratz et al.'s study inclined towards BPD, it makes the 12th hypothesis tested in the current study and the theoretical underpinnings of the model as a whole quite meaningful. In the theoretical part of the current study, social comparison orientation was mentioned as having evolutionary foundations based on attachment relations. That one's bond with others is indispensable for survival, belonging, reproduction, and coping was also found to be supported by different resources. In this sense, BPD can be regarded as a kind of effort employed so as to feel secure within relationships. In order to ensure this confidence, an individual will often display non-functional and sometimes harmful behaviors, an inability to manage relationships, unable to regulate their emotions, and lacks a persistent positive self-perception. In short, having experienced a degree of intense confusion, the individual experiences fluctuations in their self, their emotions, and in their relationships. Mostly, they seek some form of functional or non-functional means to escape their confused state. Therefore, the evolutionary-based model discussed in the current study showed that similar mechanisms or models worked in the undiagnosed or non-clinical sample, and could be included in symptom classification with significant deterioration and continuity. There is ample research that reveals that the difference in diagnostic criteria between clinical and nonclinical is either questionable or unclear (e.g., Anand & Malhi, 2011; Aneshensel et al., 2013; Esposito & Perez, 2014; Kim & Hagquist, 2018; Seah & Coifman, 2021; Szasz, 1960). In summary, Gratz et al.'s (2020) research is considered to be both meaningful and supportive in terms of presenting the mechanism that also works within the current model as well.

One of the studies related to self-esteem variability was grounded on the challenging effects of high-ability-based social comparison on interpersonal relationships, which, as anticipated in the 12th hypothesis of the current study, has the muting effect on self-esteem and regulatory effect on emotion regulation. Upon using the experience sampling method, Oosterwegel et al. (2001) obtained self-esteem variability scores using the standard deviation of Rosenberg Self-Esteem Inventory scores for a period of 1 week from 109 university students. They examined self-esteem variability's relationship with personality traits, mood, and social behavior, whether it differed from affect intensity and its moderator role in the relationship between self-esteem and depression. Those with highly variable self-esteem were described as being high in self-consciousness, experiencing anxiety in social surroundings, trying to keep social interaction low in their daily lives, and exhibiting socially avoidant behaviors. According to the finding, while self-esteem variability is a significant predictor and has significant relationship with social concerns, social behavior, social anxiety, public self-consciousness, and social avoidance, contrary to expectations, were not found to be associated with nonassertive and exploitable interpersonal problems indicating dependency. On the other hand, although self-esteem variability and affect intensity are two concepts that overlap conceptually and experientially, when evaluated in relation to social behavior, contrary to expectations, it was found that they were in fact distinct constructs. Also, affect intensity was revealed not to correlate with average self-esteem, but had a correlation with self-esteem variability. The research findings discussed so far support the model proposed in the 12th hypothesis from numerous perspectives. For instance, the overlap between affect intensity and self-esteem variability can be interpreted as such: Changes and fluctuations in self-esteem can be accompanied by emotions in an intense and compelling way, a finding that strengthens the current hypothesis. In addition, self-esteem variability may correspond to the combination of social comparison orientation and self-esteem in the current hypothesis due to their experiential and conceptual overlap, because global self-esteem, which is assumed to be quite stable in daily life, can become unstable and questionable with social comparison. Intense emotions and avoidance in social relationships accompanying the increase in self-esteem variability rest on the same contextual flow in the current study's 12th hypothesis. In addition, the finding related to the fact that affect intensity differs from self-esteem variability also supports the appropriateness

and complementarity of self-esteem and emotion dysregulation concepts in the current hypothesis. Finally, that the variability of self-esteem is substantially effective in the interplay with emotions can be regarded as evidence of contingency. This means that social comparison and contextual factors can alter and determine self-esteem, which supports the 12th hypothesis and the dynamic nature of the whole model of the current study in daily life.

When looking at other studies supporting the 12th hypothesis, it can be observed that emotion dysregulation fully mediates the relationship between low self-esteem and verbal aggression (Garofalo et al., 2016), self-esteem mediates the effect of emotion regulation on trait anger and anger rumination (Weindl et al., 2020), and low self-esteem is positively associated with impaired emotion recognition and behavioral problems (Wells et al., 2020). Additionally, unfavorable social comparison, which is associated with negative affect, has a disruptive effect on self-regulating behaviors (Duarte et al., 2017), and individuals with a high social comparison orientation are more likely to feel envious and their likelihood of experiencing or engaging in bullying increases as their dissatisfaction with their bodies increases (Geng et al., 2022). Moreover, Kernis et al.'s (1989) research is one of the supporting studies on the effect of social comparison information on self-esteem and emotions, and the manifestation of this effect on interpersonal behaviors as proposed by the hypothesis. The researchers in question stated that the more self-esteem is damaged, the stronger the likely compensatory response. In other words, as the damage gravitated to self-esteem increases, the individual might act in a much more angry and hostile way. However, the dimension of the emotion and interpersonal behavior of the response to threats directed to self-esteem cannot be determined by high or low self-esteem alone. In this sense, those with high but unstable self-esteem are more prone to experiencing anger because, although they appear to be secure and confident and their perceptions and feelings about themselves are positive, their self-view is rather fragile. They are highly vulnerable to self-esteem threats and fairly sensitive to both their own and others' evaluations, and can sometimes use anger for self-protective purposes against perceived threats directed towards themselves. While those with high self-esteem are expected to display anger in a more assertive way, when instability intervenes, anger can be expected to include hostility. However, when people with low self-esteem experience anger, stability is no longer a critical factor because low self-esteem mostly

prevents the disclosure of emotions, which often have a relational aspect. The individual may therefore not conceive that they have the right to experience strong emotions or show them to others, and even if they do, they may mitigate or hide these emotions due to the potential reactions that may ensue. Those with stable self-esteem, on the other hand, are deemed to be less sensitive to evaluations, not easily provoked against threats to their self, and more stable and secure in their self-views. In low self-esteem, the degree of stability is not crucial because the effects of depressive mood and insecurity in overcoming inhibition in expressing emotions already impair the possibility of anger and hostility (Kernis et al., 1989). The current study's finding support that the variability and fluctuation caused by social comparison orientation and self-esteem interaction in the 12th hypothesis may cause unhealthy results in both emotions and interpersonal relationships. Although the specific subdomains of interpersonal problems, which is an endogenous variable in the current study, were not analyzed in the hypothesis, the study by Kernis et al. (1989) mentioned that in cases of low self-esteem, interpersonal problems can be concentrated in the communion area.

Considering the other research findings supporting the 12th hypothesis, Kim et al. (2021) found that envy and depression (but not anger) experienced after making ability social comparison (not opinion social comparison) while using social media fully mediates the relationship between SNS addiction and lower self-esteem. Positive association of dispositional envy with social comparison orientation but a negative association with general self-esteem (Rentzsch & Gross, 2015), the association of poor self-esteem with friendship jealousy only when emotion regulation skills are insufficient (Kim, Parker, & Marciano, 2017), and the moderating role of self-esteem in the positive relationship between social comparison and emotional exhaustion (Hui et al., 2022) are also supportive findings. In another study, Lee et al. (2020) tested the effect of parent's forced social comparison on aggression with a structural model. In the model in question, aggression also involves the components of anger and hostility, just as in interpersonal problems. High school students who are unintentionally/forcedly exposed to social comparison by their parents experience socially prescribed perfectionism, academic inferiority, and depression containing cognitive and emotive components, and at the end of this whole process, they experience aggression. Aggression, by its very nature, is a state of emotion and

behavior that can be a target object. Considering its subdimensions, it includes emotional and behavioral states, which has equivalence in interpersonal relationships such as physical aggression, verbal aggression, anger, and hostility. Fernandes et al.'s (2022) study, on the other hand, found that lower self-esteem significantly mediated the relationship between increased anxiety and emotional suppression. When interpreted over the variables in the current hypothesis, it is supported that social comparison, which is highly associated with uncertainty and known to be anxiety provoking for some people, may cause emotion dysregulation through self-esteem. Finally, in parallel with the related hypothesis (H12), the multifaceted and cumulative effect of comparison information on the individual can be explained as a kind of stimulus or alarm in the communication and social behaviors of the individual during social encounters. From the threats and slight or considerable decrease in their self-esteem, the individual understands that their social interaction, conversations, or relationships are not going well. If the existing or subjectively evaluated social context causes a slight decrease or fluctuation in their self-esteem and if this decline is something that they are able to cope with, their social behavior is subjected to compensatory change and re-adaptation. Until this internal regulation system encounters with a strong negative affect, it continues to function and provide protective responses in the situations of social stress that the person assumes they can cope with. However, should the fluctuations in the individual's self-esteem be considerable, that is, if the variability is quite high, then they may not be able to cope with the emerged situation and their intense emotions and may not be able to adapt. Such an experience may transcend coping resources developed by the person themself. So as not to come across this kind of incompatibility situation, the individual needs to stand clear of and avoid social encounters, as well as the possibility for relationships and communication (Leary & Downs, 1995; Oosterwegel et al., 2001). Therefore, the ultimate case is an interpersonal difficulty or problem situation.

The final three hypotheses (13th, 14th, 15th) of the current study include indirect relationships in which opinion comparison is an exogenous variable. All three of these hypotheses were rejected. In the 13th hypothesis, the indirect relationship of opinion comparison on interpersonal problems through emotion dysregulation was found to be nonsignificant ($\beta = -.004$, $p = .739$) and hypothesis H13 was therefore rejected. In other words, when a person compares their opinions with others in daily life, they do

not experience any emotion regulation difficulties and in the continuation of this process do not experience interpersonal problems. In the 14th hypothesis, the indirect relationship of opinion comparison on interpersonal problems through self-esteem was found to be nonsignificant (β = -.010, p = .080) and hypothesis H14 was therefore also rejected. In other words, when a person compares their opinions with those of others, they do not experience interpersonal problems in terms of their self-esteem. In hypothesis H15, which is the final hypothesis of the current study, the predictive effect of opinion comparison on interpersonal problems was tested as serial mediation over the variables of self-esteem and emotion dysregulation. The indirect relationship of opinion comparison on interpersonal problems through self-esteem and emotion dysregulation was found to be nonsignificant (β = -.012, p = .121) and hypothesis H15 was therefore rejected. This finding illustrates that those who compare their opinions with others in social life do not experience problems or a decrease in their self-esteem, and that they subsequently do not experience difficulties in emotion regulation, and ultimately were not found to experience interpersonal problems.

As previously mentioned both in the literature review and discussion on the direct effects of the research, social comparison orientation studies generally cover the combination of ability and opinion as a unique construct and do not address them as two separate variables. As such, the results do not show how opinion comparison can differ. On the other hand, when the theoretical underpinnings of social comparison and the limited number of studies in which comparison types are dealt with separately are considered, it is seen that opinion comparison significantly differs from ability comparison. For example, Ozimek and Bierhoff (2020) found that while ability-based social comparison was negatively correlated with self-esteem and positively correlated with depressive tendencies, opinion-based comparison was not correlated with either construct. In another study, unlike ability-based social comparison, social comparison orientation of opinions was not found to be associated with the usage of XING, global self-esteem or depressive symptoms (Brandenberg et al., 2019). Similarly, in other studies, opinion comparison, contrary to ability comparison, was not found to have a significant relationship and predictiveness with variables such as global self-esteem, identity clarity (Yang, Holden, & Carter, 2018), rumination, identity distress (Yang, Holden, Carter, & Webb, 2018), competition (Garcia et al., 2013), extraversion (Demir et al., 2022), material possession, social status (Kim et al., 2021), materialism, and

personal relative depression (Callan et al., 2015; Kim, Callan, et al., 2017). Gibbons and Buunk (1999), who developed the social comparison orientation scale, also found that compared to ability comparison, opinion comparison's relationship with low self-esteem, depression, and neuroticism is significantly lower.

Regarding its theoretical background, Festinger (1954) stated that ability and opinion comparison are interactive and can be applied together for the purposes of self-evaluation. Correspondingly, Gibbons and Buunk's (1999) conceptualization of social comparison orientation suggested the use of ability and opinion as a whole for self-understanding. However, prior to introducing the social comparison theory (Festinger, 1954), Festinger conceptualized opinion within the context of pressure toward uniformity in social group processes and social reality consensus in informal communication. He stated that the combination of opinions and beliefs constitutes cognition, and added that unidirectional drive upwards which is valid for ability comparison would not apply to opinion comparison. Therefore, when opinion was first conceptualized, it did not encapsulate the competition, struggle, and comparison of the possessed. It mostly served purposes such as the formation of social groups, keeping group members together, and maintaining group integrity. In a way, the emphasis on sociability and on the "we" in terms of opinion comparison was much more prominent than the individuality and emphasis on "me" in ability comparison (Festinger, 1950, 1954). In a supportive study, Gilbert and Meyer (2003) added depression score to their regression model, they found that opinion comparison, but not ability comparison or social anxiety, continued to predict bulimia. Indeed, when Festinger first put forward the social comparison theory, in terms of its functions, he opted not to acknowledge opinion as being identical to ability, but rather emphasized that they were simply complementary to each other (Festinger, 1954). In another study that was supportive of this conceptualization, opinion comparison orientation was found to be a moderating variable in affecting the attitude towards outgroups in extended friendships formed by ingroup members with cross-groups, with the researchers explaining this result through reliance on social norms (Sharp et al., 2011). That Suls et al. (2000) addressed opinion comparison mostly in the context of beliefs and preferences in terms of social adaptation and verifying one's opinion through social relations also supports this result. Also, it is understood that opinion-based social comparison is not associated with negative psychological structures; rather, it is a concept that has been found to be

related to positive outcomes in some studies. For example, Park and Baek (2018) found that stronger opinion-based social comparison, through upward assimilative emotions, increased psychological well-being. Opinion comparison, which was discovered to be positively associated with general openness to others and educational background (Schneider & Schupp, 2014), was also found to be related with improved college adjustment in social relationships (Yang & Robinson, 2018). In summary, although social comparison orientation of opinion was expected to yield results just like its ability counterpart, in the related hypotheses (i.e., H4-H6 and H13-H15), it was understood that opinion comparison indicates several neutral or positive structures by differing from ability comparison.

As a final consideration, when it comes to the total variance explained in the current study, it was found that the current model explained 30% of the interpersonal problems. Whilst this rate may not be very high for social science research, rather than explaining the factors predicting interpersonal problems, which is the dependent variable, the aim of the current research was to explain a possible mechanism which manifests itself in interpersonal problems and operates in all areas of daily life. Therefore, that the total variance explained was not found to be very high is perceived as understandable. As known, the statistical purpose and function of the analysis of path and structural equation is to explain the relationships between variables (Loehlin & Beaujean, 2017). Rather than examining each of the unique contributions of the exogenous variables –ability comparison and opinion comparison– and the mediator variables –self-esteem and emotion dysregulation– on interpersonal problems, the current study investigated direct and indirect effects between the variables simultaneously. Therefore, what was tested in the current study is a psychological mechanism manifesting itself in interpersonal relationships and how the interaction between the components of this mechanism exist. On the other hand, in a model study with a clinical sample whose variables included emotion dysregulation and in which interpersonal problems were determined as an endogenous/outcome variable, Euler et al. (2021) ascertained the total variance explained to be 36%. In other words, the total variance explained in similar structural models is analogous to the current research.

5.2. Implications for Practice

The current study's hypothesized and statistically validated model was constructed based on the evolutionary framework. Implied fact in the current study that certain human characteristics, like being power-oriented in interpersonal relationships, are based on human nature (Russell, 1938/2004) may result in a degree of pessimism regarding the solutions, particularly from a moral standpoint. Likewise, the misuse of evolutionary theory to justify shameful practices in recent human history such as discrimination, slavery, and genocide have discredited it for a while. However, the sophistication of evolutionary theory's descriptions and predictions in explaining human behavior in social sciences, especially in psychology, has rendered it current again today (Koerner & Floyd, 2010). On the other hand, just because evolutionary theory says that something it explains is natural does not mean that it is necessarily or automatically good, moral, or even legitimate. Although evolutionary psychology is grounded upon heritable psychological mechanisms, many researchers and theorists do not talk about biological determinism. Instead, they prefer to state that human behavior is adaptable, that there can be free will, and that it is new learning that is in question. Therefore, there is no requirement for a study to present an opinion from simply one side of the ingrained "nature versus nurture" debate (Pierce & White, 1999).

Furthermore, human beings have proven that they can adapt over and over again in accordance with changing times and circumstance. Social realities are also like this; although there is no one-to-one biologically-based explanation, human adaptation to a certain reality that is accepted by large segments of society, or the human ability to change the context, is also considered as being evolutionary (Gilbert, 1995; Koerner & Floyd, 2010). Various examples can be given through the context of the current study, including its content and time. For example, the hierarchy in human relations and the fact that someone who sees themself as more inadequate behaves submissively does not necessarily mean that their actions are acceptable, natural, or unchangeable. Restructuring at the personal level for the benefit of the whole society can also create evolutionarily advantages. A recent supporting example can be the COVID-19 pandemic, which emerged in late 2019 and resulted in the deaths of millions of people worldwide; it caused legitimate voices to be raised about the inequitable distribution

of the world's wealth, and showed that threats could affect the entire human species, even if it does not affect all social strata in the same way (Schellekens & Sourrouille, 2020). Therefore, a social order that brings the powerful and the weak as close as possible can help to ensure the survival of humanity (Commoner, 2020). Survival scenarios based solely on the powerful can trap the whole society, and in the same way, those who believe that they are in an advantageous position can face the same fate. Accordingly, taking adaptive steps for the benefit of humanity as a whole can also be interpreted as evolutionary. In other words, evolutionary mechanisms are not necessarily deterministic, but rather that they are contextual, and the context can potentially be created by humans (Gabora & Aerts, 2005).

Alfred Adler's approach, which accepted human nature but was optimistic about change and development, offers a valuable route in terms of treatment and a path that may be followed, and which works in congruence with the findings of the current study. Adler's views on the fundamental striving or primary motivation of the human species, which have changed relatively over the years, can be evaluated in three stages: organ inferiority as the first stage, striving for power and superiority as the second, and a third stage of striving to belong as an evolutionary imperative. Adler stated that, from an evolutionary perspective, the primary motivation of human beings is to belong and unite with others for the common good, but that this motivation can deviate due to a flawed upbringing. One of Adler's basic concepts, social feeling or social interest, consists of two dimensions: one is "urge to community," that is belonging, and the other is "contribution to society," or otherwise known as "horizontal social striving." On the other hand, achieving social superiority individually over others is considered the vertical form of social striving, whereas the horizontal form is more fundamental and based on social bonding with others, meaning that social feeling is superior to the striving of the individual. One of the reasons why social feeling is superior and more healthy than individual striving is that it functions to ensure the survival of the human species and to overcome individual weaknesses through cooperation. Being inferior or trying to be superior to others stems from a flawed attitude and upbringing; according to Adler, it is in our nature to form bonds with others, to be a part of humanity, and be valuable as a social being (Ferguson, 2020).

Later in life, Adler came to view superiority and perfection more as growth, improvement, and mastery in terms of environmental conditions and tasks, rather than as a state of being better or compared to others. In addition, he believed that accomplishment should only be mentioned as a social whole, not at the individual level. So, as long as human evolution has not deteriorated, its focus is on the welfare of the whole, as in all of humanity, and the ongoing aspiration to improve. For example, hostile tendencies are not specific symptoms of the individual; on the contrary, they are socially based and widespread mistaken attitudes that evolve in adaptation to the environment. In competitive societies, inferiority feelings and superiority striving may be more commonplace since people will often demean and humiliate each other, but this situation is unhealthy and can be changed both in human relations and in society. Therefore, striving for community welfare and humanity is a healthy human motivation. To summarize, Adler's evolving theory starts with organ inferiority, then continues with striving for power and social superiority, and ends optimistically with an evolutionary emphasis on the need to belong and striving to contribute to human welfare (Ferguson, 2020). Therefore, although the current research model implies interpersonal relationships based on direct or implicit power comparison between individuals, it is also possible to make this communally healthier.

Society, on the other hand, is the context in which human beings exist, and organisms such as humans cannot be evaluated outside of this societal context. Both biology and evolution, as well as postnatal growth and development, are strong indicators of environmental determination in humans. One of the issues that psychological counselors should pay attention to in clients who experience interpersonal problems, or issues with social comparison, self-esteem, or emotion dysregulation, is the evaluation of the context in which the client lives. For example, suppose hierarchical relations prevail in the social structure, and a client sees themselves as inferior in terms of what they perceive themselves to be or what they possess compared to others, and behaves submissively. In that case, the problem may not be personal but societal. Therefore, the counselor should not only examine the client individually, but also investigate the contextual reality that has conditioned the client. Inferences and problem determinations made without evaluating both the narrow social structure and the broad societal structure in which the client lives would be unfounded and speculative.

Social comparison researchers have stated that humans can compare not only their abilities but also everything tangible and intangible that they have (Chiao et al., 2009; Cloutier et al., 2012; Kedia, Mussweiler, Mullins, & Linden, 2014). In this sense, images presented by the mass media and also social media can render individuals constantly exposed to intense stimuli that invites self-comparison and harm their self-esteem and well-being (Schmuck et al., 2019). Excessive differences in the comparison of ownership can threaten both personal and societal health (Wilkinson, 2004). Therefore, problems experienced by clients are sometimes not personal, but may actually stem from structural, societal, or political groundings. For example, in a culture where success is highly valued and comparison is generally encouraged, as in the case of modern-day Türkiye, social comparison orientation can be expected to be high within society (Dumludag et al., 2016; Gokdemir & Dumludag, 2012; Küçük, 2016). One of the points to be considered here is that clients often perceive that they are seeking psychological help because they have failed to do something or to do something correctly or sufficiently well compared to others. Guilt, inadequacy, and similar compelling feelings usually accompany thought of personal failure, and ignoring or overlooking the contextual angle and any related issues will likely exacerbate the client's feelings of guilt, incompleteness, and inadequacy. The purpose of this approach is not to free the client from their individual responsibilities, but rather to help them to distinguish between what is personal and what is not. Therefore, the treatment of an individual's mental health is primarily and closely related to making environmental/contextual conditions healthy, safe, and predictable.

When it comes to what can be accomplished in counseling practice in terms of the current study's research variables, each psychological construct can be studied both holistically and separately. In a holistic approach, intervention programs of psychological counseling services targeting undergraduates to improve self-esteem and emotion regulation while addressing the adverse effects of social comparison can lessen interpersonal difficulties and enhance social functioning. From a fragmented perspective, social comparison orientation can serve as a distinctive factor. Specifically, while the social comparison is an ordinary cognitive process that triggers experiential flow in the research model, it can also serve as a distinguishing criterion, potentially associated with problematic psychological constructs, thus acting as a vulnerability factor. Increased social comparison orientation can reduce an individual

to an object within their own perception and transform them into a "thing" that can then be more readily compared. In helping a client manage their personal relationships, enabling them to discover their own unique characteristics can encourage self-acceptance and the realization that not every individual feature is indeed comparable with others. As hypothesized by the current research model, comparison behavior interacts with self-esteem, emotion regulation difficulties, and interpersonal problems. A client's comprehension of that relationality can play a facilitating role in identifying the components which may be worked upon. In addition, comparison behavior has an implicit meaning regarding the individual features or needs that the individual wishes to improve or change. For example, it should be kept in mind that opinion comparison includes natural tendencies towards similarity and uniformity within the social group setting that an individual is attempting to establish a bond of belonging. In counseling processes, it should be noted that clients who frequently perform opinion comparisons may have needs for belonging, self-identification, and aspirations to meet certain social needs. Discovery of these needs and the appropriate mechanism can enable the individual to transform their inwardly destructive behavior patterns into a more productive effort that can increase their sense of hope and manifest potential gains.

One study that confirmed the therapeutic effect of the aforementioned client's understanding of their own needs was published by Epstein and Morling (1995). The researchers stated that the harmonious and holistic work of the rational and experiential systems, which are the two levels of processing of the cognitive-experiential self theory, in which they investigated its relationship with self-esteem, is one of the indicators of mental health. The structural model of the current study, which started consecutively with social comparison, continued with self-esteem and emotion dysregulation, and ended with interpersonal problems, was tested with the claim that it is a mechanism created basically through an evolutionary perspective. Although the flow that creates the model takes place mainly through experiential processing, rational processing can substantially impact psychological counseling practices. In other words, revealing the mechanisms formed by the experiential system as much as possible at the side of the rational system, making them intentionally conscious, and making logical inferences will help to complete an essential part of the psychological helping process.

Regarding self-esteem, which is another variable in the current research, certain behavioral interventions can be applied during the counseling process. Self-esteem is a psychological construct that is highly influenced by the conditionings of familial and environmental circumstances throughout life. A systematic set of behavioral assignments regarding the interpersonal difficulties experienced while working with a client with low self-esteem can be decided upon together. With homework applications ordered from easy to difficult, the courage to change in interpersonal style can be increased. Thus, the negative cognition and beliefs that a client has formed about their social self can begin to change through controlled behaviors, and thereby allowing experiential learning to occur. The client begins to take responsibility for their own actions and is able to change them, rather than to continue to experience their own predominantly automated thoughts and beliefs. In this way, through increasing a client's hope and courage, they are able to see what and how they can change, which is a powerful technique to acquire.

One of the mediator variables in the current study was difficulties in emotion regulation. Although deterministic causality cannot be deduced, the current findings suggest that training in emotion regulation skills may help people to interact more effectively with others. In addition, as mentioned in the relevant literature, emotions can be understood as the expression of an individual's inner experience; therefore, it is a path of significant value to understanding the client. Emotion regulation skills training through psychoeducation in both intervention and preventive mental health can enable individuals to recognize their own emotions, to maintain contact with them, and to benefit from and modulate them according to their contextual needs in solving problems. Teaching about emotions for emotion regulation and helping individuals to be aware of their own emotions from an early age enables them to reach healthier responses in adult life and thereby to realize a smoother and easier path through life. Additionally, an individual's internal and environmental observation, acceptance and distancing skills, including emotions, can be increased through various psychological exercises like mindfulness. As discussed in the Davranışsal Esneme (i.e., Behavioral Stretching) approach, which is fed by contextual philosophy of science and third wave behaviorism and has a tone rooted in Anatolian culture, all emotions can be handled and experienced in a way that forms unity/uniqueness without separating/decomposing them as being specifically positive or negative (Bayramoğlu, 2018).

Interpersonal problems, which was the current study's endogenous variable, is a critical variable both in terms of its effect on the individual and its potential function within the overall counseling process. The reason is that assessing interpersonal difficulties can enable treatment to focus more quickly on patterns that require change. Furthermore, working on interpersonal relationships during the psychological counseling process can also provide improvement in many other intervention areas. A significant number of studies have shown that interpersonal problems are not always separable from other psychological difficulties. For example, Lo Coco et al. (2012) revealed that treatment-seeking obese individuals experience different interpersonal problems according to certain differing characteristics. Even if it does not seem directly related on the surface, it is possible for an individual who can solve interpersonal relationship problems to regulate their emotions in a way that can affect their eating habits. On the other hand, a psychological counselor's awareness of their client's interpersonal problems can make the therapeutic relationship restorative. Encouraging the client to step away from repetitive problematic interpersonal behaviors can be instructive through establishing a secure and encouraging relationship with their counselor. Thus, the gains of the treatment process will increase, and the possibility of them dropping out of the counseling process will decrease. In support of this inference, Lo Coco et al. (2012) conveyed a generally accepted supposition that clients with interpersonal relationship problems experience difficulties in establishing a strong working alliance or rapport with their therapist.

Finally, a counseling process that guides the client towards discovering their personal values and committing to them when they experience difficulties, as in the acceptance and commitment therapy process, can also be beneficial. In this regard, since the values of the individual are often not distinct from the narratives of the society in which they live, the facilitating effect of the culture to which the client is attached can be utilized in counseling. In common wisdom, most religions, and in many cultures, there are moral evaluations, judgments, as well as historical and religious narratives made regarding certain emotions and excessive desires to possess, which are often disturbing and emerge with the process of comparison. For instance, the archetypal parables of both Cain and Abel and the Prophet Joseph and his brothers in the Qur'ān describe how envious feelings and hostility resulting from sibling comparison can become violent, even up to the act of killing another (Yıldız, 2020). Moreover, an insatiable

effort to reach certain desired things by constantly comparing what others have with themselves can become exhausting for an individual. This is seen in many teachings or beliefs as something that is unwelcome and in need of control. For example, according to El-Kindi (2012), a central construct in our existence is to accept that everything in life will deteriorate, that it is temporary, that everything desired cannot be achieved, and that we ultimately lose. When a person does not accept the impermanence of everything they have in life and intensely experience the desire not to lose whatever they have, they will inevitably feel grief-stricken. This ignorance and misery will then likely lead to the habit of being content with the suffering of others. Therefore, in counseling processes, the power of the teaching that a client is exposed to throughout their life can be utilized in the sense of values and committed actions (see Hayes et al., 1999).

5.3. Recommendations for Further Research

The model tested in the current study was aimed to explore the relationships between social comparison orientation, self-esteem, emotion dysregulation, and interpersonal problems by being framed on an evolutionary basis. As the study has certain natural limitations regarding the research design, underlying theory, selected variables, measurement instruments, and assessment methods employed, these limitations also present the opportunity to highlight recommendations for potential future research.

The first recommendation concerns the measurement scales employed in the current study, such as the Iowa-Netherlands Comparison Orientation Measure and the Rosenberg Self-Esteem Scale. Since the exclusion of two items from the opinion-based social comparison orientation subscale in the current study, future research can employ the full version of this subscale to ensure the comparability of results and construct representation. Furthermore, considering the controversial nature of Rosenberg's Self-Esteem scale in certain aspects, alternative scales can be employed to measure self-esteem. To be more specific, although Rosenberg (1965), as the scale's author, claimed in his early studies that global self-esteem was reasonably stable, many other studies (e.g., Johnson, 1998; Kernis et al., 1993; Morse & Gergen, 1970; Oosterwegel et al., 2001; Pullmann & Allik, 2000) have since put forth that the Rosenberg self-esteem

scale is variant and affected by environmental factors and social circumstance. Partially to the contrary, Heatherton and Polivy (1991) remarked that the trait self-esteem measure may not be as sensitive to momentary changes as state self-esteem. Whilst the current literature offers findings and criticism about the variability of global self-esteem, some researchers have stated that global self-esteem is insufficiently sensitive to measure situational changes. Therefore, an instrument or various methods like experiencing sampling that is more open to the effects of external stimuli and social interaction and that can reliably measure changes in short intervals is deemed more suited to the dynamic nature of the current study's model (see Hank & Baltes-Götz, 2019). Such a measurement may be based on conceptualizations such as state, contingent or variable self-esteem (see Heatherton & Polivy, 1991; Kernis & Goldman, 2006), and could therefore be taken into account in similar model-based studies in the future.

Furthermore, the current study has limitations in terms of not including the sub-dimensions of interpersonal problems and emotion dysregulation in the analyses, as well as not examining the effects of demographic variables on the model. In order to address these limitations, future research can consider incorporating these concepts along with their respective sub-dimensions into potential models. This inclusion would enhance the specificity of relationships between variables, explore divergent patterns, and attain a more comprehensive understanding. Furthermore, exploring the possible impacts of different demographic variables (e.g., gender, age, income, and social media) on the models can yield valuable insights.

Another recommendation relates to alternatives regarding the positions of the research variables within the model. As mentioned in the review of the relevant literature, social comparison behavior is performed for different purposes; for example, self-enhancement (see Thornton & Arrowood, 1966; Wills, 1981) is one of the social comparison motives. Although the current study's model claims that self-esteem variability follows social comparison behavior, social comparison can also be performed in order to increase low self-esteem situationally. Therefore, alternative causal relationships may be investigated by changing the positions and directions of the variables in future models of this nature. A similar situation may also be said to be valid for the interpersonal problems variable. When an individual experiences

interpersonal difficulty, they may also rely upon comparison behavior as a coping strategy.

In terms of alternative variables, another consideration for future research may be attachment styles. Although no constructs based on attachment relationships are directly formed as variables in the current study, attachment may also be the primary determinant in the conceptual background of all of the current study's variables; hence, looking at the current model from the perspective of attachment styles may yield notable results. Since one aspect of social comparison relates to the need for competence and a feeling of security, it may be of interest to look at the effects and interactions of secure and insecure attachment styles on social comparison behavior, self-esteem, emotion dysregulation, and interpersonal difficulties (see Janovsky et al., 2020; Parada-Fernández et al., 2021; Powell et al., 2018; Set, 2019). For example, whether or not various insecure attachment styles differ in interpersonal problem types (i.e., different combinations of affiliation and dominance octants), and which direct and indirect relationships could determine this effect, may also contribute to the relevant literature.

The other alternative variable may relate to parental forced social comparison and its persistent effect on emerging adults (e.g., Lee et al., 2020). In other words, the effect of social comparisons that parents make about their children on contingent self-esteem and other research variables could also be investigated. In addition, Smith's (2000) emotion typology could be used instead of emotion dysregulation, which was the mediating variable in the current model. In this way, the forms of participants' interpersonal relationships could be examined according to types of upward or downward and contrastive or assimilative emotions. On the other hand, the use of social media, which can result in intense exposure to comparison targets, can also be included in future research studies as a moderating variable. The question of whether or not comparison orientation and related variables (e.g., state self-esteem and difficulties in emotion regulation) differ in those who are more exposed to social media may therefore be of value in prospective new studies.

Potential variables that were not included in the current study but could increase the explained variance may be the subject of future investigations. In the current study, social comparison orientation, self-esteem, and emotion dysregulation were intrinsic

and interlinked components of interpersonal problems. Investigating extrinsic sources or manipulative circumstances in determining interpersonal behavior or problems may also be of value. On the other hand, in considering a regression-based approach rather than a structural model test, the effect of variables such as impulsiveness, personality traits, life stressors, communication skills, social support, family background and identity diffusion could be investigated in order to potentially increase the explained variance of interpersonal problems.

Another suggestion may relate to the diversity of the study sample; for example, considering economic conditions may be seen as an important variable since resource availability has the power to determine social relations and behaviors from an evolutionary perspective (see McDermott et al., 2008). The current study could be replicated with groups or strata where resource availability differentiates from scarcely available to readily available in order that it can be investigated whether or not the resources variable moderates relationships within the study. For example, this approach may contribute to the question of whether social hierarchy is felt more strongly where resources are limited or whether it becomes more egalitarian for collective survival. Therefore, the current model could be compared according to groups of varying socioeconomic status. Societal differences such as income and lifestyle may not have been adequately reflected in the current study since the sample was comprised of participants mostly from similar sociocultural backgrounds and economic status in Türkiye. The study could therefore be repeated with samples based on different sociocultural and socioeconomic characteristics. Additionally, the university from which the sample was obtained is considered one of the top higher education institutions in Türkiye in terms of academic success, and therefore the success motivation of the participating students may differ from undergraduates from other universities. Accordingly, it would be beneficial to work with different university samples in examining these phenomena. Another point to consider regarding sampling is that studies with clinical or community samples may also provide different findings.

The last suggestion put forth relates to the current study's research design and method of data collection. The current research has certain limitations due to its correlational and cross-sectional design, and with data having been collected according to the self-report method. Therefore, alternative designs and data collection methods could be

employed. For example, emotion dysregulation was shown to be a potent mediator in the current study according to the model used. An alternative experimental study could be conducted to question whether social comparison orientation, self-esteem, and interpersonal problems differ within an experimental group, where training given on emotion regulation skills is compared to a control group. Or, an experimental study could be conducted in which social comparison behavior is induced within a laboratory setting, and its effect on other variables tested causally. On the other hand, due to the dynamic nature of the current study's model variables, i.e., they may change according to the participants' developmental characteristics, longitudinal studies may offer a meaningful alternative in terms of highlighting lifelong changes. Finally, multi-method assessments such as observer-based, daily diaries, and interviews could be employed to address some of the known disadvantages of self-reporting measures such as social desirability and defensiveness.

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APPENDICES

A. SAMPLE ITEMS OF THE INCOM

3. Bir şeyi ne kadar iyi yaptığımı bilmek istediğimde, yaptığım şeyi diğer insanların yaptıklarıyla karşılaştırırım.

6. Hayatta ne kadar başarılı olduğum konusunda çoğu zaman kendimi başka insanlarla karşılaştırırım.

10. Bir konuda daha fazla şey öğrenmek istersem, o konuda başka insanların ne düşündüğünü öğrenmeye çalışırım.

B. SAMPLE ITEMS OF THE RSES

3. Genelde kendimi başarısız bir kişi olarak görme eğilimindeyim.

10. Bazen kendimin hiç de yeterli bir insan olmadığını düşünüyorum.

C. SAMPLE ITEMS OF THE DERS

3. Duygularım bana dayanılmaz ve kontrolsüz gelir.

20. Kendimi kötü hissettiğimde, halen işlerimi sürdürebilirim.

27. Kendimi kötü hissettiğimde, davranışlarımı kontrol etmekte zorlanırım.

D. SAMPLE ITEMS OF THE IIPC

1. Başkalarına "hayır" demek zordur.

18. Başka birinin mutluluğundan memnun olmak zordur.

22. Başkalarına karşı fazlasıyla agresifim/ saldırganım.

E. DEMOGRAPHIC INFORMATION FORM AND SURVEY QUESTIONS

Değerli Katılımcı,

Bu çalışmanın amacı, üniversite öğrencilerinin sosyal karşılaştırma yönelimleri ve ilgili olduğu düşünülen etmenler arasındaki ilişkileri araştırmaktır.

Bu çalışmaya katılım gönüllülük esasına dayalıdır. Elde edilecek veriler bireysel değil grup olarak değerlendirileceğinden sizden kişisel kimliğinizi belirleyici herhangi bir bilgi istenmemektedir. Sorulara yanıtlarınız kesinlikle gizli tutulacak ve yalnızca bilimsel çalışma amacıyla kullanılacaktır.

Soruların kişisel rahatsızlığa neden olabilecek içerikte olmadığı düşünülmektedir. Ancak yanıtlama esnasında herhangi bir rahatsızlık duyarsanız istediğiniz an yanıtlamayı bırakabilirsiniz. Yazılı yönerge ve soruları dikkatle okuyarak tüm soruları boş bırakmaksızın size en yakın gelen seçeneği doğru ve samimi bir biçimde yanıtlamanız beklenmektedir. Tüm soruları yanıtlamak ortalama 20 dakika sürmektedir. Çalışma hakkında daha fazla bilgi almak isterseniz araştırmacı Selçuk ASLAN (...........................@gmail.com; 0312 …………) ile iletişime geçebilirsiniz.

Ayırdığınız vakit ve katkınızdan ötürü teşekkür ederim.

Fakülte ve Bölümünüz:

Üniversitenizdeki kaçıncı yılınız: Genel Not Ortalamanız (CumGPA):

Cinsiyetiniz: Kadın (   )   Erkek (   )   Yaşınız:

Gelir düzeyinizi çevrenize göre değerlendirdiğinizde hangi kategori sizin için daha tanımlayıcı olur? Çok düşük(   ) Düşük(   ) Orta(   ) Yüksek(   ) Çok yüksek(   )

Siz dahil kaç kardeşsiniz? (Lütfen yazınız ....)

Kardeşler içerisinde doğum sıranız: İlk çocuk( ) Ortancalardan biri( ) Son çocuk ( )

Romantik ilişki durumunuz: Romantik ilişkim yok (   )   Romantik ilişkim var (   )

Sosyal Medya hesaplarınızın her birini kullanım sıklığınızı aşağıdaki derecelendirmeye göre ayrı ayrı değerlendiriniz:

5 = Çok Fazla, 4 = Fazla, 3 = Ne Az Ne Çok, 2 = Az, 1 = Çok Az, 0 = Hiç

Instagram ( ) Facebook ( ) Twitter ( ) Youtube ( ) GooglePlus ( ) LinkedIn ( ) Tumblr ( ) Diğer……………( )

DSC Kendinizi aşağıdaki alanlarda (akademik başarı, sosyal ilişkiler vb.) daha çok kimlerle karşılaştırır, kıyaslarsınız? Size göre altta olanlarla mı, ortada/benzer olanlarla mı yoksa üstte olanlarla mı? Uygun derecelendirmeye göre lütfen her bir alan için yalnızca bir seçeneği işaretleyiniz.	En altta	Daha altta	Ortada/Benzer	Daha üstte	En üstte	
1. Akademik başarı alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
2. Sosyal ilişkiler alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
3. Ekonomik olanaklar alanında kendimi bir başkasıyla kıyaslarken bana göre..	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
4. Fiziksel görünüm alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
5. Romantik ilişkiler alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
6. Sağlık durumu alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
7. Spor becerileri alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.
8. Hobiler (özel ilgi) alanında kendimi bir başkasıyla kıyaslarken bana göre…	1	2	3	4	5	…gördüğüm kişilerle kıyaslarım.

F. APPROVAL LETTER FROM MIDDLE EAST TECHNICAL UNIVERSITY HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
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15 MAYIS 2023

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Prof. Dr. Ayhan Demir

Danışmanlığını yürüttüğünüz Selçuk ASLAN'ın *"The Effect of Social Comparison on Interpersonal Problems through Self-Esteem and Emotion Dysregulation: Testing a Psychological Mechanism from an Evolutionary Framework"* başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek **0293-ODTUİAEK-2023** protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Ş. Halil TURAN
Başkan

Prof.Dr. İ. Semih AKÇOMAK
Üye

Doç. Dr. Ali Emre Turgut
Üye

Doç. Dr. Şerife SEVİNÇ
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Dr. Öğretim Üyesi Murat Perit ÇAKIR
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Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

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G. TURKISH SUMMARY/ TÜRKÇE ÖZET

SOSYAL KARŞILAŞTIRMANIN ÖZ-SAYGI VE DUYGU DÜZENLEME GÜÇLÜĞÜ ARACILIĞIYLA KİŞİLERARASI PROBLEMLER ÜZERİNDEKİ ETKİSİ: PSİKOLOJİK BİR MEKANİZMANIN EVRİMSEL BİR ÇERÇEVEDEN TEST EDİLMESİ

1. GİRİŞ

İnsan, yaşamının daha ilk yılında nesneleri keşfetmeye, birbirleriyle ilişkilendirmeye ve birbirinden ayırt etmeye başlar (Bourgeois ve ark., 2005). Bu tür işlevler, doğum sonrası hızla gelişen sinir bağlantılarına işaret eder ve bu gelişim bilişi ortaya çıkarır (Tucker ve Luu, 2012). İnsan bilişinin temel bileşeni ise birçok türde olduğu gibi sınıflandırmadır. Evrimleşmiş çoğu organizmanın beyni, benzer özelliklere sahip şeyleri doğal ve zahmetsiz bir şekilde bir araya getirip kategorize ederek benzer tepkiler verir. Davranışsal çıktılar sınırlı ancak çevresel uyaranlar genellikle çok sayıda olduğundan, organizma bilişsel olarak ekonomik davranmak ve duyusal girdileri algı yoluyla kısıtlamak zorundadır. Birey sınırlandırılan bu uyaranlara dayanarak yargıda bulunur (Huber ve Wilkinson, 2012). Çevresindeki şeylerle ilgili durmaksızın ve bazen farkında olmadan yargılarda bulunan insan, bazen bir nesne ya da olay, bazen de bir davranış ya da kişi hakkındaki yargılarını (Goldstein, 2014), kimi zaman farklılıklara (Bourgeois ve ark., 2005) kimi zamansa benzerliklere (Goldstein, 2014) dayanarak yapar. Kendiliğinden maruz kalınan bir kısım duyusal girdiler ve bazı nesnelerin mutlak varlık ve özellikleri dışında geriye kalan tüm değerlendirme ve yargıların doğaları gereği göreceli olmaları (Goffin ve Olson, 2011) karşılaştırmayı zorunlu kılar ve karşılaştırma yaşamın her yerindedir (Mussweiler ve ark., 2004). Yüksek değerlendirme becerisine sahip bireyler, üreme ve hayatta kalma konusunda, doğal seçilimle daha avantajlı hale gelirler (Buss, 2015).

Türün devamına yönelik oldukça işlevsel ve filogenetik olarak köklü bir araç olan karşılaştırma, güç hiyerarşisini ortaya çıkararak, doğada kaçınılmaz olan yaşam mücadelesinde canlıların yaşamsal riskler almamalarını ve enerjilerini verimli kullanmalarını sağlar (Buss, 2015; Darwin ve Beer, 2008; Gilbert ve Allan, 1994; Gilbert, Price, ve Allan, 1995). Karşılaştırma temelli değerlendirme yoluyla varılan ve baskınlık hiyerarşisini ortaya çıkaran (Parker, 1974) *kaynak tutma gücü* (Price, 1988) veya *sosyal ilgiyi tutma gücü* (Gilbert, 2017), kiminle mücadele edilip kime boyun eğileceğini belirler (Buss, 2015). Ortaya çıkan bu hiyerarşi sayesinde rekabet ve iş birliği meseleleri çözülüp hayatta kalma oranı ve üreme başarısı arttırılır (Cummins, 1996). Sosyal gruplarda çok hızlı kurulan hakimiyet hiyerarşisi (Buss, 2015; Williamson ve ark., 2016), insanda 5-6 yaş civarında görünür olsa da (Barkow, 1975), söz öncesi dönemde bebeklerin yeni gördükleri iki birey arasında göreli büyüklükle hakimiyet/baskınlık sonucunu öngörebildikleri tespit edilmiştir (Thomsen ve ark., 2011). Güç ve önem arzusuna sahip ancak doğal bir yetersizlik duygusuyla yaşama başlayan insan, bu durumu üstünlük için çabalayarak telafi etmeye yönelir (Ferguson, 2020). Kısacası, statü çabası evrensel ve güçlü bir güdüdür (Anderson ve ark., 2015) ve insan herhangi bir sosyal temasında, sıralama hiyerarşisini oldukça hızlı bir şekilde kurabilir (Beasley ve ark., 2012; Fisek ve Ofshe, 1970; Kalma, 1991; Savin-Williams, 1976).

İnsan doğasına içkin olan karşılaştırma davranışı (Festinger, 1954), yaşamsal avantajlar sağlayan güç arzusu ile iç içedir (Gilbert ve Basran, 2019) ve kişilerarası davranışları belirleme gücüne sahiptir (Ding ve ark., 2018; Locke, 2020). Doğum sonrası bakım veren ile kurulan ilk kişilerarası ilişki olmadan, insan yaşamını sürdüremez (Kölliker ve ark., 2013). Organlarının ve yaşam becerilerinin doğum sonrası gelişimi, sosyal etkileşimi zorunlu kılar ve türün devamını sağlar (Hare, 2017). Bağlanmanın esas işlevi, hayatta kalmayı sağlayan korumadır (Bowlby, 2005). İnsan için bağ kurma, ait olma ve sosyal varlığıyla değer görme, hayatta kalma işlevi ile oldukça kritiktir (Ferguson, 2020; Pierce ve White, 1999), öyle ki, kaygıdan kaçınma ihtiyacı ve kişilerarası bağlanma dürtüsü, diğer ihtiyaçlarını ikinci plana atarak sosyal onay ve uyumu bir öncelik haline getirebilir (Evans, 1996).

Yaşamın her döneminde önemli olan kişilerarası ilişkiler, genellikle 18-25 yaş aralığındaki lisans öğrencileri için de kritiktir. Bu dönem, ergenlikten yetişkinliğe

geçişi, kimlik değişimini ve artan özerkliği içerir. Bu dönemde fiziksel çekicilik, bağımsızlık, yakınlık ve arkadaşlık önem kazanırken, fiziksel performans, sağlıkla ilgili çeşitli riskli davranışlar ve madde kullanım olasılığı artar. Sosyal izolasyon ve yakın ilişkilerin yitirilmesi bu aşamada zorlayıcı hatta travmatik olabilir (Santrock, 2006). Bu dönemin başka bir gelişimsel kavramsallaştırması olan beliren yetişkinlikte bireyler, genellikle ailelerine hala ihtiyaç duydukları, ergenliğin karmaşası ile yetişkinliğin sorumlulukları arasında kaldıkları ve kimliklerini deneyimleyip keşfettikleri bir dönem yaşarlar. Teknolojinin ve endüstri toplumunun artırıcı etkisiyle eğitim, iş ve yakın ilişkiler gibi yaşamsal görevlerde gecikmeler, istikrarsızlıklar ve belirsizlikler deneyimlerler (Arnett, 2011, 2015). Bu dönemde kişilerarası ilişki sorunları en sık karşılaşılan sorunlar arasındadır (Koydemir ve ark., 2010) ve okul bağlılığı, akademik performans (Li ve ark., 2021; Mittelmeier ve ark., 2018), zihinsel ve fiziksel sağlık (Umberson ve Montez, 2010), psikolojik iyi oluş (Foulkes ve ark., 2021), kimlik süreçleri, psikososyal kaynaklar (Adams ve ark., 2006), psikopatolojik belirtiler (De Panfilis ve ark., 2013), depresif belirtiler, alkolle ilgili sorunlar (Keough ve ark., 2015), duygu düzenleme zorlukları, yeme bozuklukları (Ambwani ve ark., 2014) ve intihar riski (Suh ve ark., 2017) gibi temel yapılarla anlamlı ilişkilere sahiptir.

Diğer taraftan, bu gelişimsel evreyi tanımlayan özelliklerden bazıları aynı zamanda sosyal karşılaştırmayı tetikleyebilen, artırıp azaltabilen veya onunla ilişkilenebilen özelliklerdir. Örneğin karşılaştırma davranışını teşvik eden belirsizlik, tehdit, stres, rekabet ve yenilik gibi başlıca durumlar (Gibbons ve Buunk, 1999) bu gelişimsel dönemde sıklıkla deneyimlenebilmekte ve diğer insanlarla bir araya gelmeyi güdüleyebilmektedir (Aspinwall, 1997). Böylelikle sosyal karşılaştırma, başkalarıyla ilişki ve yakınlık kurma yoluyla kaygıyı azaltmak için bilişsel netlik ve duygusal kaynak sağlayabilmektedir (Kulik ve Mahler, 1997). Gereksinimlerin ve yaşam beklentilerinin (Urzúa ve ark., 2012), rekabetin (Garcia ve ark., 2013), sosyal çevreden öğrenme motivasyonunun, yaşama dair sorumluluk ve seçimlerde kontrol ve güveni içeren eylemlilik hissinin arttığı bu dönemde (Schunk ve Usher, 2012) sosyal karşılaştırma yönelimi yoğunlaşır (Buunk ve ark., 2020). Öte yandan, yoğunlaşmış sosyal karşılaştırma her zaman faydalı sonuçlar doğurmaz. Lisans öğrencilerinin tuttukları günlükler, onların insanları sürekli ve istemsizce karşılaştırdıklarını, derecelendirdiklerini, yargıladıklarını ve ölçtüklerini ortaya koymuştur. Ağırlıklı olarak kendi fiziksel görünüm ve zekâlarını karşılaştırdıkları bu deneyimlerinde yoğun

aşağılık veya üstünlük duygularından mustarip oldukları anlaşılmıştır (Wolsko, 2012). Yine bir üniversite örnekleminde, olumsuz sosyal karşılaştırmalardan kaynaklanan daha alt sıralarda yer alma hissi daha yüksek intihar düşüncesi ile ilişkilendirilmiştir (Wetherall ve ark., 2019).

Kişi karşılaştığı herhangi bir bilgiyi sosyal karşılaştırma yoluyla kendisi ile ilişkilendirir ve bu durum onun üzerinde olası motivasyonel, duyuşsal, bilişsel ve davranışsal etkilere zemin hazırlar (Corcoran ve ark., 2011). Kişisel özelliklerini, duygularını, ilişkilerini, sosyal statüsünü ve sahip olduğu maddi ve manevi tüm kaynaklarını karşılaştırabilen insanın (Chiao ve ark., 2009; Cloutier ve ark., 2012; Gibbons ve Buunk, 1999; Kedia, Mussweiler, Mullins, ve Linden, 2014), bir başkasının sahip olduğu iyi ya da istenen bir özelliğe sahip olmaması, onun benlik saygısını düşürebilmekte ve kendine dair memnuniyetsizliğini arttırabilmektedir (Wilcox ve Laird, 2000). Ancak, sosyal karşılaştırma olumsuz benlik değerlendirmesi, umutsuzluk ve depresyonun etiyolojisi ile ilişkili olsa da (Ahrens ve Alloy, 1997), başlangıç uyum durumu yüksek olan yetkin ergenlerde olumlu sonuçlarla ilişkilendirilmiştir (Fu ve ark., 2018). Sosyal karşılaştırma davranışlarındaki bu bireysel farklılıklar sosyal karşılaştırma yönelimi olarak kavramsallaştırılmış (Gibbons ve Buunk, 1999), çevresel ve sosyal uyaranlara karşı dikkat ve hassasiyet eğilimini içeren bir kişilik özelliği olarak tanımlanmıştır (Gratz ve ark., 2020). Gündelik sosyal karşılaşma ve maruziyetler bazı kişilerin benlik tasarımını etkileyip istikrarsızlaştırabilmekte (Morse ve Gergen, 1970), öz değerlendirme ve duygulanımı etkilemede öz-saygı ile etkileşime girebilmektedir (Aspinwall ve Taylor, 1993). Zaten istikrarsız (Johnson, 1998) ve dinamik (Pullmann ve Allik, 2000) olabilen global öz-saygı bu nedenle kişinin egosunu ve öz-değerini günlük hayatın değişen etkilerine karşı savunmasız hale getirebilmektedir (Kernis ve ark., 1993).

Yeterli, başarılı (Harter, 2006) ve değerli hissetme ile tanımlanabilen öz-saygının (Crocker ve ark., 2003) en belirgin işlevi bireyi kaygıya karşı koruma (Greenberg ve ark., 1992; Schmitt ve Allik, 2005) ve günlük stres etmenleriyle baş etmedir (Cast ve Burke, 2002). Ağırlıklı olarak duyuşsal içeriğe sahip olan öz-saygı (Rosenberg ve ark., 1995) farklı gelişimsel evrelerde sistematik olarak değişerek 15-30 yaşları arasında gelişimsel gereksinimler nedeniyle yükselir (Orth ve ark., 2018). Öz-saygı için tehdit oluşturan olumsuz sosyal karşılaştırma (Alicke ve ark., 1997), yukarı yönlü türüyle

örtük öz-saygıyı ve görünür ruh halini olumsuz etkileyebilir (Fuhr ve ark., 2015). Ancak, negatif duygulanım karşısında zorluklar yaşansa bile, duygularla temas insan için kaçınılmazdır (Hayes ve ark., 2002). Psikolojik olarak yapıcı işleve ve biyolojik olarak uyum işlevine yönelik olan duygu (Thompson, 1994), insan deneyiminin ayrılmaz bir parçasıdır. Sinir sistemi evriminin sonuçlarından biri olan duygular insanın bilişsel süreçlerini, dikkatini, kararlarını, davranışlarını ve iletişimini etkilediği gibi yakın ilişkiler kurmasına (Niedenthal ve Ric, 2017), ilişkisel ihtiyaçları anlamasına, bağlılıklarını güçlendirmesine ve benliğini korumasına destek sağlar (Thompson, 1994).

Çoğu duygusal stres kaynağı esasında kişilerarası olduğundan (Dixon-Gordon ve ark., 2015), birey kişilerarası ilişkilerini korumak için duygularını daha fazla kontrol etmeye çalışabilir (Zeman ve Garber, 1996). Duygusal tepkilerin amaca ve koşulların gereksinimine yönelik (Mennin ve ark., 2002) gözlenmesi, değerlendirilmesi ve değiştirilmesini içeren süreçlerin bütünü olan duygu düzenleme (Thompson, 1994), olumlu ya da olumsuz güçlü duygularla baş etme sürecini tanımlar (Kopp, 1989) ve bağlamsaldır (Gratz ve Roemer, 2004). Duygu düzenlemeyi zorlaştıran negatif sosyal karşılaştırma, haset ve kıskançlığın ortaya çıkmasını tetikleyerek ilişkide soğuk ve küçük düşürücü davranmaya neden olabildiği gibi (Salovey ve Rodin, 1984), öz-saygıyı koruma, zorlayıcı duyguları hafifletme ve kontrol amacıyla zarar verici, öfkeli ve yıkıcı birtakım kişilerarası davranışlarda bulunmayı tetikleyebilir (Baumeister ve ark., 1989; Garofalo ve ark., 2016; Kernis ve ark., 1989). Özetle, ilgili alanyazından yapılacak çıkarsamaya göre, lisans öğrencileri için sosyal karşılaştırma davranışının kişilerarası ilişkiler üzerindeki sorunlu etkisini açıklayan olası güçlü aracılar öz-saygı (He, 2022; Yanhong ve ark., 2021) ve duygu düzenleme güçlükleri (Blanchard-Fields, 2007; Richmond ve ark., 2022) olabilir.

Bununla birlikte, insanın kendi eliyle başkalaştığı binlerce yıla yayılan bir de kültürü vardır (Creanza ve ark., 2017), kültür ise insan davranışını şekillendirmede oldukça güçlü bir bağlamdır (Matsumoto, 2007). Mevcut araştırmadaki psikolojik mekanizmanın anlaşılması Türkiye gibi güç ilişkilerinin örtük ama belirgin olabildiği bir kültürde, günlük yaşamın işleyişini anlamada değerli katkılar sunabilir, çünkü sosyal hiyerarşinin katı ve güç mesafesinin belirgin olduğu kültürlerde grup içi karşılaştırma daha fazladır (Guimond ve ark., 2007). Duyguların daha ilişkisel olduğu

kolektivist kültürlerde (Mesquita, 2001), duygular özellikle kişilerarası ilişkilerin sağlıklı sürdürülmesi, öz-saygı ve yaşam doyumu üzerinde önemli bir etkiye sahip olduğu için (Kang ve ark., 2003), kolektif fakat hiyerarşik kültür ve toplum yapısının görünür olduğu çıkarsamasının yapılabileceği Türkiye özelinde (Dumont, 1966/1974; Keldal ve Karadaş, 2021; Sarı, 2011; Şengönül, 2013; Triandis, 1995), kişilerarası ilişkiler ve ruh sağlığının nasıl etkileşime girdiğine ışık tutmak önemli bilgiler sağlayabilir.

Sonuç olarak, sosyal karşılaştırma yaptıkça ötekine karşı davranışları açık veya örtük biçimde değişebilen insanı yönlendiren sürecin keşfi değerli olabilir. Bu kapsamda mevcut araştırma, sosyal karşılaştırma davranışının, kendi tarihsel ve sosyolojik süreçleri olan Türkiye'de bir devlet üniversitesi öğrencilerinden oluşan örneklemde, kişilerarası ilişkilerde nasıl işlediğini ortaya koymayı amaçlamıştır.

1.1. Araştırmanın Amacı

Evrimsel çerçeveyi kuramsal temel alan bu model çalışması, sosyal karşılaştırma yönelimi (yetenek karşılaştırması ve görüş karşılaştırması), öz-saygı ve duygu düzenleme güçlükleri arasındaki yapısal ilişkileri inceleyerek lisans öğrencilerinin kişilerarası problemlerini araştırmayı amaçlamıştır. Bu kapsamda Türkiye'deki bir üniversite örnekleminde sosyal karşılaştırma yönelimi, öz-saygı, duygu düzenleme güçlükleri ve kişilerarası problemler arasındaki doğrudan ve dolaylı ilişkilerin doğası; dışsal (yetenek karşılaştırması ve görüş karşılaştırması) ve aracı değişkenler (öz-saygı ve duygu düzenleme güçlükleri) dizisinin Türk lisans öğrencilerinin kişilerarası problemlerini ne ölçüde açıkladığı sorularına yanıt aranmış ve aşağıdaki hipotezler test edilmiştir.

1.1.1. Doğrudan İlişkiler

Araştırmanın dışsal değişkenleri olan yetenek karşılaştırması ve görüş karşılaştırması, aracı değişkenleri olan öz-saygı ve duygu düzenleme güçlükleri ve içsel değişkeni olan kişilerarası problemler arasındaki anlamlı doğrudan ilişkilere dair hipotezler aşağıdaki gibidir:

Hipotez 1. Yetenek karşılaştırması, duygu düzenleme güçlükleri ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 2. Yetenek karşılaştırması, kişilerarası problemler ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 3. Yetenek karşılaştırması, öz-saygı ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 4. Görüş karşılaştırması, duygu düzenleme güçlükleri ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 5. Görüş karşılaştırması, kişilerarası problemler ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 6. Görüş karşılaştırması, öz-saygı ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 7. Duygu düzenleme güçlükleri, kişilerarası problemler ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 8. Öz-saygı, kişilerarası problemler ile doğrudan yordayıcı bir ilişkiye sahiptir.

Hipotez 9. Öz-saygı, duygu düzenleme güçlükleri ile doğrudan yordayıcı bir ilişkiye sahiptir.

1.1.2. Dolaylı İlişkiler

Araştırmanın sırasıyla dışsal, aracı ve içsel değişkenleri olan yetenek karşılaştırması, görüş karşılaştırması, öz-saygı, duygu düzenleme güçlükleri ve kişilerarası problemler arasındaki anlamlı dolaylı ilişkilere dair hipotezler aşağıdaki gibidir:

Hipotez 10. Yetenek karşılaştırması kişilerarası problemlerle, duygu düzenleme güçlükleri aracılığıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

Hipotez 11. Yetenek karşılaştırması kişilerarası problemlerle, öz-saygı aracılığıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

Hipotez 12. Yetenek karşılaştırması kişilerarası problemlerle, öz-saygı ve duygu düzenleme güçlüklerinin seri aracılıklarıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

Hipotez 13. Görüş karşılaştırması kişilerarası problemlerle, duygu düzenleme güçlükleri aracılığıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

Hipotez 14. Görüş karşılaştırması kişilerarası problemlerle, öz-saygı aracılığıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

Hipotez 15. Görüş karşılaştırması kişilerarası problemlerle, öz-saygı ve duygu düzenleme güçlüklerinin seri aracılıklarıyla, dolaylı yordayıcı bir ilişkiye sahiptir.

1.2. Araştırmanın Önemi

Doğumdan itibaren insan yaşamının her dönemi ve gelişim evresinde kritik olan kişilerarası ilişkiler sağlıklı bir yaşam sürmede oldukça belirleyicidir (Brunsting ve ark., 2018; Carcedo ve ark., 2008; Dagenais-Desmarais ve ark., 2014; Rook ve ark., 2012; Sullivan, 1953; Wilkinson, 2004; Wills, 1985). Üniversite öğrencilerinin psikolojik uyumlarında ana unsurlardan ikisinin kişilerarası problemler ve öz-saygı olması (Liang ve Fassinger, 2008) ve gelişim dönemleri itibariyle sosyal karşılaştırma bilgisine daha çok ihtiyaç duymaları (Buunk ve ark., 2020) araştırma ve uygulamaya yönelik önemliliği arttıran etmenlerdir. Ruhsal yardımın yaygın konularından olan kişilerarası ilişkiler, bireyin kendisiyle ilgili algıladığı memnuniyetsizlik ve çeşitli duygularını ifade etmede yaşadığı güçlükler ile birlikte psikolojik yardımın ağırlıklı odağını oluşturur (Flecknoe ve Sanders, 2004; Heinonen ve Pos, 2020; Horowitz, 1979). Ancak bu ölçüde yaygınlığına rağmen kişilerarası problemlerin klinik uygulama ve kişiliğin çalışılmasında yeterince gözetilmediği (Alden ve ark., 1990), sosyal statü ya da sıralamanın bireyin içselleştirilmiş değerlendirmelerindeki rolünün yeterince araştırılmadığı (Gilbert ve ark., 1996), sosyal karşılaştırmanın davranış üzerindeki etkilerine dair çalışmaların sınırlı kaldığı (Suls ve ark., 2002) ve bu anlamda sosyal ilişki ve uyuma yönelik herhangi bir katkının önemli olduğu (Lopes ve ark., 2005) araştırmacılarca vurgulanmıştır.

Mevcut araştırmanın kuramsal tarafına bakıldığında, modelde öz-saygı ve duygu düzenleme güçlükleri aracı değişkenler olarak belirlenirken Sullivan'ın (1953) kişilerarası ilişkilerin iki temel motivasyonu dediği güvenlik ve öz-saygı kavramlarının, Leary'nin ise (1957) yakınlık ve baskınlık olarak adlandırdığı ana boyutlarının temel alınmış olması önemlidir. Bir anlamda kişilerarası problemlerin

olası öncülleri dahil edilmiş, altta yatan mekanizmaya yönelik detaylandırılmış bir model önerisinde bulunulmuştur. Ek olarak, güvende hissetme ihtiyacı ile ilgili ve sürecin muhtemel tetikleyicisi olabilecek sosyal karşılaştırma (bkz. Gilbert ve Allan, 1994; Parker, 1974) değişkeninin kuramsal arka planıyla modele entegre edilmiş olması katkı sağlayıcıdır. Ayrıca bu çalışma, bakış açıları birbirinden farklı olan Festinger (1954), Sullivan (1953), Rosenberg (1965), Adler (1924/2013) ve Bowlby (2005) gibi birçok kuramcının görüşlerini evrimsel çerçeveye dayalı bir modelde özgün bir biçimde bir araya getirmiştir. Evrim teorisinin tanım ve öngörülerinin insan davranışını açıklamada sofistike olması (Koerner ve Floyd, 2010), doğuştan olana karşın öğrenilmiş ve biyolojik olana karşın kültürel gibi ikili karşıtlıkları kuramsal bir bütünlük içinde çözmüş olması (Buss, 2020), ve güçlü bir meta-teorik çerçeve sağlayabilmesi (bkz. Duntley ve Buss, 2008; Ploeger ve van der Hoort, 2015) mevcut araştırmanın önemliliğini arttıran bir etmendir.

Sosyal karşılaştırma kuramında Festinger (1954), görüş farklılıklarının arttığı durumların kişilerde hoşnutsuzluk, aşağılama ve düşmanlık benzeri duygu ve davranışlara sebep olabileceğini ancak yetenek farklılıklarının bu tür zorlayıcı duyguları uyandırmayacağını aksine üstünlüğün kabulünü içeren grup içi statü sınıflandırmasına neden olacağını iddia etmiştir. Mevcut çalışma, kısıtlı sayıdaki diğer bazı çalışmalar gibi (bkz. Park ve Baek, 2018), bu temel iddianın kısmen tersini hipotezleştirmiş ve yetenek karşılaştırmasının da tıpkı görüş karşılaştırması gibi bir takım duygusal güçlükleri ve kişilerarası davranışları tetikleyebileceği varsayımında bulunmuştur. Ayrıca sosyal karşılaştırma araştırmalarının çoğunluğu (bkz. Luszczynska ve ark., 2004; Michinov, 2007; Sherlock ve Wagstaff, 2019) sosyal karşılaştırmanın yetenek ve görüş alt karşılaştırma alanlarını birleştirerek tek bir yapı altında ele almış olmasına rağmen, mevcut çalışma bu iki alt boyutu, olası farklı çıktılara neden olabileceğini göz önüne alarak, ilişkili fakat iki ayrı değişken olarak modele dahil etmiştir. Bu yaklaşım farklılığı yetenek karşılaştırmasının daha performans ve rekabet odaklı olmasından, görüş karşılaştırmasının ise bilgiyle, ilişkilerle ve grup dinamikleriyle ilgili olmasından kaynaklanmaktadır (Sharp ve ark., 2011; Yang, Holden, Carter, ve Webb, 2018).

Öte yandan, ağırlıklı olarak batılı toplumlarda çalışılan sosyal karşılaştırmanın diğer kültürlere genellenebilirliği hakkında kısıtlı bilgilerin söz konusu olmasının yanı sıra

(Guimond ve ark., 2007), eşitlikçi veya hiyerarşik yapıların ve bireysel veya kolektif kültürlerin kişilerarası ilişkileri nasıl düzenlediği de araştırılması gereken alanlar arasındadır (Fournier ve ark., 2011). Türkiye'de aile içi ilişkilerde bireyselliğin, grup içinde ilişkili kalınarak izin verilen ve takdir edilen bir özellik olması ve benliğin olabildiğince ilişki bağlamında tanımlanması nedeniyle, grup içi ilişkiler, hiyerarşik ve karşılaştırmalı yapılar birey için daha kritik olabilmektedir (bkz. Imamoğlu ve Karakitapoğlu-Aygün, 2004; Kağıtçıbaşı, 1996; Uleman ve ark., 2000).

2. YÖNTEM

2.1. Araştırmanın Deseni

İlişkisel araştırma deseninin uygulandığı bu çalışmada, üniversite lisans öğrencilerinin kişilerarası problemleri, sosyal karşılaştırma yönelimleri, öz-saygıları ve duygu düzenleme güçlükleri arasındaki yapısal ilişkiler incelenmiştir. Deneysel olmayan bir araştırma türü olan ilişkisel araştırmada nedensellik atfının (Tabachnick ve Fidell, 2013) ancak kuramsal olarak varsayılabilmesi ve ilişkisel çalışmalarda değişkenler arasındaki ilişkilerin tanımlanıp en olası sonuçları tahmin etmeye çalışmanın (Bordens ve Abbott, 2008) temel ilişkisel tekniklerden daha fazlasını gerektirmesi nedeniyle, bu araştırmada, hem çalışmanın değişkenleri arasındaki ilişkileri incelemek hem de önerilen yapısal modeli test etmek için, yapısal eşitlik modellemesi (YEM) kullanılmıştır.

2.2. Örneklem

Kolayda örnekleme yöntemiyle veri toplanan araştırmada yer alan katılımcılar Türkiye'de bir devlet üniversitesinde lisans eğitimlerine devam eden toplam 570 gönüllü öğrenciden oluşmaktadır. Bu 570 kişiden ilgili sorulara yanıt verenlerin 309'u (%54,3) Mühendislik Fakültesi öğrencisi, 100'ü (%17,6) Fen Edebiyat Fakültesi öğrencisi, 76'sı (%13,3) İktisadi ve İdari Bilimler Fakültesi öğrencisi, 46'sı (%8,1) Eğitim Fakültesi öğrencisi ve 35'i (%6,1) Mimarlık Fakültesi öğrencisidir. Örneklemi tanımlayıcı diğer verilere bakıldığında örneklemin 291 (%51,1) kişisinin kadın öğrencilerden oluştuğu ve 274 (%48,1) kişisinin de erkek öğrencilerden oluştuğu görülmüştür. Katılımcıların yaşları 18 ila 26 arasında değişirken yaş ortalamaları 21,8

($Ss = 1,58$)'dir. Mevcut üniversitelerinde kaçıncı yıllarında oldukları bilgisine bakıldığında ise 2 (%14,4), 3 (%19,5), 4 (%30,4) ve 5 (%16,3) yıllarında olduklarını söyleyenler çoğunluktadır, ortalama yıl ise 3,81 ($Ss = 1,54$)'dir. Genel not ortalamalarına bakıldığında ise 2,00-2,99 aralığında not ortalamasına sahip kişilerin çoğunluğu (%53,9) oluşturduğu ve tüm örneklemin GNO ortalamasının 2,59 ($Ss = 0,66$) olduğu görülmüştür. Çevresindekilere kıyasla 403 (%70,7) kişi kendisini orta düzeyde gelire sahip olarak nitelemiştir. Kardeş sayısı demografik değişkeninde ise katılımcıların çoğunluğu (%57,7) bir kardeşe sahiptir, yani iki çocuklu ailelerden gelmektedirler. Katılımcının kardeşleri içinde doğum sırasına bakıldığında ise ailede ilk çocuk olan kişi sayısı 244 (%42,8) son çocuk olan kişi sayısı ise 198 (%34,7)'dir. Romantik ilişki durumu değişkeninde ise yakın ilişkiye sahip olduğunu söyleyenlerin oranı %43,9 iken bir ilişkide olmadıklarını ifade edenlerin oranı %55,8'dir. Ruhsal sağlık konusunda yardım alma durumuna bakıldığında ise son altı ayda bir uzmandan psikolojik ya da psikiyatrik yardım almışların oranı %12,6 iken almamışların oranı %86,1'dir.

2.3. Veri Toplama Araçları

Çalışmadaki değişkenleri ölçmek için geçerli ve güvenilir dört ölçek uygulanmıştır. Modeldeki yerlerine göre bu ölçekler sırasıyla: Iowa-Hollanda Karşılaştırma Yönelimi Ölçeği (INCOM; Gibbons ve Buunk, 1999), Rosenberg Öz-Saygı Ölçeği (RSES; Rosenberg, 1965), Duygu Düzenlemede Güçlükler Ölçeği (DERS; Gratz ve Roemer, 2004) ve Kişilerarası Problemler Envanteri-Döngüsel Ölçekleri Kısa Formu (IIP-C; Horowitz ve ark., 2000, aktaran Akyunus İnce, 2012, s. 39). Bu dört ölçeğe ek olarak, araştırmacı tarafından belirlenen soruları içeren bir demografik bilgi formu ile karşılaştırmaların yön ve alanlarına yönelik sorular yer almıştır.

2.3.1. Demografik Bilgi Formu

Araştırmacı tarafından oluşturulan demografik formda katılımcının fakülte ve bölümü, üniversitede kaçıncı yılında olduğu, genel not ortalaması, cinsiyeti, yaşı, göreceli gelir düzeyi, kardeş sayısı, kardeşler içindeki doğum sırası, romantik ilişki durumu, son 6 ayda psikolojik ya da psikiyatrik yardım alıp almadığı, sosyal medya hesaplarını

kullanım sıklığı, sosyal karşılaştırma alanları ve karşılaştırmaların yönleri ile ilgili sorular yer almaktadır.

2.3.2. Iowa-Hollanda Karşılaştırma Yönelimi Ölçeği

Mevcut çalışmada katılımcıların sosyal karşılaştırma yönelimlerini ölçmek amacıyla kullanılan Iowa-Hollanda Karşılaştırma Yönelimi Ölçeği (INCOM), Gibbons ve Buunk (1999) tarafından Festinger'in (1954) sosyal karşılaştırma kuramı temel alınarak geliştirilmiştir. Sosyal karşılaştırma davranışında farklılaşan bireysel yönelimleri ölçmek için geliştirilmiş olan ölçeğin Türkçe uyarlaması Teközel (2000) tarafından yapılmıştır. 5'li Likert tipi (1 = *kesinlikle katılmıyorum*, 5 = *kesinlikle katılıyorum*) 11 maddeden oluşan ve 5 ile 11. maddesi ters kodlanmış olan INCOM'un iki alt boyutundan biri olan *yetenek karşılaştırması* kişinin bir şeyi nasıl yaptığına yönelik iken diğer alt boyutu *görüş karşılaştırması* kişinin diğerlerine kıyasla nasıl düşünmesi ve hissetmesi gerektiğine ve uyumluluğuna yöneliktir. Mevcut çalışmanın 549 kişiden oluşan örneklem verisinde ölçeğin iç tutarlılık katsayısı yetenek karşılaştırması için ,85 görüş karşılaştırması için ,61 ve toplam puan için ,83 olarak elde edilmiştir.

2.3.3. Rosenberg Öz-Saygı Ölçeği

Mevcut çalışmada katılımcıların öz-saygılarını ölçmek için Rosenberg'in (1965) Öz-Saygı Ölçeği (RSES) kullanılmıştır. RSES'in Türkçeye uyarlanması Çuhadaroğlu (1986, aktaran Doğuş ve Şafak, 2019, s. 1032) tarafından yapılmıştır. 4'lü Likert tipindeki (1 = *çok yanlış*, 4 = *çok doğru*) tek boyutlu Öz-Saygı ölçeği beş olumlu, beş olumsuz (3, 5, 8, 9 ve 10 No.lu maddeler) olmak üzere toplam 10 maddeden oluşmaktadır. Yüksek öz-saygı kişinin kendisini saygın, değerli, kendi standartlarına göre yeterince iyi görmesi ve benliğinden memnun olması iken düşük öz-saygı kişinin benliğine ilişkin değersizlik, saygın görmeme, memnuniyetsizlik ve reddetme hali olarak tanımlanabilir (Rosenberg, 1965). Mevcut araştırmada RSES'in iç tutarlılık katsayısı 549 kişilik örneklemde ,89 olarak bulunmuştur.

2.3.4. Duygu Düzenlemede Güçlükler Ölçeği

Mevcut çalışmada katılımcıların duygu düzenleme güçlüklerini ölçmek için Gratz ve Roemer (2004) tarafından geliştirilen Duygu Düzenlemede Güçlükler Ölçeği (DERS) kullanılmıştır. Türkçe uyarlaması Rugancı ve Gençöz (2010) tarafından yapılan DERS, Kavcıoğlu ve Gençöz (2011) tarafından revize edilmiştir. 5'li Likert tipindeki (1 = *neredeyse hiçbir zaman*, 5 = *neredeyse her zaman*) 6 boyutlu DERS 11 maddesi ters kodlanmış toplam 36 maddeden oluşmaktadır. DERS'in alt boyutlarını oluşturan Kabul, Amaca Yönelik Davranabilme, Dürtü Kontrolü, Farkındalık, Stratejik ve Netlik alt ölçeklerinden ya da ölçeğin tamamından yüksek puan alma duygu düzensizliğine ya da duygu düzenleme zorluklarına işaret eder. Mevcut araştırmada DERS'in iç tutarlılık katsayısı 549 kişilik örneklemde alt ölçekler için ,76 ila ,89 aralığında, toplam puan için ise ,94 olarak bulunmuştur.

2.3.5. Kişilerarası Problemler Envanteri-Döngüsel Ölçekleri Kısa Formu

Mevcut çalışmada katılımcıların çeşitli kişilerarası işlevsellik sorunlarını ilişkisel aidiyet ve baskınlık bağlamında ölçmek için Horowitz ve arkadaşları (2000, aktaran Akyunus İnce, 2012, s. 39) tarafından geliştirilmiş olan Kişilerarası Problemler Envanteri-Döngüsel Ölçekleri Kısa Formu (IIP-C) kullanılmıştır. Türkçe uyarlama çalışmaları Akyunus ve Gençöz (2016) tarafından yapılan IIP-C kısa formu, 5'li Likert tipi (1 = *hiç değil*, 5 = *fazlasıyla*) bir ölçek olup, 32 madde ve sekiz alt ölçekten oluşmaktadır. Aidiyet ve baskınlık ana boyutlarının farklılaşan birleşimlerinden oluşan dairesel sekiz alt alan/boyut ardışık olarak şöyledir: baskın/kontrolcü, kinci/benmerkezci, soğuk/mesafeli, sosyal kaçıngan/çekinik, hakkını-fikrini savunmayan, aşırı uyumlu/sömürülebilir, aşırı verici/fedakâr ve intrusif/muhtaç (Akyunus İnce, 2012; Akyunus ve Gençöz, 2016; Alden ve ark., 1990). IIP-C'nin iç tutarlılık katsayısı 549 kişilik mevcut araştırma örnekleminde alt ölçekler için ,63 ila ,82 aralığında, toplam puan için ise ,82 olarak bulunmuştur.

2.4. Veri Toplama İşlemi

Araştırma değişkenleri ve modeli belirledikten sonra uygulama öncesi Orta Doğu Teknik Üniversitesi (ODTÜ) Uygulamalı Etik Araştırma Merkezi İnsan Araştırmaları Etik Kurulu'ndan etik izin alınmıştır. Araştırma verileri araştırmacının kendisi tarafından 2018 Nisan ile 2019 Mart ayları arasında Türkiye'de bir devlet üniversitesinde eğitimlerine devam eden lisans öğrencilerinden toplanmıştır. Kendi ders saatinde araştırma için veri toplanmasına izin veren öğretim üyelerinin sınıflarına giden araştırmacı, katılımcılara gönüllülük, gizlilik ve ölçme araçlarına yönelik yönergeleri sunmuş ve uygulama toplamda 10 ila 20 dakika arasında tamamlanmıştır.

2.5. Veri Analizleri

Bu araştırmada yetenek karşılaştırması, görüş karşılaştırması, öz-saygı ve duygu düzenleme güçlükleri arasındaki ilişkilere ve bu değişkenlerin kişilerarası problemler üzerindeki etkilerine yönelik oluşturulan model, ilgili varsayımlar sağlandıktan sonra, yapısal eşitlik modellemesi (YEM) ile test edilmiştir. AMOS 23 ile önce ölçüm modeli, ardından yapısal model test edilmiştir. Tanımlayıcı istatistikler ve ikili korelasyonlar gibi diğer analizler için SPSS 25 yazılımı kullanılmıştır.

3. BULGULAR

Mevcut çalışmada yetenek karşılaştırması ve görüş karşılaştırmasının kişilerarası problemleri yordama gücünü test etmek, öz-saygı ile duygu düzenleme güçlüklerinin bu ilişkideki aracı rollerini araştırmak ve tüm değişkenler arasındaki doğrudan ve dolaylı ilişkileri incelemek amacıyla yapısal eşitlik modellemesi (YEM) kullanılmıştır. Önerilen modelin YEM analizlerine geçmeden önce verinin doğruluğu taranmış ve verinin ön analizleri kapsamında gözlemlerin birbirinden bağımsızlığı (Newton ve Rudestam, 2013), örneklem büyüklüğü, kayıp veri, tek değişkenli ve çok değişkenli aykırı değerler, tek değişkenli ve çok değişkenli normallik, doğrusallık ve eş varyanslılık ve çoklu bağlantı (Ullman, 2013) gibi YEM varsayımları ilgili yöntem ve analizlerle sağlanmıştır. Sonrasında ölçek ortalamaları ve standart sapmaları ve değişkenler arasındaki ikili korelasyonlar gibi betimleyici istatistikler sunulmuştur.

3.1. Betimleyici İstatistikler

Araştırma değişkenleri arasındaki ikili korelasyonlara bakıldığında görüş karşılaştırması ile öz-saygı arasındaki ilişki hariç tüm değişkenlerin birbiri ile orta ve yüksek düzeylerde anlamlı ikili korelasyonlara sahip oldukları görülmüştür.

3.2. Model Analizleri

Gözlenen ve gizil değişkenler arasındaki ilişkileri inceleyen ölçüm modeli ve kurulan modelin araştırma verilerine uygunluğunun sınandığı yapısal model (Brown, 2006; Fan ve ark., 2016) yapısal eşitlik modellemesinin mevcut araştırmada uygulanan iki ana aşamasıdır.

Gizil ve gözlenen değişkenler arasında nedensel olmayan ilişkileri belirlemeyi amaçlayan (Schumacker ve Lomax, 2016) doğrulayıcı faktör analizi ya da ölçüm modeli (Ullman, 2006) model revizyonlarının faktör yüklerine, standardize edilmiş artık değerlere ve modifikasyon indekslerine göre uygulanması kriterlerini öneren alan yazına (bkz. Awang, 2015; Byrne, 2016; Civelek, 2017; Gürbüz, 2019; Hair ve ark., 2010) göre icra edilmiş ve modelin iyi uyumuna yönelik iki maddenin çıkarılmasına ve iki modifikasyonun yapılmasına karar verilmiştir.

Uyum iyiliği indekslerine yönelik $\chi^2 / df < 3$ (Kline, 2016; Ullman, 2013), CFI $\geq$,95 (Hu ve Bentler, 1999), NNFI $\geq$,93 (Byrne, 1994), SRMR < ,08 (Browne ve Cudeck, 1993; Hu ve Bentler, 1999), ve RMSEA < ,06 (Hu ve Bentler, 1999) gibi sınır değerler temel alınarak yapılan yapısal eşitlik modellemesi analizleri sonucunda ölçüm modelinde ve yapısal modelde $\chi^2 (45) = 129,883$, $p = ,00$; χ^2 / df-oranı = 2,89, CFI = ,96, NNFI = ,94, SRMR = ,05, ve RMSEA = ,06 değerleri elde edilmiş ve önerilen modelin mevcut çalışma verileriyle iyi uyum gösterdiği anlaşılmıştır.

Daha sonra, araştırma değişkenleri olan yetenek karşılaştırması, görüş karşılaştırması, öz-saygı, duygu düzenleme güçlükleri ve kişilerarası problemler arasındaki doğrudan ve dolaylı etkilerin araştırma hipotezlerine göre anlamlılığının değerlendirilmesi ve istatistiksel kesinliğin tahmini için yeniden örnekleme tekniği olan önyükleme (bootstrapping) prosedürü ve yanlılığı düzeltilmiş (bias-corrected) %95 güven aralığı

yöntemleriyle standartlaştırılmış beta değerleri (β) incelenmiştir (Bollen ve Stine, 1990; Gürbüz, 2019; Kline, 2016).

Elde edilen sonuçlara göre yetenek karşılaştırması, duygu düzenleme güçlükleri ve öz-saygı başlangıçlı doğrudan ve dolaylı etkileri içeren toplam 9 hipotezin tamamı (1, 2, 3, 7, 8, 9, 10, 11 ve 12 No.lu hipotezler) istatistiksel olarak anlamlı bulunup doğrulanırken; görüş karşılaştırması değişkeninin yer aldığı doğrudan ve dolaylı etkileri içeren toplam 6 hipotezin tamamı (4, 5, 6, 13, 14, ve 15 No.lu hipotezler) istatistiksel olarak anlamsız bulunmuş ve reddedilmiştir. Yani yetenek karşılaştırmasından duygu düzenleme güçlüklerine (β = ,26, p = ,001), kişilerarası problemlere (β = ,21, p = ,001) ve öz-saygıya (β = -,41, p = ,001) yönelik doğrudan regresyon katsayılarının hepsi istatistiksel olarak anlamlı bulunmuştur. Görüş karşılaştırmasından duygu düzenleme güçlüklerine (β = -,01, p = ,756), kişilerarası problemlere (β = -,01, p = ,778) ve öz-saygıya (β = ,08, p = ,141) yönelik doğrudan regresyon katsayılarının hepsi ise istatistiksel olarak anlamsız bulunmuştur. Öte yandan duygu düzenleme güçlükleri ile kişilerarası problemler arasındaki (β = ,34, p < ,01), öz-saygı ile kişilerarası problemler arasındaki (β = -,12, p < ,01) ve öz-saygı ile duygu düzenleme güçlükleri arasındaki (β = -,46, p < ,001) doğrudan yolların tamamı istatistiksel olarak anlamlı bulunmuştur.

Test edilen modeldeki *dolaylı etkiler* incelendiğinde ise yetenek karşılaştırması ve kişilerarası problemler arasındaki ilişki, hem duygu düzenleme güçlükleri (β = ,087, p = ,001) hem de öz-saygı (β = ,050, p = ,003) aracılıklarında istatistiksel olarak anlamlı bulunmuştur. Ayrıca, yetenek karşılaştırması ile kişilerarası problemler arasındaki ilişkinin, öz-saygı ve duygu düzenleme güçlüklerinin her ikisinin de yer aldığı seri arabuluculuk yoluyla da (β = ,063, p = ,001) anlamlı olduğu sonucu elde edilmiştir. Öte yandan görüş karşılaştırması ve kişilerarası problemler arasındaki ilişki, duygu düzenleme güçlükleri (β = -,004, p = ,739) ve benlik saygısı (β = -,010, p = ,080) aracılıklarında istatistiksel olarak anlamlı bulunmamıştır. Ayrıca görüş karşılaştırmasının kişilerarası problemlerle dolaylı ilişkisinde öz-saygı ve duygu düzenleme güçlüklerinin birlikte yer aldığı seri aracılıkları da anlamlı bulunmamıştır (β = -,012, p = ,121).

Özetle, araştırmanın doğrudan ve dolaylı ilişkileri içeren toplam 15 hipotezinden görüş karşılaştırması ile ilgili olan 6 hipotezinin tümü reddedilirken yetenek

karşılaştırmasının da dahil olduğu diğer değişkenlerle ilgili 9 hipotezin tamamı doğrulanmıştır. Elde edilen nihai modelin açıkladığı toplam varyans ise %30 olarak tespit edilmiştir. Yani kişilerarası problemler içindeki varyansın %30'u yetenek karşılaştırması, görüş karşılaştırması, öz-saygı ve duygu düzenleme güçlükleri tarafından açıklanmıştır.

4. TARTIŞMA

Araştırmada elde edilen *doğrudan ilişkilere* bakıldığında ilk hipotezin doğrulanmış olması yeteneklerini karşılaştırma yönelimleri yüksek olan kişilerin duygu düzenleme zorlukları deneyimlediklerini ortaya koymuştur. Ruh halini yönetebilme, belirsizliği azaltma ve öz düzenleme amacıyla sosyal karşılaştırma yapılması (Marsh ve Webb, 1996), yukarı doğru sosyal karşılaştırmanın kaçınmacı duygu düzenleme ile ilişkilenmesi (Gratz ve ark., 2020) ve haset duygusunun ortaya çıkmasında sosyal karşılaştırmanın anlamlı etkisi (Alicke ve Zell, 2008) mevcut sonucu destekler niteliktedir. İkinci hipotezin doğrulanması, yani kişinin yeteneklerini karşılaştırmasının kişilerarası problem yaşaması üzerinde etkili olması da ilgili alanyazınla tutarlıdır. Kendini aşağıda görmenin kişilerarası problemlerle ilişkili olması (Gilbert ve ark., 1996), olumsuz sosyal karşılaştırmanın boyun eğici davranışları yordaması (Troop ve ark., 2003) ve ebeveynin zorlaması ile yapılan sosyal karşılaştırmanın ilişkilerde çeşitli saldırganlıkları yordaması (Lee ve ark., 2020) elde edilen sonucu desteklemektedir. Üçüncü hipotezin doğrulanması ise yeteneklerini sıkça karşılaştırmanın öz-saygı düşüşüyle ilintili olduğunu göstermiştir. Orta ve yüksek düzeyde sosyal karşılaştırmanın hem durumluk hem de sürekli öz-saygının düşüklüğü ile ilişkilenmesi (Richmond ve ark., 2021), sosyal karşılaştırma yöneliminin ve yukarı yönlü türünün öz-saygıyı düşürmesi (Lee, 2020; Schmuck ve ark., 2019; Vogel ve ark., 2014) ve değerli görülen bir yeteneğin karşılaştırılmasının öz-saygı üzerinde belirleyici etkisinin olması (Smith ve Insko, 1987) elde edilen bulguyu desteklemektedir.

Görüş karşılaştırmasının dışsal değişken olduğu 4, 5 ve 6 numaralı doğrudan ilişkileri içeren hipotezler istatistiksel olarak anlamlı bulunmamış ve reddedilmiştir. Yani görüş karşılaştırmasının duygu düzenleme güçlükleri üzerinde, kişilerarası problemler üzerinde ve öz-saygı üzerinde anlamlı doğrudan bir etkisi yoktur. Bu durum yaygın

alanyazına göre beklenmedik olsa da bazı çalışmaların bu durumu açıkladığı ve desteklediği görülmüştür. Yetenek ve görüş temelli sosyal karşılaştırma alt boyutları çalışmalarda çoğunlukla sosyal karşılaştırma yönelimi altında tek kavram olarak ele alınmış (bkz. Huguet ve ark., 2017; Krizan ve Bushman, 2011; Lennarz ve ark., 2017; Litt ve ark., 2012) olsa da ayrı ayrı ele alınması ve karşılaştırma içeriklerinin aynı olmadığını savunan (bkz. Callan ve ark., 2015; Friedman ve ark., 2007; Kim, Callan, ve ark., 2017; Zhang ve ark., 2021) görece az sayıda araştırma da vardır. Mevcut bulguyu destekleyici araştırmalara bakıldığında Kim ve arkadaşları (2021) görüş karşılaştırmasının maddi mülkiyet ve sosyal statü gibi değişkenlerle ilintili olmadığını dolayısıyla yetenek karşılaştırması ile birleştirilmemesi gerektiğini belirtmiş, zararlı sonuçları olan sosyal medya bağımlılığı, stres ve düşük öz-saygıyı ağırlıklı olarak yetenek karşılaştırmasıyla ilişkilendirmişlerdir. Görüş karşılaştırmasının daha iyi sosyal uyum (Yang ve Robinson, 2018), iyimserlik, ilham ve psikolojik iyi oluş ile pozitif ilişkilenmesi (Park ve Baek, 2018); global öz-saygıyı etkilememesi (Yang, Holden, ve Carter, 2018); grup uyumu, bilgi edinme ve seçim yapma işlevlerine yönelik kavramsallaştırılması (Suls ve ark., 2000), elde edilen bulguları destekler niteliktedir. Özetle, görüş karşılaştırmasının daha çok fikir alma, deneyim aktarımı, düşüncenin doğruluğunu sınama, iletişim kurma, sosyal normları öğrenme, onaylanma ve sosyal etkileşimi arttırma gibi birtakım motivasyonlara sahip olduğu söylenebilir.

Duygu düzenleme güçlüklerinin kişilerarası problemler üzerinde doğrudan etkisinin olduğu yedinci, öz-saygının kişilerarası problemler üzerinde doğrudan etkisinin olduğu sekizinci ve öz-saygının duygu düzenleme güçlükleri üzerinde doğrudan etkisinin olduğu dokuzuncu hipotezler de istatistiksel olarak anlamlı bulunup doğrulanmıştır. Alanyazında mevcut bulguları destekleyici çokça araştırmanın olduğu söylenebilir. Duygu düzenleme güçlükleri kişilerarası problemlerle (Coats ve Blanchard-Fields, 2008), ilişkilerde dürtüsellikle (Euler ve ark., 2021), sosyal kaygı bozukluğuyla (Goldin ve Gross, 2010) ve kişilerarası kötü işlevsellikle ilişkiliyken (Gross ve John, 2003); duygu düzenleme becerilerinin kazanılması baskın, soğuk, çekinik, aşırı uyumlu, aşırı fedakâr ve intrusif/muhtaç gibi çeşitli kişilerarası sorunları azaltmaktadır (Keating ve ark., 2018). Öz-saygı ise çeşitli kişilerarası problemlerle (Kahle ve ark., 1980), başkalarının onayıyla (Jones ve Buckingham, 2005), sosyal reddedilme riskiyle (Cameron ve Granger, 2019), aşırı fedakârlık ve boyun eğicilikle (Bjørkvik ve ark., 2009), sosyal dışlanma ve olumsuz duygulanımla (Leary ve Downs,

1995), saldırganlık ve duygu düzenleme güçlüğüyle (Garofalo ve ark., 2016), kaygı ve bastırmayla (Fernandes ve ark., 2022) ve duygu durum belirsizliğiyle (Marsh ve Webb, 1996) anlamlı ilişkiler göstermektedir. Dolayısıyla duygu düzenleme güçlüklerinin ve öz-saygının hem birbirleriyle hem de kişilerarası problemlerle ilişkileri alanyazında oldukça yaygın biçimde desteklenmektedir.

Elde edilen *dolaylı ilişkilere* bakıldığında yetenek karşılaştırmasının dışsal değişken olduğu onuncu, on birinci ve on ikinci hipotezler istatistiksel olarak anlamlı bulunup doğrulanmıştır. Yani yetenek karşılaştırmasının kişilerarası problemlerle ilişkisine duygu düzenleme güçlükleri ve öz-saygı hem ayrı ayrı hem de birlikte aracılık etmektedir. Diğer bir ifadeyle, yeteneklerini başkalarıyla daha fazla kıyaslama eğiliminde olan kişiler çeşitli kişilerarası sorunları daha fazla yaşayabilmekte ve bu kısmen düşük öz-saygı ve duygu düzenleme güçlükleri üzerinden gerçekleşmektedir. Amacı öz değerlendirme olan sosyal karşılaştırma arttıkça sosyal etkileşim artar (Festinger, 1954) ve kişilerarası yönelim yükselir (Buunk ve Gibbons, 2007; Taylor ve Lobel, 1989). Ancak sosyal karşılaştırma bireyin kusurlu ve eksik özelliklerine odaklanmasını ve reddedilme korkusunu tetikleyebilir (Gratz ve ark., 2020). Yukarı yönlü karşılaştırma koşullu öz-saygı ile etkileşerek negatif duygulanım ve utanç gibi duyguları arttırabilir (Patrick ve ark., 2004). Yükselmiş kaygı ve duygusal bastırma ilişkisine düşük öz-saygının aracılık etmesi (Fernandes ve ark., 2022) ve düşük öz-saygıya sahip kişilerin benlik kurgusunun daha ilişkisel ve başkalarına bağlı olması (Vohs ve Heatherton, 2004) bu ilişkiselliği destekler niteliktedir. Öz-saygı, yeterlik ve onaylanma ihtiyacı ile değişken ve dinamik (Johnson, 1998) ve dikkat öncesi sistemik işleviyle sosyal dışlanma olasılığını gözleyerek sosyal kabul ve onay arayışını güdüleyen bir yapıdır (Leary, 2012; Leary ve ark., 1995; Leary ve Downs, 1995). Öz-saygı ve genel aitlik hissi ile ilişkili olan sosyal karşılaştırma (Kavaklı ve Ünal, 2021) bazen benzerlikler üzerinden yakınlık kurma işlevi görür (Locke ve Nekich, 2000) ve sosyal risk arttığında öz-saygı sosyal kabul ile güçlü biçimde etkileşime girer (Cameron ve Granger, 2019). Öte yandan, gündelik sosyal maruziyetlerin benlik ve benlik değerinde etkiler oluşturması nedeniyle (Kernis ve ark., 1993; Morse ve Gergen, 1970), düşük öz-saygı durumunda yetenek karşılaştırması haset gibi zorlayıcı duyguları tetikleyebilir (Kim ve ark., 2021). Sosyal karşılaştırmanın neden olabildiği tehditler ilişkisel yakınlığı azaltabildiği gibi (Nicholls ve Stukas, 2011) öz-saygı değişkenliğiyle birlikte sosyal kaygı ve kaçınma da artabilir (Oosterwegel ve ark.,

2001), böylece öz-saygının gördüğü zarar arttıkça birey kendini koruma amaçlı kızgın ve düşmanca davranabilir (Kernis ve ark., 1989). Birey karşılaştırma yaptığı kişilere kıyasla kendisini aşağıda gördükçe atılgan olamama, içe dönüklük ve soğukluk gibi ilişkisel zorluklar yaşar (Gilbert ve ark., 1996). Bu aşamada birey, hem benliğini korumak ve sosyal bağlar kurup güçlendirmek hem de ilişkisel ihtiyaçlarını ve sosyal ipuçlarını anlayabilmek için duyguların kritik rolüne ihtiyaç duyar (Thompson, 1994). Duygu düzenlemenin güçleşmesi ise kişilerarası problemleri önemli ölçüde etkileyebilmekte (Euler ve ark., 2021) ve suçluluk içeren bir takım zorlayıcı duygular deneyimlendiğinde sosyal karşılaştırma ile etkileşerek sosyal kaçınmayı arttırabilmektedir (Fernández-Theoduloz ve ark., 2019). Sonuç olarak yetenek karşılaştırmasının kişilerarası problemlerle ilişkisine öz-saygı ve duygu düzenleme güçlüklerinin aracılık etmesi oldukça geniş bir alanyazın tarafından desteklenmektedir.

Görüş karşılaştırmasının dışsal değişken olduğu dolaylı ilişkileri içeren on üç, on dört ve on beşinci hipotezler istatistiksel olarak anlamlı bulunmamış ve reddedilmiştir. Buna göre görüş karşılaştırmasının kişilerarası problemlerle dolaylı ilişkisine duygu düzenleme güçlükleri ve öz-saygı ne ayrı ayrı ne de birlikte aracılık etmektedir. Mevcut araştırma hipotezlerine göre beklenmedik olan bu durum sosyal karşılaştırma yönelimi araştırmalarının yetenek ve görüş alt boyutlarını genellikle ayrı ayrı ele almayıp tek bir yapı olarak ele almalarından kaynaklanabilir. Ancak hem sosyal karşılaştırmanın kuramsal alt yapısına hem de karşılaştırma türlerinin ayrı ayrı ele alındığı sınırlı sayıdaki çalışmaya bakıldığında görüş karşılaştırmasının yetenek karşılaştırmasından belirgin biçimde farklılaştığı görülmektedir. Örneğin Ozimek ve Bierhoff (2020) yetenek temelli sosyal karşılaştırmayı öz-saygı ile negatif, depresif eğilim ile pozitif ilişkili elde ederken görüş temelli sosyal karşılaştırmanın her iki yapı ile de ilişkisiz olduğunu bulgulamıştır. Diğer bir çalışmada yine yetenek karşılaştırmasının aksine görüş karşılaştırması kariyer amaçlı sosyal medya sitesi olan Xing kullanımıyla, global öz-saygıyla ve depresif semptomlarla ilişkili bulunmamıştır (Brandenberg ve ark., 2019). Benzer biçimde diğer çalışmalarda da görüş karşılaştırması yetenek karşılaştırmasının aksine global öz-saygı, kimlik netliği (Yang, Holden, ve Carter, 2018), ruminasyon, kimlik stresi (Yang, Holden, Carter, ve Webb, 2018), rekabet (Garcia ve ark., 2013), dışadönüklük (Demir ve ark., 2022), mülkiyet sahipliği, sosyal statü (Kim ve ark., 2021), materyalizm ve kişisel göreli yoksunluk

(Callan ve ark., 2015; Kim, Callan, ve ark., 2017) değişkenleriyle anlamlı ilişki ve yordayıcılığa sahip bulunmamıştır. Festinger'in (1954) sosyal karşılaştırma kuramı öncesi görüş karşılaştırmasını sosyal grup süreçlerinde bütünlük baskısı ve gayri resmi iletişimde sosyal gerçeklik uzlaşısı bağlamında kavramsallaştırmış olması da (Festinger, 1950) mevcut sonuçları destekleyicidir. Bir anlamda kabiliyetlerdeki bireysellik ve *ben* vurgusu yerine görüşlerde sosyallik, sosyal normlara uyum, yakınlık ve *biz* vurgusu daha belirgindir (Festinger, 1954; Schneider ve Schupp, 2014; Sharp ve ark., 2011). Kısacası görüş karşılaştırmasına ilişkin elde edilen sonuçlar bir kısım alanyazın ile uyuşmakta ve kuramsal olarak desteklenmektedir.

H. CURRICULUM VITAE

Dr. Selçuk ASLAN

Date and Place of Birth:

Education:

1999-2004   B.A.: Boğaziçi University, Guidance and Psychological Counseling

2005-2008   M.A.: İnönü University, Guidance and Psychological Counseling

2011-2023   Ph.D.: Middle East Technical University, Psychological Counseling and Guidance

Professional Work Experience:

2004-2010   Psychological Counselor & Guidance Teacher, Republic of Türkiye Ministry of National Education (Guidance Research Center, Primary & High Schools).

2010-2011   Lieutenant/PCGC Officer, Turkish Armed Forces (Hakkari Mountain and Commando Brigade).

2011-present Specialist Psychological Counselor, Middle East Technical University (Medical Center PCGC/Psychiatry Unit)

Professional Training and Practical Experience:

Professional Training:

Family and marriage therapy training (İlişki Pusulası model), Prof. Dr. Hürol FIŞILOĞLU. Three levels completed in three semesters, 150 hours supervised training, Middle East Technical University Continuing Education Center.

Professional Practical Experience:

Individual psychological counseling (over 9,000 hours)

Family, marriage, and couple counseling (over 3,600 hours)

Publications:

Elban, M, & **Aslan, S.** (2020). Evaluations of İbrahim Alâeddin Gövsa about children's rights. *Eurasian Journal of Social and Economic Research, 7*(11), 20-30. https://dergipark.org.tr/en/pub/asead/issue/58010/811490

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Conference Presentations:

Duy, B., & **Aslan, S.** (2009, October). *Farklı Sosyometrik Statüdeki İlköğretim İkinci Kademe Öğrencilerinin Aile Yapıları ve Algılanan Sosyal Destek Bağlamında*

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Aslan, S., & Kadırhan, Z. (2020, November). *Comparison of Online and Face-to-Face Psychological Counseling: Client Evaluations* [Conference presentation]. 3rd International Congress of Human Studies-ICHUS, Ankara, Türkiye.

Aslan, S., & Kadırhan, Z. (2020, November). *Teachers' Anxieties Related to Distance Education* [Conference presentation]. 3rd International Congress of Human Studies-ICHUS, Ankara, Türkiye.

Aslan, S., & Aydın, Y. (2020, November). *Hope and Loneliness in the Coronavirus (COVID-19) Pandemic* [Conference presentation]. 3rd International Congress of Human Studies-ICHUS, Ankara, Türkiye.

Kadırhan, Z., & **Aslan, S**. (2020, December). *Teacher Experiences in Distance Education* [Conference presentation]. 3rd International Conference on Distance Learning and Innovative Educational Technologies-DILET 2020, Ankara, Türkiye.

Aydın, Y., Aydın, G., **Aslan, S.**, & Akçabozan-Kayabol, N. B. (2021, November). *How dyadic coping and psychological flexibility can help us to understand marital satisfaction in COVID-19 pandemic?* [Conference presentation]. National Council on Family Relations (NCFR) Annual Conference., Virtual.

Foreign Language: English (C1 Advanced)

Professional Memberships:

Turkish Psychological Counseling and Guidance Association

I. THESIS PERMISSION FORM / TEZ İZIN FORMU

ENSTİTÜ / INSTITUTE

Fen Bilimleri Enstitüsü / Graduate School of Natural and Applied Sciences ☐

Sosyal Bilimler Enstitüsü / Graduate School of Social Sciences ☒

Uygulamalı Matematik Enstitüsü / Graduate School of Applied Mathematics ☐

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