

DEPRESSION AND ANXIETY IN INDIVIDUALS WITH PROBLEMATIC
EXERCISE BEHAVIOR: ASSOCIATIONS WITH SELF-DISCREPANCIES AND
SELF-CONSCIOUS EMOTIONS



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PLAGIARISM

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

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ABSTRACT

The purpose of the present study was to investigate the mediator roles of self-conscious emotions (i.e., shame, and guilt) on the relationship between self-discrepancy (i.e., ideal, ought, and undesired) and depression or anxiety among individuals with excessive exercise behavior. The study consisted of 178 participants (91 male and 78 female) with an average age of 32.7 years (between 18-62 years old). The instruments included the demographic form, Exercise Dependence Scale-2, Integrated Self-Discrepancy Index, Test of Self-Conscious Affect-3, and Depression Anxiety and Stress Scale. To test the main hypotheses, a series of simple mediation analyses were carried out through PROCESS Macro. The results demonstrated that shame-proneness negatively mediated the relationship between ideal self-discrepancy and depression in individuals with excessive exercise behavior. Moreover, shame-proneness acted as a mediator in the relationship between undesired self-discrepancy and both depression and anxiety. The findings are discussed along with their clinical implications and limitations were considered.

Keywords: exercise addiction, self-discrepancy, self-conscious emotions, depression, anxiety.

ÖZET

Bu çalışmanın amacı, aşırı egzersiz davranışı olan bireylerde benlik farklılığı ile depresyon ve anksiyete arasındaki ilişkilerde kendilik bilinci duygularının (utanç ve suçluluk) aracı rollerini araştırmaktır. Araştırmaya yaş ortalaması 32.7 olan (18-62 yaş arası) 178 katılımcı (91 erkek ve 78 kadın) katılmıştır. Araçlar, demografik form, Egzersiz Bağımlılığı Ölçeği-2, Bütünleşik Kendilik Tutarsızlık İndeksi, Kendilik Bilinci Duygulanım Testi-3 ve Depresyon Anksiyete ve Stres Ölçeği'ni içermektedir. Çalışmanın ana hipotezlerini test etmek için PROCESS Macro aracılığıyla bir dizi basit aracı rolü analizi yapılmıştır. Çalışmanın verileri analiz edildiğinde aşırı egzersiz davranışı olan bireylerde utanca yatkınlığın ideal benlik farklılığı ile depresyon arasındaki ilişkiye negatif yönde aracılık ettiğini göstermiştir. Bununla birlikte istenmeyen benlik farklılığı ile hem depresyon hem de kaygı arasındaki ilişkide utanca yatkınlığın aracılık yaptığı bulunmuştur. Çalışmanın bulguları klinik çıkarımlar da göz önünde bulundurularak tartışılmış ve çalışmanın sınırlılıkları göz önünde bulundurulmuştur.

Anahtar kelimeler: egzersiz bağımlılığı, benlik-farklılıkları, kendilik bilinci duyguları, depresyon, kaygı.



To my family,

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1 INTRODUCTION

1.1 Exercise Addiction and Its Relationship with Depression and Anxiety

The concept of addiction has usually been associated with the intake of chemicals. However, the past decade or so has demonstrated that addictions can also include behaviors (Rosenberg & Feder, 2014). Research started demonstrating these behavioral patterns may be pathological because of their parallel features with substance abuse, repetitive and uncontrollable maintenance regardless of its negative consequences (Black, 2013). It was proposed that overeating, obsessive-compulsive disorder (OCD), hypersexuality, compulsive spending, and kleptomania should be integrated (Starcevic, 2016). This diversity of behaviors is confusing in a manner that some of these everyday activities are natural whereas others change the way one functions, gets things done, and unsettles relationships. However, the only behavioral addiction that has been included in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR; American Psychiatric Association, 2022) is gambling disorder (Szabo, 2015). Some of the reasons for this are the nature of the behavior and its implications (Szabo, 2015) as well as the debate on whether behavioral addictions fit the same criteria as substance disorders (Colledge, 2020b).

Exercise addiction, (EA) can be outlined as a loss of control over exercise behavior which ultimately turns into a duty (Szabo, 2013). A recent meta-review demonstrated that exercise addiction fits the criteria for gambling disorder, which implies that it is a behavioral addiction and can be included in the future editions of DSM (Colledge et al., 2020a). By nature, the definition of behavioral addictions and exercise addiction is hard to pinpoint since there are many views (Egorov & Szabo, 2013).

Different researchers have used different terminology for exercise addiction. Some of them include exercise dependence, obligatory exercise, exercise abuse, and compulsive exercise (Rosenberg & Feder, 2014). Some authors even chose not to use the term exercise addiction by choice, but using 'excessive exercise' (Colledge et al., 2020a). De Coverley Veale (1987) proposed a definition that is now widely recognized which consists of the criteria for substance dependence from the DSM-5 (APA, 1994). The criteria are the following, tolerance, withdrawal symptoms, conflict, relapse, salience, and mood modification (Hausenblas & Symons Downs, 2002a). Tolerance is a progression in which an individual executes the act or behavior more over time, to attain the mood modification. Withdrawal symptoms are undesirable states or feelings that arise when an individual is incapable to execute an act or behavior. Conflict refers to disagreements in an individual's life that can include, relations with her environment, people, or family. Relapse communicates the inclination of performing the excessive act/behavior that one previously ended. Salience can be defined as the addiction-related act/behavior being one of the most vital things in an individual's life. Lastly, mood modification is the state reached after the behavior has been performed (Hausenblas & Symons Downs, 2002a).

The distinction between primary exercise addiction and secondary exercise addiction is highly relevant to understanding the nature of the addiction. When exercise emerges as a primary problem in an individual's life, exercise is the focus and nothing else is interfering with it, even though it is argued that exercise in high volume is done usually to avoid negative feelings (Szabo, 2010). However, secondary exercise addiction, also called anorexia athletica, (Egorov & Szabo, 2013) happens as a consequence or, coincides with another disorder such as eating disorders (De Coverley Veale, 1987). This

can be exemplified when losing weight is the aim, so the individual over-exercises as a result. Additionally, control over body shape and size, and staying at a particular weight can further exercise motivation (Hausenblas & Downs, 2002c). However, in primary exercise addiction, exercise on its own the aim.

Unlike other behavioral and chemical addictions, exercise addiction has a slightly different nature in that it does not demand instant satisfaction since exercise is an activity that takes time and energy (Szabo et al., 2018). Rigorous physical activity can have taxing effects on health because of the tremendous effort and training that comes with it (Rendi et al., 2007). A great deal of drive, commitment, and effort are necessary to sustain physical activity. Whereas a different behavioral addiction like internet addiction needs significantly less physical energy (Rendi et al., 2007). Moreover, in society as well as on social media, exercise is seen as a positive virtue, thus one may believe that exercise is a healthy habit (Szabo, 2010). It is assumed that the benefits weigh heavily and have the potential to turn into exercise addiction because if the negative affect is removed after exercise, one may exercise more than assumed or intended to, thus using it as an emotion regulation strategy (Costa et al., 2013).

Accordingly, there are psychological theories behind the etiology of exercise addiction (Rosenberg & Feder, 2014). A cognitive-behavioral model of exercise dependence was proposed by Meyer, Taranis, Goodwin, & Haycraft (2011) which displays how dependence can be sustained. Emotional regulation, obsessive-compulsiveness, perfectionism, rigidity, and eating pathology, are the main components, and it is assumed that emotion regulation potentially has a critical role in two groups called, positive reinforcement and negative reinforcement. Positive reinforcement is

when an individual feels better, looks better, and potentially feels a sense of triumph after exercise, like ‘runners high’. Thus, regular exercise behavior is preserved (Berczik, et al., 2012). On the other hand, one may continue to exercise, when feeling down or stressed. This is called negative reinforcement, and once again, to avoid negative feelings, regular exercise behavior is preserved (Meyer, Taranis, Goodwin, & Haycraft, 2011).

In society as well as on social media, exercise is seen as a positive virtue, thus one may believe that exercise is a healthy way of dealing with anxiety (Szabo, 2010). The society one lives in may glorify exercise deeply (Gugutzer, 2019). One may assume that dealing with anxiety or any other unwanted experience through exercise is a good coping mechanism, unlike playing video/online games for hours, shopping, eating, or gambling (Berczik et. al., 2012). Szabo's cognitive appraisal hypothesis (1995) provides an etiological understanding of exercise addiction and claims that if a regular exerciser takes up the habit of exercising to manage stress, one learns to depend on exercise when feeling stress, as stressed by media and educational sources (Szabo, 2010). This may lead to amplified volumes and intensities of performing an exercise, gradually building tolerance (needing more weight/distances) as well as spending more time doing the sport (Szabo, 2010). Additionally, if for any reason an individual cannot perform the sport, negative feelings may develop, such as guilt, anxiousness, and irritability. These feelings symbolize withdrawal symptoms (Szabo, 2010). Lastly, Egorov and Szabo (2013) proposed the Interactional Model that emphasizes the contact between individual values, social image, past exercise involvement, and life situation governs whether one will turn to exercise for coping or find alternatives to deal with stress. Research has shown that exercise has benefits to lessen the symptoms of depression and anxiety, however, the

relationship between exercise addiction and depression/ anxiety needs further explanation. Performing physical activity can have many motivations such as financial reasons, socialization, better physique, and so on. However, it is unknown whether individuals exercise as a result of their negative affect, or, present symptoms of anxiety or depression as a result of their exercise addiction. For that, there would need to be a baseline measure of depression and anxiety. Thus, the relationship between exercise addiction and depression is complex, and high-risk sports such as endurance sports and fitness club participants as well as eating pathologies and other factors should be taken into account (Alcaraz-Ibáñez et al., 2021).

Li et al (2015) studied the consequences of exercise addiction on depression and anxiety in college students. It was found that the scores of the exercise-dependent group are greater than those of the non-exercise-dependent group in state anxiety and depression. Furthermore, the correlation analysis confirms that exercise dependence is positively correlated with both depression and state anxiety, but not their trait anxiety. In terms of depression, Li et al. (2015) found that the depression degree of students with exercise dependence is larger than students that are not exercise dependent. Consistent with this finding, Alcaraz-Ibáñez et al. (2021) studied the association between self-reported depression and exercise addiction signs in undergraduate leisure exercisers. Findings show that depression symptoms explained a substantial volume of variance in exercise addiction symptoms and vice versa (Alcaraz-Ibáñez et al., 2021). Weinstein et al (2015) researched the associations between exercise, anxiety, and depression in professional and recreational exercisers. The findings indicate that for individuals who exercise for both professional and recreational reasons, compulsive exercise levels were

associated with ratings of anxiety and depression. Compulsive exercisers who were professional were more depressed than recreational exercisers. Lastly, professional exercisers demonstrated a link between depression and compulsive exercise but not with trait anxiety (Weinstein et al. 2015). These findings were replicated by Levit et al. (2018). Their study focused on the connection between exercise addiction, depression, anxiety, and eating disorders. Athletes engaging in individual sports recorded slightly higher depression scores than group athletes, but no significant difference was found in depression rates between competitive and amateur athletes.

The explanations for the relationship between exercise addiction and anxiety might be varied from one situation to another. For instance, a recent international study (specifically in Holland, Hungary, the United Kingdom, and Italy) done by Corazza et al. (2019) investigated appearance anxiety in individuals with exercise addiction. They hypothesized that individuals with exercise addiction would demonstrate body-related anxiety which turned out to be true according to their findings. The authors stated that participants worried about the way they look and consequently leading to anxiety. Salvador et al. (2022) studied the levels of exercise addiction and anxiety during the COVID-19 pandemic in Portugal. Participants consisted of different exercise groups such as bodybuilders, cross-training, and general gym members who had no access to a gym during the lockdown. Their findings demonstrated that cross-training and body builder group had high anxiety due to not being able to exercise (Salvador et al., 2022). Similarly, Syed et al. (2022) found that participants were feeling the restrictions on their normal routines and not being able to participate in them, and interruption of the amount of exercise they performed had a negative influence on their psychological well-being.

Taken together, findings show that exercise addiction is related with depression and anxiety, and these relationships need to be explored to understand the maintenance mechanism of exercise addiction. Additionally, depression and anxiety can occur for various reasons. In this regard, the role of the self, and how various psychopathologies are related will be discussed in the next section.

Self-Discrepancy

The concept of what it means to be or have a self and its implications have been researched by many theoreticians (e.g., James, 1890; Rogers, 1961; Higgins, 1987, Ogilvie, 1987). A critical point to remark is being true to one's self is one thing, and changing that self in accordance with society or obligations is another. Many theoreticians have speculated that differences in self-concepts or complications in the self-concept would bring about specific types of emotional distress (James, 1890; Rogers, 1961; Higgins, 1987, Ogilvie, 1987). The initial speculation of self-concept and its different types first began with James' *Principle of Psychology* (1890). The self-concept had two groups called real self and ideal self. If one cannot accomplish their wishes or aspirations (the ideal self), naturally a feeling of disappointment is unavoidably experienced (James, 1890). This idea is very parallel to Carl Rogers' Client-Centered Theory. Carl Rogers (1954) anticipated that the vital parts of one's self-concept were real experience of self and ideal perceptions of self. The ideal self can be defined as how one ideally would like to exist, it contains traits one wishes to hold (Rogers, 1954). Rogers claims that the discrepancy felt between the real self and ideal self, potentially leads to experiencing incongruence, concern, and low self-esteem. If an individual's experiences

are in line with the ideal self, thriving is more likely but if the incongruence is too high, it can strain the person's progress (Rogers, 1961). Thus, individuals are driven to limit the gap between their perceived self-concepts and their ideal selves.

Roger's theory of self-concept was advanced by Tory Higgins in 1987. He called it the Theory of Self-Discrepancy (SDT) and it essentially claims that different kinds of beliefs about the self would make one vulnerable to emotional distress. It also specifies which kind of distress predicts the specific kind of belief clusters (Higgins, 1987).

According to his theory, the self has three domains which are, the actual self, the ideal self, and the ought self. The actual self consists of qualities that one believes one has, the ideal self is the ideal conditions or qualities one would preferably have and the ought self represents the features of the self that go along with the societal, familial roles, responsibilities, and requirements (Higgins, 1987). To deepen as well as to understand the discrepancies within the self, Higgins added two different standpoints to the self. The two standpoints that were added are own and other (significant others' perspective) (Higgins, 1989). Thus, the addition of the standpoints to the self domains develops six different types of self-representations: actual/own, actual/other, ideal/own, ideal/other, ought/own, ought/other (Higgins, 1989). Actual/own and actual/other-selves as well as the rest of the self-representations are thought of as self-guides (Strauman & Higgins, 1988). The ultimate goal of the self is to balance the needs and wishes of the self-concept to match the self-guides (Strauman & Higgins, 1988).

Higgins (1987) hypothesized that these self-discrepancies can be predominantly associated with different emotional states as stated above. The discrepancies between actual and ideal selves are related to dejection-related emotions and the discrepancy

between actual and ought selves is more related to agitation-related emotions (Higgins, 1987). To be specific, actual/own and ideal/own discrepancy suggests that the individual's actual state does not match the ideal state. The implications of this discrepancy would be the desires and hopes of the individual have been unmet, potentially leading to dejection-related emotions (Higgins, 1987). These emotions are sadness and disappointment. Another discrepancy is, actual/own and ideal/other. This discrepancy results in emotions such as embarrassment and shame due to the reason that the actual/own representation is not living up to the standards of the ideal/other standards or expectations (Higgins, 1987). On the other hand, actual/own and ought/other discrepancy occurs when the individual cannot fulfill the obligations or responsibilities inflicted by significant others. The burden of the external beings may invoke feelings of fear (Higgins, 1987). Lastly, actual/own and ought/own discrepancy occurs when the individual cannot fulfill the obligations or responsibilities one has set up for oneself. This makes the individual vulnerable to feelings of discomfort and guilt for not reaching a personal standard (Higgins, 1987). One of the first studies supporting the self-discrepancy theory was done by Higgins, Klein & Strauman (1985). Using undergraduate students, self-discrepancies were assessed with both self domains and standpoints, including actual/own-ideal/own; actual/own- ideal/other; actual/own-ought/own; actual/own-ought/other discrepancies. The results indicated that dejection-related feelings or depression were associated with actual-ideal self-discrepancies. Additionally, agitation-related anxiety was further associated with discrepancies between actual and ought selves. This outcome was later supported by Strauman and Higgins

(1988), displaying the communication between some self-discrepancies creating distinctive affective responses.

In another important study, undergraduate students were divided into four groups that consisted of, diagnosis with depression, anxiety, comorbid depression and anxiety, and no diagnosis (Scott & O'Hara, 1993). Participants assessed the distance between their actual self from their ideal and their ought self from others' standpoints. Results demonstrated greater self-discrepancies in the clinically diagnosed group compared to the non-diagnosed group (Scott & O'Hara, 1993). More specifically, participants with an anxiety diagnosis had greater actual-ought/other discrepancy than non-diagnosis participants, and participants with depression had greater actual-ideal self-discrepancy than both non-diagnosis participants and anxious participants, in line with earlier studies (Higgins et al., 1985; Strauman & Higgins, 1988).

However later studies show that the relationship between self-discrepancies and psychopathology was found to be broad, indicating that the specific connection between different self-discrepancies and particular emotions was not found (Heppen & Ogilvie, 2003; Ozgul et al., 2003; Phillips & Silvia, 2005; Tangney et al., 1998). Tangney et al. (1998) found that shame was interconnected to all forms of discrepancies, specifically, ideal and ought self-discrepancies were connected to anxiety and depression but not directly, implying that negative emotions indicate self-discrepancies despite different standpoints on the self (Ozgul et al., 2003; Tangney et al., 1998). Bruch, Rivet, and Laurenti (2000) also failed to support specific predictions of SDT. Their findings demonstrate that actual-ideal discrepancies exclusively related to dejection-related emotion, except ought discrepancies, were not associated with agitation-related emotions.

Correspondingly, Ozgul et al. (2003) found that some of the self-discrepancies were not directly accompanying certain emotions, however, they discovered the relationship between self-discrepancies and negative emotions without specific relationships. The breach concerning ideal and ought self may not come so easily to people, since they share similar characteristics in terms of how they form in the first place and the incorporation of cultural, familial, and societal values may be intertwined (Ozgul et al., 2003).

Undesired self-discrepancy is another dimension that was added to the self, coined by Ogilvie (1987). It essentially states that people indirectly use the undesired features of their selves to assess their psychological well-being. He proposed that individuals evaluate how good they are feeling in comparison to the times when they were feeling negative. Therefore, the focus is naturally more on what they do not want to be, more than their ideal image. This claim essentially led to the idea that the undesired self would bring about more fruitful data than the ideal self in terms of predicting well-being. The idea was supported in his research, it was found that life satisfaction correlation was stronger in the discrepancy between actual and undesired self-compared to actual-ideal self-discrepancy (Ogilvie, 1987). Ideal, ought, feared self-discrepancy, and their relationship with dejection and agitation symptomology was investigated by Carver, Lawrence, and Scheier (1999). The feared self is slightly different from the undesired self because it contains qualities that the individual does not want to have, but is afraid of having (Carver, Lawrence and Scheier, 1999). Anxiety and guilt were predicted by feared self-discrepancy and depression were predicted by both ideal and feared self-discrepancies. When one is close to their feared self, trying to flee the unwanted feeling becomes the ultimate goal, leaving the ought self out of the picture, and creating intense

anxiety. This finding was replicated by Heppen and Ogilvie (2003) with the difference of using undesired self-discrepancy rather than feared self-discrepancy. Authors hypothesized that undesired self-discrepancy had a larger role in anxiety than ought self-discrepancy, so the findings showed that ought self-discrepancy does not necessarily predict any negativity. Likewise, the connection between different kinds of self-discrepancies and different types of overwhelming emotions was studied by Philips, Silvia, and Paradise (2007). Their results indicated that the association between actual-undesired self-discrepancy and negative emotions was greater than the association between actual-ideal self-discrepancy and negative emotions. Similar findings were found in a different culture. A study done by Cheung (1997), using a student sample in Hong Kong, assessed the link between different self-discrepancies and depression. He argued that actual-ideal self-discrepancy was a culturally specific predictor of depression fitting the Western model of self, and it did not necessarily fit collectivistic cultures. The results showed that actual-undesired self-discrepancy has a larger association with depression than actual-ideal self-discrepancy, supporting Ogilvie (1987) in that undesired self-discrepancy is better at predicting emotions than ought or ideal self-discrepancies.

To sum up, the level of discrepancy within the selves is important, for example when the discrepancy within the selves is high, then this can possibly evoke undesirable emotional states, thus, partly being responsible for unfunctional behavior patterns (Higgins, 1987). Eventually, the unfunctional behavior patterns may lead to psychiatric disorders (Higgins, 1987). As far as researched, self-discrepancies and behavioral addictions have only been studied in internet gaming addiction (Li et al., 2020). One aim

of this study is to discover whether there is a link between self-discrepancies and exercise addiction.

1.2 Self-Conscious Emotions and Their Relationship with Depression and Anxiety

Self-conscious emotions are a set of emotions that involve the evaluation of the self. They are different from basic emotions (anger, fear, disgust, sadness, happiness, surprise) in several ways (Tangney, 1999). First of all, basic emotions are biologically based, they are universally experienced and present in animals (Tracy & Robins, 2004). On the other hand, self-conscious (i.e. shame, guilt, and pride) emotions are thought of as more complex, and less universal, they differ in cultures and there is limited evidence of them having a universally recognized facial expression (Tangney, 1999). According to Lewis (1971), primary emotions such as fear, anger, disgust, sadness, and joy do not necessarily involve reflection or rich cognitive processes. However, more complex emotions such as shame, guilt, and pride require a judgment or evaluation, more precisely, explicit cognitive processes. Even though temperament has a role in the conveyance of self-conscious emotions, they also require conditions such as the capacity to see oneself as an independent individual, acknowledge personal features, the range of socialization experiences, and keep in mind social guidelines (Tangney & Dearing, 2002). As the infant grows older, around the age of 3, evaluation of the self and the surroundings begin, helping them familiarize themselves with social details in daily life. The emphasis on the other-focused emotions necessitates an evaluation of the self against society, adding receptiveness to the cultural and other differences in their quality (Tracy & Robin, 2004).

They additionally motivate people to act appropriately in public and restrict them from acting in a disagreeable manner (Tracy & Robin, 2004). Lewis (1971) argues that these emotions are provoked in situational contexts, involving an assessment regarding some guideline or objective. For example, achieving a goal may increase a sense of pride whereas failing to achieve a previously achieved goal may bring shame. In this sense, self-evaluative emotions involve culturally accepted guidelines that are eventually passed on to the child (Lewis, 1971). Nevertheless, they can have negative consequences and pressure the psychological homeostasis in the case of reaching severe levels and potentially govern one's well-being (Muris & Meesters, 2014).

Tracy and Robin (2004) divided self-conscious emotions into two groups, positive and negative ones regarding one's individuality and self as well as the ambitions of self which involve societal values. The congruence of the self-appraisals produces positive self-conscious emotions (i.e., pride), and negative self-conscious emotions (e.g., shame, guilt, embarrassment) are elicited by the incongruence of the self-appraisals (Tracy & Robins, 2004).

There is a critical point between self-conscious emotions and self-discrepancy theory. Being conscious of oneself and having self-representations are vital for self-conscious emotions to take place (Tangney & Dearing, 2004). This brings into mind appraisal theories, which essentially claim that different situations can be appraised in different ways under the specific involvement of emotion in that person (Lazarus, Kanner, and Folkman, 1980). More specifically, the same experience may be experienced differently in individuals because of the way they are appraised or simply because the same experience induced different emotions. The evaluative part of emotions

requires cognition and comparison, which is very similar to self-discrepancy theory in the way that different kinds of self-representations lead to certain types of emotional responses which are unique. If an individual fails to accomplish attributes that s/he wishes to possess, the incongruence between actual and ideal self-representations takes place, leading to shame. Conversely, if an individual fails to accomplish attributes that the significant others want him/her to possess the discrepancy between actual and ought self-representations take place, potentially creating guilt (Higgins, 1987). Feeling a self-conscious emotion depends on whether or not the ideal self-representation is fulfilled (Motan, 2007).

Shame and guilt are considered similar in that they are negative self-conscious emotions where personal values are disrupted and they are seen by others (Muris & Meesters, 2014). The discrimination of shame and guilt can be made concerning the function of the self. Particularly, shame is thought of in terms of a general reflection of the self, specifically the irritating parts of the self (Tracy & Robins, 2004). Shame has qualities that directly affect one's socializing behaviors as well as inner thought processes. Research demonstrates that shame potentially leads to avoiding social circumstances, concealing oneself, and brings along feelings of inadequacy because the individual assumes that nothing can change or be done (Tangney & Dearing, 2002). Additionally, authors also indicate that shame can lead to individuals feeling like they are in the spotlight all time, thus bringing along the urge to hide (Tangney & Dearing, 2002). When the dominant emotion is shame, the person takes the opinions of others in a serious manner and tends to avoid situations and persons who cause them shame (Tangney & Dearing, 2002). On the other hand, guilt is usually felt when an inner moral or value

system strikes the self. It necessitates some wrongdoing, therefore some level of regret is usually felt since distress or remorse is felt for what they have done, or their attitudes (Lewis, 1995). The wrongdoing does not necessarily mean something was done, one can feel guilty for not doing anything as well. Frequently, motivation to make amends is present (Tangney & Dearing, 2002). The major difference between shame and guilt is where the negative appraisals are directed, for example, are they directed at the entire self, or certain behaviors of the self (Tracy & Robin, 2004). Researchers claim that guilt centers on exclusive behaviors rather than the overall sense of self (Tangney & Dearing, 2002). However, the positive part is that with guilt, corrective actions performed after can provide relief, easing guilt. Thus, demonstrating how guilt is mostly dependent on the self's actions instead of the character of the self (Lewis, 1995). However, this can be culturally specific. It has been observed that Western and Eastern cultures show differences in the experience of shame. The finding is that while shame in Western cultures leads to avoidance, it motivates compensatory actions in Eastern cultures (Mesquita & Karasawa, 2004).

Accordingly, authors assume that shame-proneness can be a liability for depression (Tangney & Dearing, 2002). Over the years, many researchers have found that shame-proneness and depression have a close relationship (Tangney & Dearing, 2002). To be more specific, more and more evidence suggests that shame-proneness could predict emotional disorders (Candea, & Szentagotai, 2013). Shame-proneness has been associated with anxiety, depression symptoms, the likelihood of narcissistic and borderline personality disorders, and posttraumatic stress (Tangney & Dearing, 2002). It was initially found that individuals who are more prone to shame were more likely

to go through depression whereas guilt-prone individuals were more likely to feel paranoia and obsessions (Lewis, 1971). In a more recent study, shame-proneness correlated positively with mental health symptoms whereas guilt-proneness did not correlate Pineles et al. (2006). Additionally, shame-proneness was demonstrative of post-traumatic stress disorder symptoms and somatization symptoms, yet guilt-proneness did not have this effect (Pineles et al., 2006). Another study done by Rubeis and Hollenstein (2009) also confirmed that the inclination to feel shame brought along depression in adolescence and the positive connection between depression and shame-proneness did not change in the follow-up after a year. Averill et al. (2002) investigated the connection between shame, guilt, and psychopathology, specifically depression anxiety, and general psychopathology, in a psychiatric inpatient population and one of the instruments they used was using the Test of Self-Conscious Affect (TOSCA). As predicted, shame-proneness correlated meaningfully with depression, whereas guilt-proneness was found to be irrelevant to psychopathology. This study is of importance because findings can help demonstrate if figures gathered with nonclinical samples are relevant to inpatient psychiatric patients. Similarly, Rüsç et al. (2007) have done a validation study to compare women with borderline personality disorder (BPD) and non-diagnosed women in the areas of, shame and guilt, state shame, and their correlations with experiential avoidance, depression, self-efficacy, state and trait-anxiety, empowerment and general psychopathology. Within the subjects that did not have a diagnosis, shame-proneness was considerably associated with other concepts whilst guilt-proneness was not. Additionally, in both groups state shame was significantly associated with state anxiety. Brunet et al. (2017) studied the relationship between body-related self-conscious emotions,

(specifically shame and guilt) depression, and the role of self-esteem as a moderator in young adults. Authors selected shame and guilt in specific because of their established relationship with depression (Beck & Alford, 2014). According to Beck's (2014) cognitive model, some of the psychological structures that contribute to depression include cognitive errors, individual's negative perception of himself, the world, his experiences, and the future (Beck & Alford, 2014). These negative assumptions eventually lead to negative judgments, thoughts, and attitudes but most importantly negative self-evaluation. Researchers further elaborated on this idea and hypothesized that shame and guilt along with this kind of negative evaluation could possibly be instrumental in the development of depression, or worsen depression (Brunet et al., 2017, Tangney & Dearing, 2002). They found that body-related self-conscious emotions significantly correlated with depressive symptoms.

In the field of behavioral addictions, current research implies that shame plays a vital responsibility concerning depression and problem gambling. Rapinda et al. (2021) studied in what way coping with shame mediated the connection between depression and gambling level and rate. Results presented that greater depression was accompanied by more gambling frequency and severity. The authors explained this finding by different ways of coping with shame. Coping with shame brought condemning others, not coping resulted in condemning the self (Rapinda et al., 2021). A recent study showed that problematic social media use for mood modification was directly predicted by shame, but the association was not significant for guilt (Nazlıgül et al., 2022).

Thus, demonstrating how coping methods with shame may increase the risk for depression and problem gambling. Compulsive sexual behavior and problematic

pornography use are correlated with self-criticism, shame, and guilt. In their research, Sassover et al. (2021) demonstrated that self-criticism predicted shame and guilt, eventually predicting problematic pornography use. Further analyses showed that the relationship between self-criticism and pornography-watching is exclusively mediated by feelings of shame and guilt (Sassover, 2021).

It should be noted that in eating disorder and exercise literature, self-conscious emotions have focused on the physical appearance aspect of the self. Body-related self-conscious emotions are not the aim of this study, but rather to discover the antecedents of the behavioral addiction to exercise. To sum up, for self-conscious emotions to take place, self-presentation must be generated. The individual makes evaluations between his/her self against emotion stimulating external events. These appraisals are an essential causal element of self-conscious emotions. (Tracy & Robins, 2004)

Self-discrepancy theory exhibits how self-conscious emotions develop from a different perspective. Higgins's (1987) self-discrepancy theory anticipated that the self has different domains such as actual, ideal, and ought selves. The disturbance within the domains leads to different kinds of emotional outcomes. the inconsistencies between actual and ideal self-discrepancies occur if one does not obtain the qualities s/he wishes to obtain, thus, the failure potentially is felt like shame. Likewise, the discrepancy between actual and ought self happens when defiance towards commitments or responsibilities occurs, bringing about guilt due to the non-compliance of norms or customs.

To sum up, shame, guilt, and pride are self-conscious emotions that stem from the evaluation of the self either grounded on anticipated self ideals, such as the ideal self, or

the standards or moral codes of others such as the ought self. Even though they serve social purposes, individuals that are unable to cope with them may be at risk for depression or anxiety.

1.3 Aims of the Study

In the light of the information above, discrepancies between selves give rise to various self-conscious emotions such as shame and guilt. These emotions eventually produce discomfort and therefore produce depressive affect or anxiety. In the literature, it has been also found that excessive exercise and forms of psychopathology have been linked. Therefore, the present study aims to investigate the mediator roles of shame-proneness and guilt-proneness in the relationship between self-discrepancies and depression or anxiety. Specifically, the following hypotheses will be assumed:

Hypothesis 1: Shame-proneness will mediate the relationship between ideal self-discrepancy and depression in individuals with exercise addiction (see Figure 1).

Hypothesis 2: Shame-proneness will mediate the relationship between undesired self-discrepancy and depression in individuals with exercise addiction (see Figure 2).

Hypothesis 3: Shame-proneness will mediate the relationship between undesired self-discrepancy and anxiety in individuals with exercise addiction (see Figure 3).

Hypothesis 4: Guilt-proneness will mediate the relationship between ought self-discrepancy and anxiety in individuals with exercise addiction (see Figure 4).

Hypothesis 5: Guilt-proneness will mediate the relationship between undesired self-discrepancy and anxiety in individuals with exercise addiction (see Figure 5).

Figure 1

Model for hypothesis 1

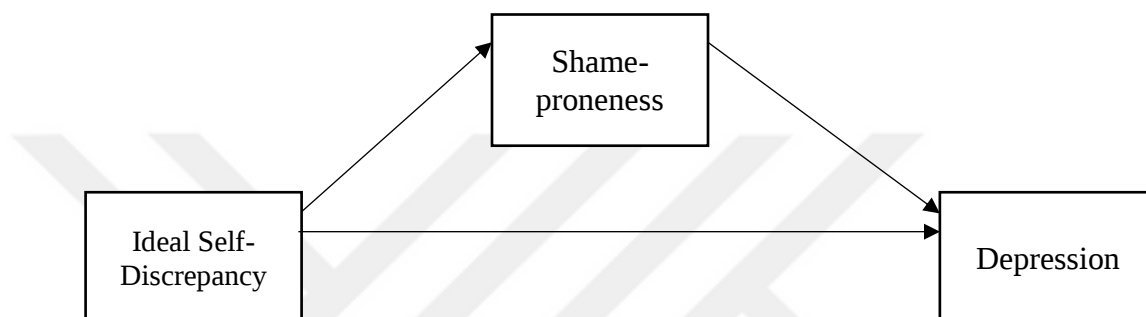


Figure 2

Model for hypothesis 2

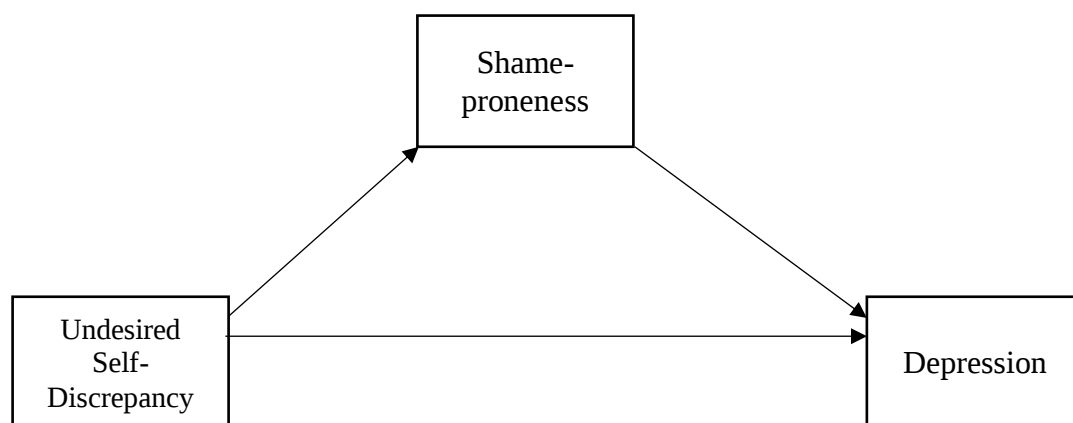


Figure 3

Model for hypothesis 3

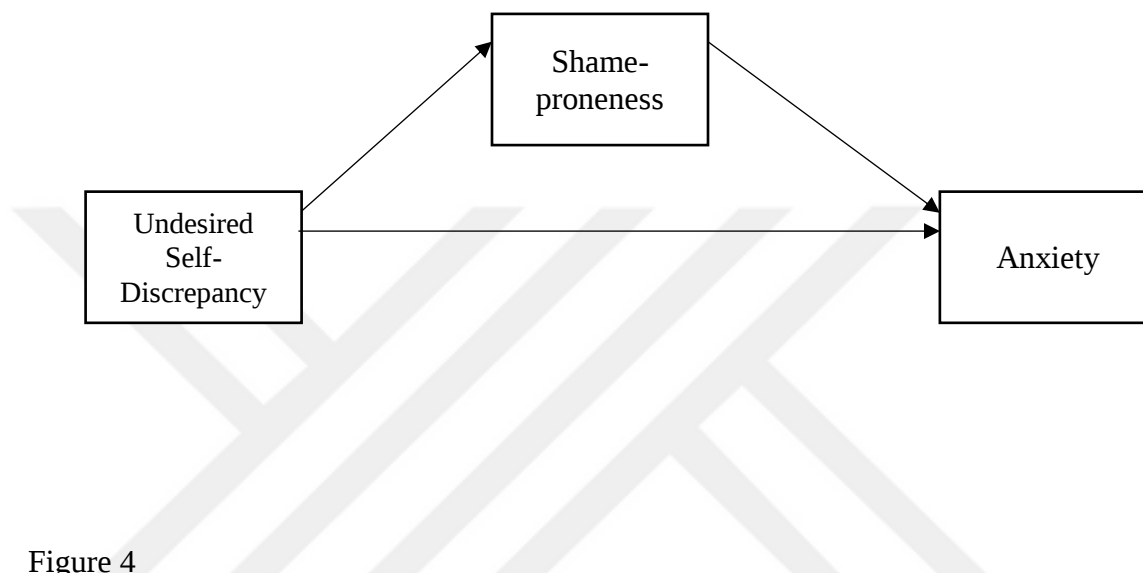


Figure 4

Model for hypothesis 4

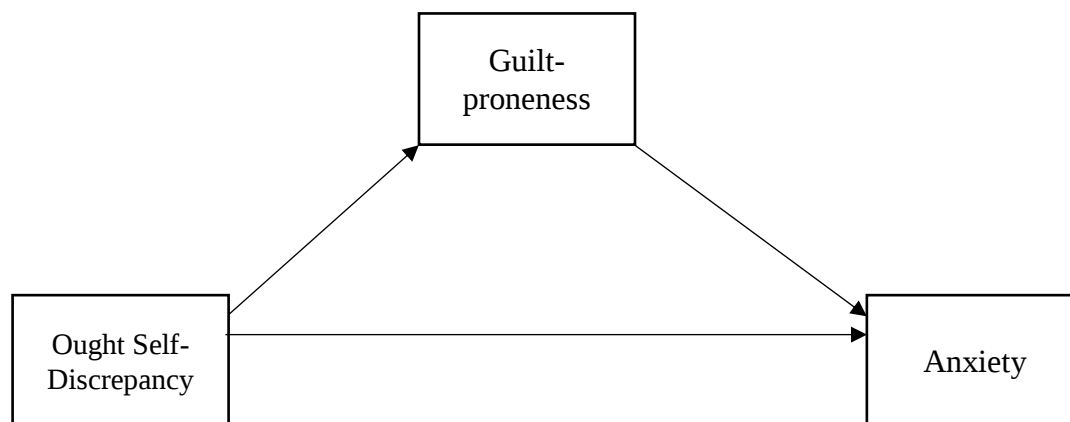
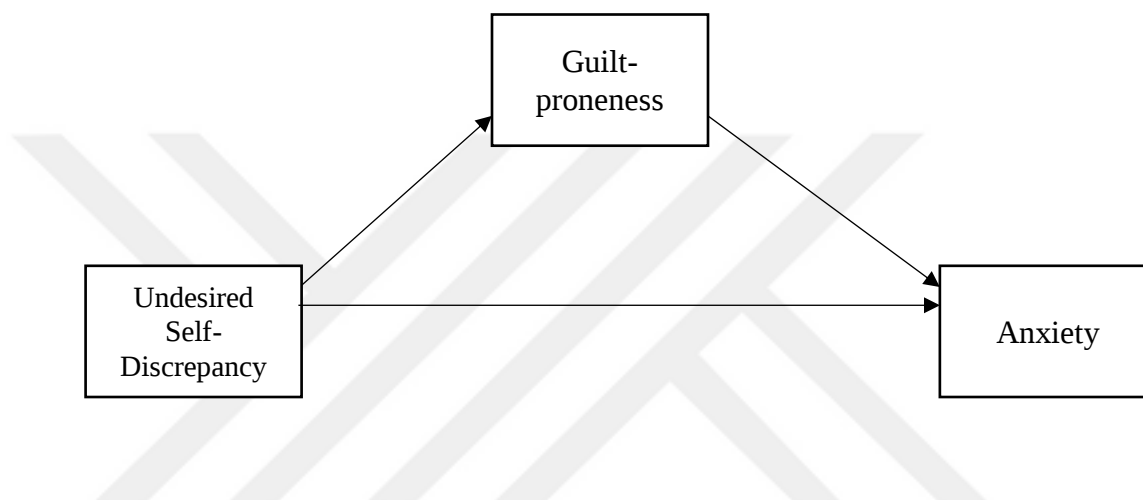


Figure 5

Model for hypothesis 5



2 METHOD

2.1 Participants

In the present study, 219 participants were initially recruited. Due to the incomplete answers in the questionnaire set, 40 participants were discarded from the study. And after 1 omission because of an inappropriate answer, the present study had a total of 178 participants consisting of 91(51,1%) males and 87 (48,9%) females. That is, the completion rate of the study is found to be roughly 35%. The age range was between 18-62 ($M= 32.7$, $SD=9.7$). In terms of education levels, the highest amount came from university graduates 48,3%, then master's graduates 20,2%, university students 14%, master's students 8,4%, high school graduates 5,6%, literate was .6%, and other (unfinished high school) was found to be 2,8%. Participants' employment status consisted of working full time (64,6%), not working (23,6), and working part-time (11,8%). In terms of relationship status, 56,2% were in a relationship and 43,8% were not in a relationship. 153 (86%) participants stated they did not have a psychiatric diagnosis and 25 (14%) participants stated they did have a psychiatric diagnosis such as obsessive-compulsive disorder, obsessive-compulsive personality disorder, psychosis, bulimia, depression, post-traumatic stress disorder, bipolar disorder, attention deficit disorder, attention deficit and hyperactive disorder, general anxiety, panic attack, and phobias. Lastly, 164 (92,1%) participants stated that they were not using psychiatric medicine whereas 14 (7,9%) of them mentioned the use of psychiatric medicine. According to the EDS scale, 60.7% ($n=108$) of the participants were symptomatic, 31.5% ($n=56$) were asymptomatic, and 7.9% ($n=14$) were dependent.

Table 1

Exercise-related Characteristics of the Participants

Variables	Frequency	Percent (%)
Exercise Duration		
Less than 6 months	26	14,6
6 months- 1 year	20	11,2
1 year	7	3,9
2 years	7	3,9
3 years	15	8,4
4 years	6	3,4
5 years	29	16,3
More than 5 years	68	38,2
Exercise Group		
Professional athlete	8	4,5
Doing exercise/sports for pleasure.	130	73,0
Doing exercise/sports for weight management/ health reasons	31	17,4
Exercise amount per week		
1	13	7,3
2	25	14,0
3	34	19,1
4	48	27,0

	5	38	21,3
	6	16	9,0
	7	4	2,2

Exercise amount
per day

Less than 1 hour	26	14,6
1 hour	81	45,5
2 hours	57	32,0
3 hours	9	5,1
4 hours	5	2,8

Exercise
Preference

Fitness/Body Building	47	26,4
Running	16	9,0
Crossfit	40	22,5
Basketball	5	2,8
Volleyball	1	,6
Swimming	17	9,6

Martial Arts	14	7,9
Cycling	3	1,7

	Pilates etc.	17	9,6
	Yoga	2	1,1
	Other	16	9,0
Exercise			
Motivation			
	Achievement/ Development	55	30,9
	Weight control / losing weight	16	9,0
	Healthy Living	61	34,3
	Socializing/ Fun	8	4,5
	Avoidance of negative feelings	24	13,5
	Other	2	1,1
	Exploring/Finding new things	6	3,4
	All of the above	6	3,4

2.2 Measurements

2.2.1 Demographic Information Form

The demographic information form consisted of personal information and questions related to exercise behavior. Demographic questions included gender, age, education level, type of work, employment status, relationship status, any psychiatric/psychological diagnosis, and using psychiatric medicine. Concerning exercise behavior, the type of pf exercise, motivation to exercise, their history of

exercise, the amount of time per week, and hours in a day they spend exercising were assessed.

2.2.2 Exercise Dependence Scale-21

Exercise Dependence Scale-21 (EDS-21) scale has been developed by Hausenblas and Symons Downs (2002b). It has 21 items and answers are scored on a 6-point Likert type scale (1= never, 6= always), with higher scores indicating higher levels of dependence. The scale was created in accordance with DSM-IV's criteria for substance dependence (APA, 1994). The seven criteria include, tolerance (items 3,10,17), withdrawal (items 1,8,15), continuance (items 2,9,16), lack of control (items 4,11,18), reductions in other activities (5,12,19), time (items 6,13,20), and intention (items, 7,14,21) (Hausenblas & Downs, 2002b). In terms of scoring, the scale has three classifications, (a) at-risk for exercise dependence, (b) nondependent-symptomatic, and (c) nondependent-asymptomatic (Hausenblas & Downs, 2002b). The Turkish version of the EDS-21 was adapted by Yeltepe and İkizler (2007). The reliability coefficient was calculated to be .96. After two weeks, the test-retest reliability coefficient for the whole test was calculated as .97 (Yeltepe & İkizler, 2007). In the present study, the internal reliability of the scale was .95.

2.2.3 Integrated Self-Discrepancy Index (ISDI)

Hardin and Lakin (2009) developed Integrated Self-discrepancy Index (ISDI). With the combination of nomothetic and idiographic methods, the scale aims to explore the self-discrepancies including 3 subscales: (1) ideal self-discrepancy, (2) ought self-discrepancy, and (3) undesired self-discrepancy (Hardin & Lakin, 2009). The participants are first asked to list five attributes for each type of self, which is the idiographic section,

then an adjective list is presented to the participants to complete earlier lists or change previously listed adjectives with more suitable ones. After participants complete the lists for each kind of self, the nomothetic section requires participants to rate how these characteristics describe themselves on a 5-point Likert-type scale (1= does not describe me at all and 5 = completely describes me). The Turkish adaptation study of the ISDI was conducted by Gurcan (2015). The internal reliability coefficients were .78 for ideal self-discrepancy, .81 for ought self-discrepancy, and .86 for undesired self-discrepancy. Therefore, ideal self-discrepancy and undesired self- discrepancy were used in this study. In the present study, the Cronbach's alphas were .839 for the ideal and .851 for undesired self-discrepancy.

2.2.4 Test of Self-Conscious Affect-3 (Tosca-3)

Test of Self-Conscious Affect-3 (Tosca-3) was developed by Tangney, Dearing, Wagner, & Gramzow (2000) specifically for self-conscious emotions. Without mentioning the words shame or guilt, participants answer questions based on 11 negative and 5 positive scenarios. The responses in each scenario produce subscales of shame-proneness, guilt-proneness, externalization, detachment/unconcern, alpha pride, and beta pride. In each scenario, the participants rate each response with a likelihood of five-point Likert type scoring from low to high. Scale scores are the sum of responses to relevant items. It was translated into Turkish by Motan (2007). Cronbach's Alpha coefficients for shame-proneness, guilt-proneness, externalization, detachment/unconcern, alpha pride, and beta pride was found to be the following: .78, .68, .68, .59, .39, and .41. Test-retest reliability of the scales were .86 for shame-proneness, .72 for guilt-proness, .49 for

externalization, .41 for detachment, .31 for alpha pride, and .43 for beta pride. In accordance with the purposes of this study, shame-proneness and guilt-proneness subscales were used. In the present study, the internal coefficients were found to be .56 for guilt and .76 for shame.

2.2.5 Depression, Anxiety and Stress Scale (DASS-21)

Depression, Anxiety and Stress Scale (DASS-21) was initially devised by Lovibond and Lovibond (1995) to measure depression, stress, and anxiety levels. It originally had 42 items and 3 dimensions (depression, anxiety, and stress). Henry and Crawford (2005) later condensed the scale to 21 items. The scale contains 7 questions each to measure its subscales. The scale is measured by a 4-point Likert type scale; 0 “not applicable for me”, 1 “somewhat applicable for me”, 2 “usually applicable for me”, and 3 “completely applicable for me”. The short version was translated into Turkish by Yılmaz et al. (2017). The internal consistency coefficient values for the subscale of depression was .82, stress was .76, and anxiety was .81. In the present study, the internal consistency coefficient value for the depression subscale was .898 and anxiety was .822.

2.3 Procedure

Before data collection, ethical approval was received from Yeditepe University Ethics Committee. Data collection was done using the online software Qualtrics.

Counterbalancing setting was done through the software for participants to see the surveys in a different order. Participants were reached on various social media platforms. Additionally, convenience sampling was used because the local gym was visited, and

some gym members were requested to fill out to form. Data was collected in April and May 2022. Participants first viewed the online consent form, then demographic data, followed by four surveys with randomization and debrief form.

2.4 Data Analysis

All analysis was done using IBM SPSS Statistics for Windows, Version 26.0. Before starting the analysis, the Kolmogorov-Smirnov test was applied to determine whether the variables have a normal distribution. Spearman Correlation Analysis was run to examine relationships between study variables and descriptive statistics were calculated.

Moreover, independent samples t-test was used to evaluate whether there was a difference in the total scores of the scale according to the gender variable. To test the main hypotheses, PROCESS Macro for SPSS 3.5 (Hayes, 2022) was carried out to test the predictors and mediators of depression and anxiety in individuals with problematic exercise behavior.

3 RESULTS

3.1 Correlations, Descriptive Statistics and Group Comparisons Regarding Gender

Before testing correlations and group comparisons, normality was checked considering Kolmogorov-Smirnov test, histogram and box plots. Accordingly, some variables were deviating from normal distribution. Hair et al. (2009) states that values are thought to be normally distributed if they are between ± 1.96 . Depression from DASS-21 (skewness=1.603, kurtosis=2.242), anxiety (skewness= 1.753, kurtosis= 3.153) were not normally distributed. In addition, Spearman Correlation Analysis was applied since some of the variables that did not have normal distribution (depression and anxiety). For instance, depression and ideal self-discrepancy were negatively correlated ($r = -.21$, $p < .01$) while depression and undesired self-discrepancy were positively correlated ($r = .24$, $p < .01$). However, there was no significant correlation between depression and ought self-discrepancy ($r = -.15$, $p = .050$). Similarly, anxiety was negatively correlated with ideal self-discrepancy ($r = -.25$, $p < .01$) and positively correlated with undesired self-discrepancy ($r = .22$, $p < .01$). There was no significant correlation between anxiety and ought self-discrepancy ($r = -.15$, $p = .812$). Moreover, shame-proneness positively correlated with depression ($r = .24$, $p < .01$) and anxiety ($r = .31$, $p < .01$); however, guilt-proneness was not correlated with depression ($r = -.07$, $p = .322$) or anxiety ($r = .10$, $p = .177$). Detailed correlation coefficients and descriptive statistics are summarized in Table 3.

3.2 Multicollinearity Test and Common-Method Bias Test for Mediation Analysis

The inner variance inflation factors (VIFs) were analyzed to test multicollinearity (see Table 2). Kock (2015) assumes that multicollinearity is thought to be present if the inner VIF values are higher than 3.3. The VIF values were found to be 3.3 in the present study. Furthermore, tolerance values are preferred to be less than 0.10 (Cohen et al., 2013). The tolerance range of each variable was greater than 0.1, specifically between 0.61 and 0.96. To test the effect of common method bias, Harman's single-factor test was analyzed. The variance of the first factor was 14.53%, fewer than the critical value (Podsakoff et al., 2003). Thus, no common method variance was discovered in the current study.

Table 2

Inner variance inflation factor values

	1	2	3	4	5	6	7
1. Depression	-	1.234	1.621	1.589	1.587	1.611	1.594
2. Anxiety	1.246	-	1.607	1.642	1.644	1.578	1.639
3. Ideal SD	1.141	1.121	-	1.141	1.144	1.123	1.145
4. Ought SD	1.042	1.067	1.063	-	1.069	1.067	1.051
5. Undesired SD	1.058	1.085	1.082	1.085	-	1.082	1.078
6. Shame-proneness	1.392	1.351	1.379	1.407	1.404	-	1.205
7. Guilt-proneness	1.208	1.231	1.233	1.215	1.227	1.057	-

Note. N=178; *p < .05, **p < .01. Ideal SD: Ideal Self-discrepancy; Ought SD: Ought Self-discrepancy; Undesired SD: Undesired Self-discrepancy.

Table 3

Spearman Correlation Coefficients and descriptive statistics of the study variables

	1	2	3	4	5	6	7	8
1. Depression	-							
2. Anxiety	.539**	-						
3. Ideal SD	-.208**	-.255**	-					
4. Ought SD	-.147	-.018	.158*	-				
5. Undesired SD	.238**	.219**	-.179*	-.090	-			
6. Shame-P	.238**	.315**	-.227**	-.039	.195**	-		
7. Guilt-P	-.075	.102	-.023	.103	.129	.383**	-	
8. EDS-21	.034	-.038	.102	.059	.027	-.003	-.147	-
Mean	10.79	3.21	17.34	18.79	10.57	41.62	62.49	56.03
SD	4.32	3.77	4.69	4.18	5.20	9.80	6.08	21.56
Min-Max	0-20	0-17	1.20-5	1.40-5	1-5	20-68	46-76	21-125

Note. N=178; * $p < .05$, ** $p < .01$. Ideal SD: Ideal Self-discrepancy; Ought SD: Ought Self-discrepancy; Undesired SD: Undesired Self-discrepancy; Shame-P: Shame-proneness; Guilt-P: Guilt-proneness; EDS-21: Exercise Addiction Scale-21.

To test whether there is a significant mean difference in group variables in terms of exercise addiction, depression, and anxiety, some Mann Whitney-U tests were calculated. First, there was a significant mean difference between males and females in terms of exercise addiction $U(n_{\text{female}}=87, n_{\text{male}}=91)=2785, p = .001$. It was found that males had higher exercise addiction scores than females. However, the results showed that the female group had higher anxiety scores than the male group $U(n_{\text{female}}=87, n_{\text{male}}=91)=2708, p = .000$. The results of the Mann-Whitney U-test indicated that depression did not differ across gender, $U(n_{\text{female}}=87, n_{\text{male}}=91)=3839.5, p = .726$. (See Table 4.)

Table 4

Mann-Whitney U Test result of Depression, Anxiety, Exercise Dependence total score and Gender

Column Head	Gender	N	Mean Rank	Mann-Whitney U
Depression	Female	87	90.87	
	Male	91	88.19	
Total		178		.726
Anxiety	Female	87	103.87	

	Male	91	75.76	
Total		178		.000
EDS-21	Female	87	76.01	
	Male	91	102.40	
Total				.001

Note: EDS-21: Exercise Dependence Scale -21.

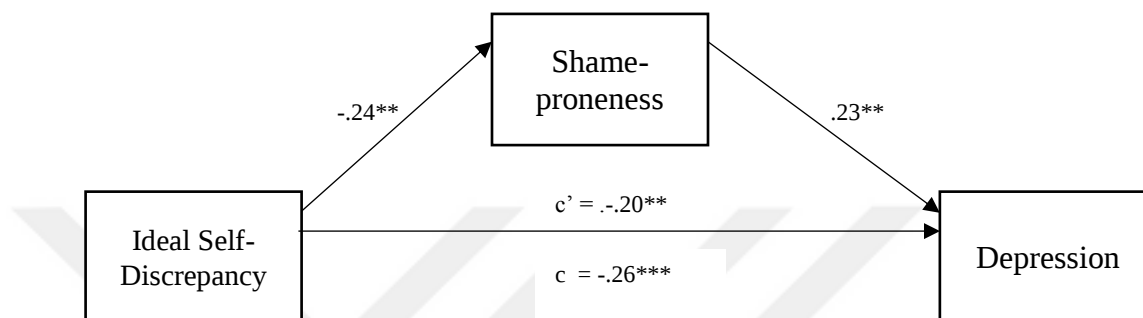
3.3 Main Hypotheses Testing: Simple Mediation Analyses

To test the main hypotheses, 5 simple mediation analyses were need in the present study; however, 2 mediation analyses were excluded since guilt-proneness had low reliability score. Therefore, Hypothesis 4 and 5 could not be tested. Standardized regression estimates of the tested models are demonstrated in figures.

Hypothesis 1 assumed that shame would mediate the relationship between ideal self-discrepancy and depression in individuals with excessive exercise behavior. It was found that the relationship between ideal self-discrepancy and depression was significantly mediated by shame-proneness, $\beta = -.05$, $SE_{boot} = .02$, 95% CI $(-.1068, -.0167)$. It means that the first hypothesis was confirmed. Regarding direct effects, it was found that ideal self-discrepancy significantly predicted shame-proneness ($\beta = -.24$, $SE = .76$, $t(176) = -3.35$, $p < .01$). In addition, both shame-proneness ($\beta = .23$, $SE = .03$, $t(176) = 3.09$, $p < .01$) and ideal self-discrepancy ($\beta = -.20$, $SE = .34$, $t(176) = -2.77$, $p < .01$) significantly predicted depression (see Figure 6).

Figure 6.

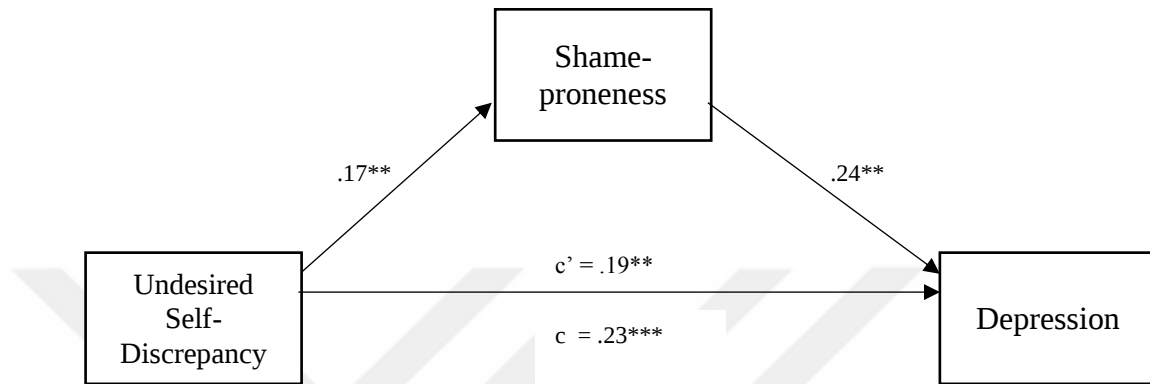
Standardized coefficients for the model of shame-proneness mediating ideal self-discrepancy and depression.



Hypothesis 2 assumed that shame-proneness would mediate the relationship between undesired self-discrepancy and depression in individuals with excessive exercise behavior. The relationship between undesired self-discrepancy and depression was significantly mediated by shame-proneness $\beta = .04$, $SE_{boot} = .02$, 95% CI (.0113, .0814). Therefore, the second hypothesis was confirmed. Concerning direct effects, it was found that undesired self-discrepancy significantly predicted shame-proneness ($\beta = .17$, $SE = .70$, $t(176) = 2.33$, $p < .05$). In addition, both shame-proneness ($\beta = .24$, $SE = .03$, $t(176) = 3.36$, $p < .01$) and undesired self-discrepancy ($\beta = .19$, $SE = .30$, $t(176) = 2.71$, $p < .01$) significantly and directly predicted depression (See Figure 7).

Figure 7

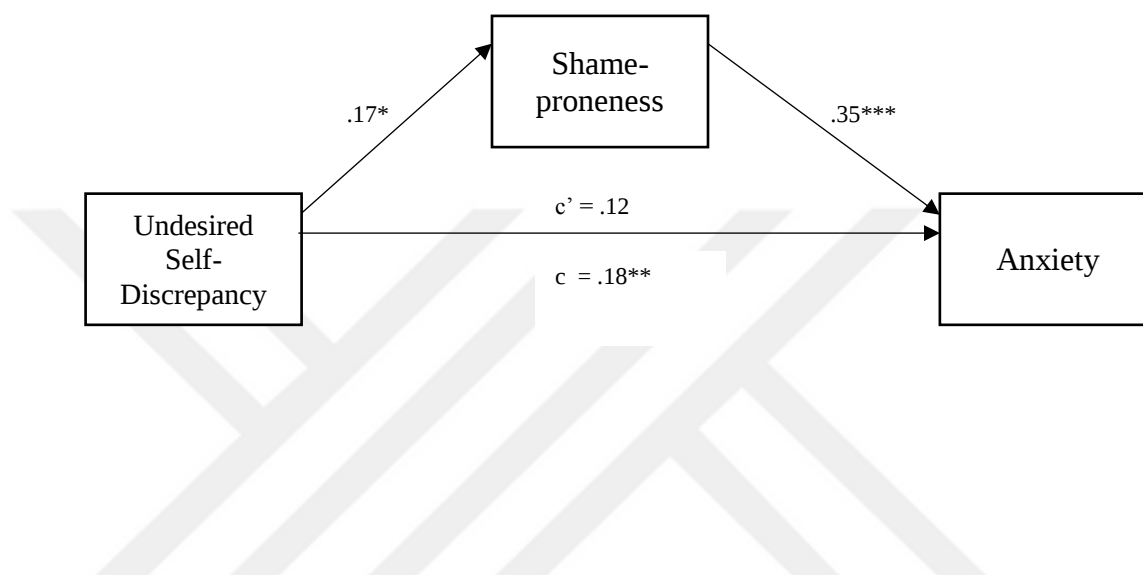
Standardized coefficients for the model of shame-proneness mediating undesired self-discrepancy and depression.



Hypothesis 3 expected that shame-proneness would mediate the relationship between undesired self-discrepancy and anxiety in individuals with excessive exercise behavior. Findings revealed that the relationship between undesired self-discrepancy and anxiety was significantly mediated by shame-proneness $\beta = .06$, $SE_{boot} = .02$, 95% CI (.0166, .1140). Regarding direct effects, it was found that undesired self-discrepancy significantly predicted shame-proneness ($\beta = .17$, $SE = .07$, $t(178) = 2.33$, $p < .05$). Also, shame-proneness significantly predicted anxiety ($\beta = .35$, $SE = .02$, $t(178) = 4.97$, $p < .001$). However, undesired self-discrepancy did not significantly and directly predicted anxiety ($\beta = .12$, $SE = .25$, $t(178) = 1.75$, $p = .08$). In other words, undesired self-discrepancy predicted anxiety only through shame-proneness (See Figure 8).

Figure 8

Standardized coefficients for the model of shame-proneness mediating undesired self-discrepancy and anxiety.



4 DISCUSSION

4.1 Discussion of Demographic Data, Addiction Criteria and Group Comparison

In the present study, it was aimed to examine the mediator roles of shame-proneness and guilt-proneness on the associations of self-discrepancies (i.e., ideal, ought, and undesired), depression and anxiety in individuals with excessive exercise behavior. First, demographic characteristics and exercise-related features of the participants were examined. To identify the problematic exercise group, a classification (i.e., dependent, nondependent-symptomatic, or nondependent-asymptomatic) was used based on the EDS-21 (Hausenblas & Symons Downs, 2002b). In this study, it was found that the majority of the participants represented the nondependent-symptomatic group. This finding is in line with the original study of the EDS-21 (Hausenblas & Symons Downs, 2002b), the larger portion of the participants were found to be 62.5% as nondependent-symptomatic. Similarly, the Turkish adaptation study of the scale pointed out their participants to be mostly nondependent-symptomatic group (Yeltepe & İkizler, 2007). In terms of gender, it has been suggested that men are more likely to have exercise addiction (Billieux et al., 2015; Hausenblas & Symons Downs, 2002b). Lichtenstein and Jensen (2016) stated that exercise dependence in CrossFit is higher in males than females. Additionally, Cicioglu et al. (2019) studied exercise dependence in elite athletes and students in sports sciences, and their findings revealed that males scored higher on exercise dependence compared to females, which is compatible with the findings in our study. That is, the exercise addiction scores of male participants in the present study were higher than females' scores. One of the possible explanation for this difference could be

how society evaluate individuals. In adolescent males, it was found that social comparison positively influenced their exercise behavior. In other words, the way someone looks and how they will be evaluated was found to be related to exercise behavior in adolescent males (Goodwin et al., 2011).

Regarding anxiety, women had higher scores compared to men counterparts. It is well established that women are more prone to anxiety and its different forms (e.g., panic disorder, generalized anxiety disorder, specific phobia). It has been suggested that many biological (e.g., hormones), psychological (e.g., coping style), and environmental factors (e.g., gender stereotypes, life experiences, family) may play a role on increased levels of anxiety (Altemus, 2014). In addition, it has been generally assumed that women are more likely to be emotional and have feelings of guilt and shame compared to men (Else-Quest et al., 2012). The meta-analysis done by Else-Quest et al. (2012) showed that gender may influence the way we experience our emotions. Accordingly, their findings also showed that women come in contact with more guilt and shame (Else-Quest et al., 2012).

4.2 Discussion for the Main Hypotheses

In this study, individuals with excessive exercise behavior were examined in terms of their self-discrepancies and self-conscious emotions. All three hypotheses were significant, suggesting that self-discrepancies lead to either depression or anxiety through shame-proneness. Although the original hypothesis involved the self-conscious emotion of guilt-proneness as a mediator between self-discrepancies and depression or anxiety, the internal coefficient of the guilt-proneness subscale was found to be very low, so it was decided not to be included in the analyses. The first hypothesis demonstrated that individuals with high ideal self-discrepancy were likely to have lower shame-proneness

scores, which in turn resulted in decreased depression. Even though in the mediation model, ideal self-discrepancy eventually leads to depression, a negative correlation was found between ideal self-discrepancy with both depression and anxiety for individuals with excessive exercise behavior. This finding is the opposite of Higgins' (1987) theory. These surprising findings might be explained by some reasons. First, the negative association between ideal self-discrepancy and depression or anxiety might be explained by differences in the self-regulatory significance of the self-discrepancies (Higgins, 1999). Based on the Theory of Self-Discrepancy (Higgins, 1999), the self-regulatory significance includes four conditions that are the magnitude, the accessibility, the applicability and relevance, and the importance of self-discrepancy to the individual, and those dimensions may influence the link between self-discrepancies and feeling states. In the context of this study, the depression and anxiety scores of the participants can be accepted as low; therefore, it might be suggested not having enough psychopathology (magnitude) for a significant result in a positive direction. Secondly, the demographic form included questions related to individuals' exercise duration, type, and behavior. This could have primed them in such a way to think only in terms of their sports-related part of selves when they were answering questions. For instance, many participants used adjectives relating to exercise (e.g., having a nice body, being powerful, being healthy, being agile) they were asked to write five adjectives to describe their ideal selves in the first part of the scale assessing self-discrepancies (i.e., ISDI). Thus, many participants might not consider their selves as a whole unit, which may create a group of answers reflecting limited representations of ideal-self. It means that maybe their overall personality characteristics were not readily available to them. These surveys assume that

people know themselves quite well. However, some parts of their personality could not have been easy to be remembered. Similarly, if something is not retrieved, it may also mean that it is not relevant or important. Higgins states, 'It is not enough to have an available self-discrepancy. To influence emotions, the self-discrepancy must be activated' (Higgins, 1999). This might imply that the order of the questions or sample characteristics was not stimulated enough to have the hypothesized effect. Besides, our sample may not be experiencing the ideal self-discrepancy as a negative construct due to the nature of the sample itself. Since exercise is a goal-based issue, participants may have assumed that the ideal self is something to be achieved; thus, they might not consider having an ideal-self representation far from the existing one as a negative thing. They may assume the ideal-self is an aim that can be reached eventually, rather than a destructive gap resulting in a negative state. Similarly, in their study, Hausenblas & Symons Downs (2002b) found that exercise-dependent individuals conveyed more self-efficacy to exercise. What this means is that they always found a way to exercise in the face of adversity, such as bad weather, soreness, and uneasiness. This once again may indicate that the adjectives participants used relate mostly to their exercise behavior and since they find themselves competent in that area, they might generalize it to their whole self. Furthermore, Hausenblas and Symons Downs (2002a) hypothesized that trait anxiety and mood instabilities relate to exercise dependence, however, it is difficult to be evidenced. Authors suggested that exercise addicts feel moodier and more anxious may be seen in times when they cannot exercise, which is known as the withdrawal period.

The second and third hypotheses examined undesired self-conscious emotions' role in depression and anxiety, with the mediator role of shame-proneness. In the present

study, the findings were in line with the literature, implying that undesired self-discrepancy is closely related to self-conscious emotions and emotional well-being (Ogilvie, 1987). Our results revealed that undesired self-discrepancy predicted depression through shame-proneness in individuals with excessive exercise behavior. It means that individuals with higher levels of undesired self-discrepancy were likely to experience higher levels of shame-proneness, resulting in increased levels of depression. Being close to one's undesired self has been well known to cause some level of psychopathology and negative emotions, sometimes more than the ideal and the ought selves (Carver et al., 1999; Heppen & Ogilvie, 2003). Recent research demonstrated that undesired self-discrepancy is a superior agent in terms of predicting psychopathology (Philips, Silvia & Paradise, 2007). Ogilvie (1987) theorized that individuals do not aim for their ideal self, but rather try to be distant from their undesired self. Sometimes that goal can be too hard to reach and consequently motivates the individual to be far from what they do not like. This finding was found in different cultures, such as the west and the east, demonstrating how the undesired self can influence a variety of populations. In western cultures, undesired self-discrepancy did indeed relate to depression. Carver et al., (1999) and Cheung (1997) found that depression was more related to undesired self-discrepancy than ideal self-discrepancy. Ogilvie (1987) also states that the ideal self consists of images of ideas of the individual when they were good, with the hypothetical idea of perfect parents and culturally acceptable values. On the other hand, the undesired self is more tangible, because instead of internalized images, it contains actual incidents in which the individual experienced negative emotions. In this way, the undesired self seems to be a

better predictor of life satisfaction than the ideal self, because it is more factual and based on real-life (Ogilvie, 1987).

However, the findings of the present study also showed that undesired self-discrepancy predicted anxiety only through shame-proneness. It was found that individuals with increased levels of undesired self-discrepancy might experience anxiety only if they had feelings of shame. This could be explained by participants' evaluation of their self, because shame is a negative assessment of the self that values moral rules (Tangney & Dearing, 2002). A study investigated the relevance of self-conscious emotions, personality, and anxiety disorders (Muris et al., 2017). Results show that the self-conscious emotion of shame is exclusively correlated with anxiety disorders. Authors state that shame has an obvious part in the development of anxiety pathology as well as depression, another established psychopathology connected to shame (Muris et al., 2017).

Ultimately, the self is differently experienced and represented in each individual. One does not necessarily need to have one representation but can have many representations of the self. An increasing number of studies have demonstrated that the discrepancies between selves are correspondent to specific emotional states, thus leading to psychological vulnerabilities. These specific emotional states or emotions and how they came to being can be very individually specific. In the present study, both the correlation analyses and the mediation analysis demonstrated that undesired self-discrepancy was exclusively linked with both depression and anxiety. This is in line with the literature in that undesired self-discrepancy is more related to negative states (Cheung et al., 1997; Heppen & Ogilvie, 2003; Ogilvie, 1987).

4.3 Limitations and Recommendations

The present study has some strengths and limitations. In terms of strengths, to our knowledge, this is the only paper examining self-discrepancy, self-conscious emotions, depression, and, anxiety within the concept of exercise addiction. Additionally, female-male ratio was very close and they participated in various exercise types. However, it should be kept in mind the importance of testing exercise with different measures such as VO2 max tests (oxygen consumption levels during exercise) and accelerometers to determine the most consistent and accurate levels of exercise behavior in the field of exercise research (Hausenblas & Symons Downs, 2002b, 2002c). The reason for this suggestion is that self-report may not accurately show the true intensity and nature of the participants' exercise behavior. Moreover, in the present study other behavioral or chemical addictions were not examined. However, it can be suggested that future research may include questions about other behavioral tendencies since comorbid issues may change the beliefs about selves and the experience of emotions. In addition, the data was collected in the period of the COVID-19 pandemic. In that period, Turkey had roughly 900-4000 COVID-19 cases daily, with no outside restrictions (T.C. Sağlık Bakanlığı, 2022). However, the possible influence of COVID-19 might be taken into account to explain the study results.

Lastly, the internal reliability score of guilt-proneness was found to be very low and thus not included in the analyses. This could have several reasons. Turkey is mostly a collective culture and although shame and guilt differ from another, that may not be the case in this culture (Dost & Yağmurlu 2006). Maybe they are not distinguished from one

another. Guilt can be adaptive because of the compensating actions it requires from the individual. Guilt is usually felt when some kind of damage is done to an appreciated person or situation. To heal or make up for the damage, certain corrections can be made (Tangney & Dearing, 2002). The role of different cultures plays a major role in terms of how the emotion is being experienced or elicited. Tangney & Dearing, (2002) state that shame and guilt change depending on family systems and child-rearing practices. These self-conscious emotions are influenced by socialization practices, early experiences, the emotional state of the parents, and the general well-being of the family. Benedict (1946) stated that Japanese culture is a 'shame culture' and U.S culture is 'guilt culture'. This is a generalization, nevertheless, shame can play a bigger role in collectivistic cultures, and guilt can be more emphasized in individualistic cultures because individualistic cultures can associate shame with guilt (Tangney & Dearing, 2002). Even though both emotions require a negative appraisal of the self, guilt is action-specific and shame is usually generalized into the whole being (Tracy & Robin, 2004).

Averill et al. (2002) studied the relationship between shame, guilt, anxiety, and depression in a psychiatric sample. The results of this study have confirmed previous research that shame-proneness has a relationship with a variety of psychopathologies however, guilt-proneness has not been found related to psychopathology. They also used TOSCA and found similar findings as the present study. Authors explain the unrelatedness of guilt to psychopathology in terms of the definition of guilt and its assessment (Averill et al., 2002). There is no universally accepted definition of guilt and since it has corrective actions, it is thought to be less damaging than shame (Tangney & Dearing, 2002). The authors also highlight the nature of the scenario-based questions,

which may not be relatable to everyone (Averill et al., 2002). Similarly, Rüsç et al. (2007) have indicated that anxiety, depression, experiential avoidance, correlated with shame-proneness more positively than guilt-proneness among non-diagnosed women. Like the present study, TOSCA-3's guilt-proneness scale had a noticeably poorer internal consistency (0.57) than shame-proneness scale (Rüsç et al., 2007). The authors explain this by cultural differences since the study took place in Germany and Switzerland (Rüsç et al., 2007).

4.4 Clinical Implications

Each behavior addiction is very specific and depends on the context, the diagnostic approach is undermining the psychological processes (Billieux et al., 2015). For example, gambling disorder is the only official behavioral addiction on the DSM-5-TR, (APA, 2022) Thus, keeping in mind the existing and upcoming research, it is essential for experts who treat individuals with other addictions or any psychotherapy to reflect the risk that exercise behavior may turn into an addiction. Clients receiving psychotherapy may use exercise as a form of emotion regulation (Meyer, Taranis, Goodwin, & Haycraft, 2011). Being aware of the stages of exercise addiction will help clinicians evaluate whether exercise is a leisure activity or becoming a risky behavior. Consideration of client history, as well as addiction criteria, is essential for clinicians recommending exercise to their clients. At the end of the day, the scale used in this study is mainly aimed at identifying which participants tend exercise dependence. Participants that are identified as a dependent should be considered in a different light, such that intensive evaluation and examination are required to conclude that the individual is indeed dependent (Hausenblas & Symons Downs, 2002b). On this note, other concealed

elements could contribute to exercise behavior. A thorough clinical story of the individual should always be taken into account (Colledge et al, 2020a).

It is usually thought that exercise addiction develops as a way of handling negative feeling states. Though the mechanism is not entirely clear, exercise does indeed help people better (Colledge et al, 2020b). Egorov and Szabo (2013) proposed the interactional model that emphasizes the contact between individual, social, motivational, and situational factors. A potential combination of them can determine whether one will turn to exercise for coping. It has been argued by those authors that the potentialities between individual and situational dynamics are so enormous that this phenomenon resembles a black box and it can only be made aware by professionals after diagnosis. As stated in the introduction part, exercise addiction has a slightly different nature from other behavioral and chemical addictions in that exercise demands prolonged energy, endurance, and stamina (Rendi et al., 2007). However, not all individuals with exercise addiction may only use physicality to deal with novelty, rather they may try new forms of escape behaviors and these behaviors can be influenced by beliefs, emotions, and thought processes (Egorov & Szabo, 2013). As an example, authors argued that experience with alcohol, tobacco, or leisure drugs in combination with extended exercise history and constructive beliefs about exercise (e.g., the effects of media, community, well-being) all cooperate with distinctive individual aspects through dealing with adversity (Egorov & Szabo, 2013). According to this model, an exerciser is more likely to decide on exercise for coping, because the expectation is greater from exercise, so the chances of turning to other forms of addictions are unlikely (Egorov & Szabo, 2013). However, psychopathology can look different in everyone and clinicians should be careful to detect

the individuals' way of expressing emotions. For instance, the relationship between exercise dependence, eating disorders, and body perception should always be considered thoroughly. It has been long established that eating disorders and exercise addiction have a connection and there are some shared dynamics between the two, such as maladaptive perfectionism (Costa et al., 2016). Authors state that maladaptive perfectionists have the potential to focus on a strict regime and an exercise routine, stressing that body image is vital for this addiction process, supporting the connection between eating pathology and exercise dependence (Costa et al., 2016). Additionally, depression and anxiety should always be kept in mind in regards to body perception and eating disorders. Generally, people who work out seem to be more dissatisfied with their bodies compared to less active individuals (Corazza et al., 2019). Although there are many reasons to work out, some of these motivations could include physical reasons such as, being leaner, fitter, and having a more muscular look (Hausenblas et al., 2004). Society usually influences our aesthetic-ideal figure, however, not without consequences. Chasing the ideal body to be appreciated by whoever can create pressure as well as intention to modify it via supplements (Hausenblas et al., 2004). Some individuals may use steroids not for performance reasons but body ideals (Hausenblas et al., 2004).

Different researchers have various interpretations about the development and sustainability of exercise addiction. It has been suggested that emotional mechanisms underlying exercise addiction could be related to psychopathology. However, in this study, participants demonstrated low depression and anxiety. At this point, other factors should be kept in mind, such as different socio-cultural factors and personal gains from exercise. Lichtenstein and Jensen (2016) studied exercise addiction in the Crossfit

community and observed that the community and exercising together is key to the success of the sport. Being part of a group, posting the workout, or social bonds on social media are assumed to influence, motivate and 'push' people to workout. The mottos they use, such as, 'strong is the new skinny and 'sweat is your fat crying' can have different implications. This can put pressure on the individual and cause physical injuries (Lichtenstein and Jensen, 2016). However, the support from the community and socialization may feel good over time and progressively increase their involvement in exercise. After all, exercise has known health benefits and sports are appreciated by the majority of people (Meyer, 2021). People may see their time exercising as a positive break from life. Accordingly, the environment around us is connected to our physical activity levels, suggesting that the convenience of parks or gyms can influence obesity (Dangardt, 2013). Similarly, the presence of a community and a source of motivation can also influence their exercise behavior, pushing and exercising even though rest could be beneficial. Therefore, professionals that suggest exercise as an emotion regulation strategy should always keep in mind where and how the client will exercise.

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Appendix A: Informed Consent

Bilgilendirilmiş Onam Formu

Sayın Katılımcı;

Bu çalışma Yeditepe Üniversitesi Psikoloji bölümünde görev yapmakta olan Dr. Öğr. Üyesi Merve Denizci Nazlıgöl danışmanlığında Klinik Psikoloji Yüksek Lisans Programı öğrencisi İlayda MUTLU tarafından tez çalışması kapsamında yürütülmektedir. Bu çalışmanın amacı; egzersiz davranışları ile kişilerin kendileri hakkındaki duygu ve düşünceleri arasındaki ilişkileri daha yakından incelemektir. Bu amaçla, yaklaşık 10 dakika süren anketimizi doldurmanız beklenmektedir.

Bu çalışma kapsamında vereceğiniz tüm bilgiler tamamen gizli kalacaktır. Çalışmaya katılımınızın anonim olması beklenmekte ve sizden isim-soyisim bilgiler istenmemektedir. Çalışmanın objektif olması ve elde edilecek sonuçların güvenilirliği bakımından anket sorularını duygu ve düşüncelerinizi yansıtacak şekilde içtenlikle yanıtlamanız önemlidir.

Çalışmaya katılım tamamıyla gönüllülük esasına dayanmaktadır. Katılım sırasında herhangi bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı istediğiniz anda bırakmakta serbestsiniz. Ancak yarım bırakılan anketler değerlendirmeye alınamamaktadır. Bu sebeple, anketin tamamını doldurmanız araştırma için büyük önem taşımaktadır. Verdiğiniz bilgileri sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır.

Eğer araştırmanın amacı ile ilgili verilen bu bilgiler dışında daha fazla bilgiye edinmek İlayda Mutlu ile iletişim kurabilirsiniz. Yukarıda yer alan bilgileri okudum ve katılmam

istenen alışmanın amacını ve gerekliliklerini anladım. alışmaya gönüllü olarak katılmayı kabul ediyorum.

(Cümle sonundaki kutucuk işaretlendikten sonra anket formu sayfası açılacaktır)



Appendix B: Demographic Information Form

Demografik Bilgi Formu

- Yaşınız : _____
- Cinsiyetiniz : ☐ Kadın ☐ Erkek ☐ Diğer
- Eğitim durumunuz : ☐ Okuryazarım.
☐ Lise mezunuyum.
☐ Üniversite öğrencisiyim.
☐ Üniversite mezunuyum.
☐ Lisansüstü öğrencisiyim.
☐ Lisansüstü mezunuyum.
☐ Diğer (Lütfen belirtiniz): _____
- Çalışıyor musunuz? : ☐ Tam zamanlı çalışıyorum.
(Birden fazla seçeneği ☐ Yarı zamanlı çalışıyorum.
işaretleyebilirsiniz) ☐ Çalışmıyorum.
- Mesleğiniz : _____
- İlişki durumunuz : ☐ Romantik ilişkim var.

☐ Romantik ilişkim yok.

- Herhangi bir psikolojik/psikiyatrik bir tanı aldınız mı?

☐ Evet

☐ Hayır

- Cevabınız Evet ise aldığınız tanı ya da tanıları lütfen belirtiniz.

- Herhangi bir psikiyatrik ilaç kullanıyor musunuz?

☐ Evet

☐ Hayır

- Cevabınız Evet ise ilacın ismini belirtiniz.

Egzersiz:

- Lütfen ne zamandan beri spor/egzersiz yaptığınızı belirtiniz:

☐ 6 aydan az

☐ 6 ay- 1 yıl arası

☐ 1 - 3 yıl arası

☐ 3 - 5 yıl arası

☐ 5 yıldan fazla

- Lütfen size uygun olan seçeneği işaretleyiniz:

☐ Doğa sporları ile ilgileniyorum.

- ☐ Salon sporları ile ilgileniyorum.
- ☐ Hem doğa hem salon sporları ile ilgileniyorum.

- Lütfen size uygun grubu işaretleyiniz.

- ☐ Profesyonel sporcuyum (Düzenli olarak aylık maaş alan)
- ☐ Kendi zevklerim için spor/egzersiz yapıyorum
- ☐ Kilo ve sağlıksal nedenlerden dolayı egzersiz yapıyorum
- ☐ Diğer (Belirtiniz): _____

- Son 3 ayı göz önünde bulundurarak, haftada kaç GÜN spor/egzersiz yaptığınızı belirtiniz: _____ gün

- Son 3 ayı göz önünde bulundurarak, günde ortalama kaç SAAT egzersiz yaptığınızı belirtiniz. _____ saat

- En sık yaptığınız sporların/egzersizlerin hangi türde olduğunu belirtiniz:

- ☐ Fitness/Vücut geliştirme
- ☐ Koşu
- ☐ Crossfit
- ☐ Basketbol
- ☐ Voleybol
- ☐ Yüzme
- ☐ Dövüş Sporları

- ☐ Bisiklet
- ☐ Pilates vb.
- ☐ Yoga
- ☐ Diğer (Belirtiniz): _____

- Lütfen spor/egzersiz yapmanıza etki ettiğini düşündüğünüz ve sizin için önemli olan faktörü işaretleyiniz.

- ☐ Başarı /İlerleme gösterme
- ☐ Kilo kontrolümü sağlama / Zayıflama
- ☐ Sağlıklı yaşam
- ☐ Sosyalleşme/ Eğlence
- ☐ Olumsuz duygulardan uzaklaşma
- ☐ Keşfetme/Yeni şeyler bulma
- ☐ Diğer (Belirtiniz): _____

Appendix C: Integrated Self-Discrepancy Index (ISDI)

Bütünleşik Benlik Farklılıkları Endeksi (ISDI)

Bir sonraki sayfada size uygun olduğunu düşündüğünüz bazı özellikleri sıralamanız istenecektir. Üç farklı benlik için ayrı listeler yapmanız gerekmektedir.

- **İdeal benlik:** İdeal olarak sahip olmak istediğiniz özelliklerdir. Sahip olmak istediğiniz, dilediğiniz, umut ettiğiniz kişilik özellikleri ideal benliğinizi oluşturur.
- **Zaruri benlik:** Sahip olmanız gerektiğini düşündüğünüz özelliklerdir. Görev, zorunluluk, sorumluluk ya da ahlaki olarak sahip olmanız gerektiğini düşündüğünüz özellikler zaruri benliğinizi oluşturur.
- **İstenmeyen benlik:** Sahip olmak istemediğiniz özellikler istenmeyen benliğinizi oluşturur.

İdeal benlik ve Zaruri benlik arasındaki fark: Örneğin, bir kişi bir gün zengin olmayı arzuluyor, umut ediyorsa, bu kendisi için ulaşmak istediği bir hedeftir. Yani zengin olmak bu kişinin ‘İdeal benliği’ne ait bir özelliktir. Fakat kişi kendisini görev ve sorumluluk olarak zengin olmak zorunda hissediyorsa, zengin olmak ‘Zaruri benliği’ne ait bir özelliktir denebilir.

Her bir liste için, sıralamanız gereken özellikleri dikkatlice düşününüz. Özellikleri sıralarken, dilediğiniz kelimeleri kullanabilirsiniz.

Lütfen İdeal olarak sahip olmak istediğiniz, sahip olmayı dilediğiniz, umut ettiğiniz özellikleri sıralayınız.

☐	İdeal benlik 1: _____
☐	İdeal benlik 2: _____
☐	İdeal benlik 3: _____
☐	İdeal benlik 4: _____
☐	İdeal benlik 5: _____

Lütfen görev, zorunluluk, sorumluluk ya da ahlaki olarak sahip olmanız gerektiğini (zorunlu olduğunu) düşündüğünüz özellikleri sıralayınız.

☐	Zaruri benlik 1: _____
☐	Zaruri benlik 2: _____
☐	Zaruri benlik 3: _____
☐	Zaruri benlik 4: _____
☐	Zaruri benlik 5: _____

Lütfen sahip olmak istemediğiniz ya da sahip olmaktan korktuğunuz özellikleri sıralayınız.

☐	İstenmeyen benlik 1: _____
☐	İstenmeyen benlik 2: _____
☐	İstenmeyen benlik 3: _____
☐	İstenmeyen benlik 4: _____
☐	

İstenmeyen benlik 5: _____

Yönerge: Şimdiye dek üç farklı benlik türünde beşer adet kişilik özelliği listelemiş olmanız gerekmektedir. Eğer bir önceki sayfadaki her bir benlik türünde beşer adet (toplamda 15 adet) özellik yazamadıysanız lütfen aşağıda listelenmiş kelimelere bakınız ve size uygun olabilecek özellikleri seçerek listenizi tamamlayınız. Ayrıca, eğer kendi yazmış olduğunuz özelliklerdense aşağıda listelenmiş olanlardan herhangi birinin size daha uygun olduğunu düşünüyorsanız, daha önce yazmış olduğunuz özelliğin üzerini çizerek yeni seçtiğiniz kelimeyi yazarak değiştirebilirsiniz. Kendinizi bu listede yer alan özelliklerle sınırlandırmanız gerekmemektedir. Eğer liste aklınıza başka özellikler getirdiyse, onları yazmakta serbestsiniz. Listenizi tamamladıktan sonra, anketi doldurmaya devam edebilirsiniz.

Agresif	Huysuz	Yardımsever	Ahlaklı	Duyarlı
Hırslı	Sağduyulu	Komik	Evhamlı	Duygusal
Cana yakın	Ayrımcı	Taklitçi	Kayıtsız	Gözü açık
Kadirşinas	Saygısız	Kusurlu	Kendine güveni olmayan	Utangaç
Artistik	Otoriter	Özgür	Normal	Enerjik
Çekingen	Hevesli	Marifetli	İtaatkâr	Kindar

Patronluk taslayan	Ağırbaşlı	Yaratıcı	Nazik	Hassas
Dahi	Yeterli	İyi kalpli	İnatçı	Hoşgörülü
Tedbirli	Egoist	Tembel	Açık görüşlü	Zorlu
Çocuksu	Eğlenceli	Mantıklı	Kendine aşırı güvenen	Baş belası
Aklı başında	Kıskanç	Dengeli	Sezgileri kuvvetli	Güvenilir
Budala	Etik	Yalnız	Karamsar	Kültürsüz
Takıntılı	Hayat dolu	Geveze	Önemsiz	Kaba
Kibirli	Modaya uyan	Cimri	Felsefi	Nezaketsiz
Uyumlu	Gözü kara	İşgüzar	Sevimli	Öngörülemez
Soğukkanlı	Etkileyici	Uysal	Atik	Güvenilmez
İçten	Aklı havada	Dağınık	Radikal	Fedakâr
Kültürlü	Hassas	Sistemli	Akıllı	Sıradan
Kurnaz	Dedikoducu	İlmli	Saf	Yalancı
Meraklı	Kolay aldanan	Modern	Entrikacı	Bilge
Hilekâr	Duyarsız	Mütevazı	Küçümseyen	Zeki

Toplamda 15 adet özelliği tamamladıysanız, bir sonraki sayfaya geçiniz.

Yönerge: Şimdi ise sayfa 13'teki doldurmuş olduğunuz özelliklerin yanındaki kutucukları doldurmanız istenecektir. Şu an, gerçekte sahip olduğunuz özellikler ile listelemiş olduğunuz özelliklerin ne kadar uyumlu olduğunu puanlamanız istenmektedir.

Puanlamayı yaparken aşağıdaki ölçeği göz önünde bulundurunuz ve her bir özelliğin size ne kadar uygun olduğunu düşünerek yanına uygun rakamı yazınız.

Bana hiç uymuyor	Bana çok az uyuyor	Bana bir miktar uyuyor	Bana oldukça uyuyor	Bana tamamen uyuyor
1	2	3	4	5

Appendix D: Test of Self-Conscious Affect-3 (TOSCA-3)

Moral Duygulanım Testi

Aşağıda insanların günlük yaşamlarında karşılaşmaları mümkün olaylar ve bu olaylara verilen yaygın bazı tepkiler vardır.

Her senaryoyu okurken, kendinizi o durumda hayal etmeye çalışın. Sonra, tanımlanan her durumda tepki verme olasılığınızı belirtin. Sizden bütün cevapları değerlendirmenizi istiyoruz, çünkü insanlar aynı duruma karşı birden fazla şey hissedebilir veya birden fazla tepki gösterebilir, ya da farklı zamanlarda farklı şekillerde tepki gösterebilirler.

Örnek: Bir cumartesi sabahı erkenden uyandınız. Dışarıda hava soğuk ve yağmurlu.					
	Mümkün Değil	Çok Mümkün			
a) Havadisleri almak için bir arkadaşınıza telefon ederdingiz.	1	2	3	4	5
b) Gazete okumak için fazladan zaman harcardınız.	1	2	3	4	5
c) Hava yağmurlu olduğu için hayal kırıklığı hissederdiniz.	1	2	3	4	5
d) Neden bu kadar erken kalktığınızı merak ederdingiz.	1	2	3	4	5

Yukardaki örnekte, bütün cevapları, bir sayıyı yuvarlak içine alarak değerlendirdim. (a) cevabı için “1”i yuvarlak içine aldım çünkü bir cumartesi sabahı arkadaşımı çok erken uyandırmak istemezdim. Bu yüzden, bunu yapma olasılığım pek mümkün değil. (b) cevabı için “5”i yuvarlak içine aldım, çünkü eğer sabah zaman varsa nerdeyse her zaman gazete okurum (çok mümkün). (c) cevabı için “3”ü yuvarlak içine aldım, çünkü benim için bu cevap, yarı yarıya bir olasılık. Bazen yağmurla ilgili hayalkırıklığı hissederdim, bazen hissetmezdim; bu, planladığım şeye bağlı olurdu. Ve (d) cevabı için “4”ü yuvarlak içine aldım, çünkü büyük olasılıkla neden bu kadar erken kalktığımı merak ederdim.

Lütfen hiçbir maddeyi atlamayın, bütün cevapları değerlendirin.

1) Bir arkadaşınızla öğle yemeğinde buluşmak için plan yapıyorsunuz. Saat 5’te, onu beklediğinizi farkediyorsunuz.					
	Mümkün Değil Çok Mümkün				
a) “Düşüncesizim” diye düşünürdünüz.	1	2	3	4	5
b) “Beni anlayacaktır.” diye düşünürdünüz.	1	2	3	4	5
c) Bu durumu olabildiğince onun üzerine yıkmanız gerektiğini düşünürdünüz.	1	2	3	4	5
d) “Patronum öğle yemeğinden az önce beni	1	2	3	4	5

meşgul etti” diye düşünürdünüz.					
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2) İşyerinde birşey kırıyorsunuz ve sonra onu saklıyorsunuz.					
Mümkün Değil Çok Mümkün					
“Bu beni tedirgin ediyor. Onu ya kendim tamir etmeliyim ya da birine tamir ettirmeliyim” diye düşünürdünüz.	1	2	3	4	5
İşi bırakmayı düşünürdünüz.	1	2	3	4	5
“Bugünlerde birçok şey iyi yapılmıyor” diye düşünürdünüz.	1	2	3	4	5
“Bu sadece bir kazaydı.” diye düşünürdünüz.	1	2	3	4	5

3) Bir akşam arkadaşlarınızla dışardasınız ve kendinizi özellikle espirili ve çekici hissediyorsunuz. En iyi arkadaşınızın eşi, bilhassa sizin olmanızdan çok hoşlanıyor gibi görünüyor.					
Mümkün Değil Çok Mümkün					
a) “En iyi arkadaşımın ne hissettiğinin farkında olmalıyım” diye düşünürdünüz.	1	2	3	4	5
b) Görünümünüz ve kişiliğinizle ilgili kendinizi mutlu hissederdiniz.	1	2	3	4	5
c) Böyle iyi bir izlenim bıraktığınızdan	1	2	3	4	5

dolayı memnuniyet hissederdiniz.					
d) En iyi arkadaşınızın eşine dikkat etmesi gerektiğini düşünürdünüz.	1	2	3	4	5
e) Muhtemelen uzun süre göz temasından kaçınırdınız.	1	2	3	4	5

4) (İşyerinde) bir projeyi planlamak için son dakikaya kadar bekliyorsunuz ve kötü sonuçlanıyor.					
Mümkün Değil			Çok Mümkün		
a) Kendinizi yetersiz hissederdiniz.	1	2	3	4	5
b) “Gün içinde asla yeterli zaman yok” diye düşünürdünüz.	1	2	3	4	5
c) “Projeyi kötü yönettiğim için kınanmayı hak ediyorum.” diye hissederdiniz	1	2	3	4	5
d) “Yapılmış yapılmıştır.” diye düşünürsünüz.	1	2	3	4	5

5) (İşyerinde) bir hata yapıyorsunuz ve bu hatadan dolayı bir (iş) arkadaşınızın suçlandığını öğreniyorsunuz.

Mümkün Değil Çok Mümkün					
a) Firmanın (iş) arkadaşınızdan hoşlanmadığını düşünürdünüz.	1	2	3	4	5
b) “Hayat adil değil” diye düşünürdünüz.	1	2	3	4	5
c) Sessiz kalırdınız ve o (iş) arkadaşınızdan kaçınırdınız.	1	2	3	4	5
d) Mutsuz hisseder ve durumu düzeltmeye gayret ederdiniz.	1	2	3	4	5

6) Birkaç gündür zor bir telefon görüşmesini erteliyorsunuz. Son dakikada, görüşmeyi yapıyorsunuz ve konuşmayı yönlendirebildiğiniz için herşey iyi gidiyor.					
Mümkün Değil Çok Mümkün					
a) “Sanırım düşündüğümde daha ikna ediciyim” diye düşünürdünüz.	1	2	3	4	5
b) Bu konuşmayı ertelediğinize pişman olurdunuz.	1	2	3	4	5
c) Kendinizi bir korkak gibi hissederdiniz.	1	2	3	4	5
d) "İyi iş çıkardım" diye düşünürdünüz.	1	2	3	4	5
e) Baskı hissettiğiniz telefon konuşmalarını yapmamanız	1	2	3	4	5

gerektiğini düşünürdünüz.					
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7) Oyun oynarken, bir top atıyorsunuz ve arkadaşınızın suratına çarpıyor.					
Mümkün Değil Çok Mümkün					
a) Bir topu bile atamadığınız için kendinizi yetersiz hissederdiniz.	1	2	3	4	5
b) Arkadaşınızın belki de top yakalama konusunda daha fazla pratiğe ihtiyacı olduğunu düşünürdünüz.	1	2	3	4	5
c) “Bu sadece bir kazaydı.” diye düşünürdünüz.	1	2	3	4	5
d) Özür dilerdiniz ve arkadaşınızın daha iyi hissettiğinden emin olurdunuz.	1	2	3	4	5

8) Ailenizin yanından yeni taşındınız ve herkes çok yardımcı oldu. Birkaç kere borç para almaya ihtiyacınız oldu, fakat en kısa sürede geri ödediniz.					
Mümkün Değil Çok Mümkün					
a) Olgunlaşamamış hissederdiniz.	1	2	3	4	5

b) “Kesinlikle şansım kötü gitti.” diye düşünürdünüz.	1	2	3	4	5
c) Olabildiğince çabuk iyiliğin karşılığını verirdiniz.	1	2	3	4	5
d) “Ben güvenilir biriyim.” diye düşünürdünüz.	1	2	3	4	5
e) Borçlarınızı geri ödediğiniz için gurur duyardınız.	1	2	3	4	5

9) Yolda araba sürüyorsunuz ve küçük bir hayvana çarpıyorsunuz.					
Mümkün Değil Çok Mümkün					
a) Hayvanın yolda olmaması gerektiğini düşünürdünüz.	1	2	3	4	5
b) “Rezil biriyim.” diye düşünürdünüz.	1	2	3	4	5
c) “Bu bir kazaydı.” diye hissederdiniz.	1	2	3	4	5
d) Arabayı daha dikkatli sürmediğiniz için kötü hissederdiniz.	1	2	3	4	5

10) Bir sınavdan son derece iyi yaptığınızı düşünerek çıkıyorsunuz. Sonra, daha kötü yaptığınızı anlıyorsunuz.
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Mümkün Değil Çok Mümkün					
a) “Sadece bir sınav” diye düşünürdünüz.	1	2	3	4	5
b) “Hoca benden hoşlanmıyor.” diye düşünürdünüz	1	2	3	4	5
c) “Daha fazla çalışmalıydım.” diye düşünürdünüz.	1	2	3	4	5
d) Kendinizi aptal gibi hissederdiniz.	1	2	3	4	5

11) Siz ve bir grup (iş) arkadaşınız, bir proje üzerinde çık sıkı çalıştınız. Patronunuz proje bu kadar başarılı olduğu için sadece sizi ödüllendiriyor.					
Mümkün Değil Çok Mümkün					
a) Patronun oldukça dar görüşlü olduğunu hissederdiniz.	1	2	3	4	5
b) Kendinizi yalnız ve meslektaşlarınızdan ayrı hissederdiniz	1	2	3	4	5
c) Çok çalışmanızın karşılığını aldığınızı hissederdiniz.	1	2	3	4	5
d) Kendinizi yeterli hissederdiniz ve kendinizle gurur duyardınız	1	2	3	4	5
e) Bunu kabul etmemeniz gerektiğini hissederdiniz.	1	2	3	4	5

12) Bir grup arkadaşınızla dışardayken, orada olmayan bir arkadaşınızla dalga geçiyorsunuz.					
Mümkün Değil Çok Mümkün					
a) “Sadece eğlence içindi,zararsız birşey” diye düşünürdünüz.	1	2	3	4	5
b) Tıpkı bir fare gibi küçük hissederdiniz.	1	2	3	4	5
c) O arkadaşınızın belki de kendini savunmak için orada bulunması gerektiğini düşünürdünüz.	1	2	3	4	5
d) Özür dilerdiniz ve o kişinin iyi yönleri hakkında konuşurdunuz.	1	2	3	4	5

13) İşyerinde, önemli bir projede büyük bir hata yapıyorsunuz. Projede çalışanlar size bağlıydı ve patronunuz sizi eleştiriyor.					
Mümkün Değil Çok Mümkün					
a) Patronunuzun sizden ne beklenildiğiyle ilgili daha net olması gerektiğini düşünürdünüz.	1	2	3	4	5
b) Saklanmak istediğinizi hissederdiniz.	1	2	3	4	5
c) “Sorunu anlamalı ve daha iyi bir iş çıkarmalıydım.” diye düşünürdünüz	1	2	3	4	5
d) “Hiçkimse mükemmel değildir ki” diye düşünürdünüz.	1	2	3	4	5

14) Özürlü çocuklar için düzenlenen yerel yarışmalara yardım etmek için gönüllü oluyorsunuz. Bu iş sizi engelleyici ve çok zamanınızı alan bir işe dönüşüyor. Ciddi olarak bırakmayı düşünüyorsunuz ama sonra çocukların nasıl mutlu olduğunu görüyorsunuz.					
Mümkün Değil Çok Mümkün					
a) Bencil olduğunuzu hissederdiniz ve esasen tembel olduğunuzu düşünürdünüz	1	2	3	4	5
b)Yapmak istemediğiniz birşeye zorlandığınızı hissederdiniz.	1	2	3	4	5

c) “Daha az şanslı insanlar hakkında daha ilgili olmalıyım” diye düşünürdünüz.	1	2	3	4	5
d) Başkalarına yardım ettiğiniz için çok iyi hissederdiniz.	1	2	3	4	5
e) Kendinizden çok hoşnut olmuş hissederdiniz.	1	2	3	4	5

15) Onlar tatildeyken, arkadaşınızın köpeğine bakıyorsunuz ve köpek kaçıyor.					
Mümkün Değil Çok Mümkün					
a) “Ben sorumsuz ve yetersizim” diye düşünürdünüz.	1	2	3	4	5
b) Arkadaşınızın köpeğine çok iyi bakmadığını yoksa köpeğin kaçmayacağını düşünürdünüz.	1	2	3	4	5
c) Gelecek sefer daha dikkatli olmaya söz verirdiniz.	1	2	3	4	5
d) Arkadaşınızın yeni bir köpek alabileceğini düşünürdünüz.	1	2	3	4	5

16) (İş) arkadaşınızın evindeki "Hoşgeldin" partisine katılıyorsunuz ve yeni, krem rengi halılarına kırmızı şarap döküyorsunuz ama kimsenin farketmediğini düşünüyorsunuz.					
Mümkün Değil Çok Mümkün					
a) Arkadaşınızın böyle büyük bir partide bazı kazaların olabileceğini beklemesi gerektiğini düşünürdünüz.	1	2	3	4	5
b) Partiden sonra lekeyi temizlemeye yardım için geç vakte kadar kalırdınız.	1	2	3	4	5
c) Bu parti dışında herhangi başka bir yerde olmayı dilerdiniz.	1	2	3	4	5
d) Arkadaşınızın neden yeni, açık renkli bir halıyla kırmızı şarap ikram etmeyi uygun gördüğünü merak ederdiniz.	1	2	3	4	5

Appendix E: Depression Anxiety Stress Scale-21 (DASS-21)

Depresyon Anxiete Stress Ölçeđi

Bu ölçek kiřilerin depresyon, anksiyete ve stres belirti düzeylerini belirlemek amacıyla oluşturulmuřtur. Lütfen ařađıdaki maddeleri son 1 haftadaki durumunuza göre deđerlendirerek size uygun olan cevap seeneđini iřaretleyiniz.



SON 1 HAFTADAKİ DURUMUNUZ	Bana hiç uygun değil	Bana biraz uygun	Bana genellikle uygun	Bana tamamen uygun
1. Ağızımda kuruluk olduğunu fark ettim.	0	1	2	3
2. Soluk almada zorluk çektim (örneğin fizik egzersiz yapmadığım halde aşırı hızlı nefes alma, nefessiz kalma gibi).	0	1	2	3
3. Geçerli bir neden olmadığı halde korktuğumu hissettim.	0	1	2	3
4. Panik haline yakın olduğumu hissettim.	0	1	2	3
5. Panikleyip kendimi aptal durumuna düşüreceğim durumlar nedeniyle endişelendim.	0	1	2	3
6. Vücudumda (örneğin ellerimde) titremeler oldu.	0	1	2	3
7. Fiziksel egzersiz söz konusu olmadığı halde kalbimin hareketlerini hissettim (kalp atışlarımın hızlandığını veya düzensizleştiğini hissettim).	0	1	2	3
8. Hiç olumlu duygu yaşayamadığımı fark ettim.	0	1	2	3
9. Hiçbir beklentimin olmadığı hissine kapıldım.	0	1	2	3
10. Birey olarak değersiz olduğumu hissettim.	0	1	2	3
11. Hayatın değersiz olduğunu hissettim.	0	1	2	3
12. Kendimi perişan ve hüzünlü hissettim.	0	1	2	3
13. Hiçbir şey bende heyecan uyandırmıyordu.	0	1	2	3
14. Bir iş yapmak için gerekli olan ilk adımı atmada zorlandım.	0	1	2	3
15. Olaylara aşırı tepki vermeye meyilliyim.	0	1	2	3

16. Kendimi gevşetip salıvermek zor geldi.	0	1	2	3
17. Sinirsel enerjimi çok fazla kullandığımı hissettim.	0	1	2	3
18. Alınan olduğumu hissettim.	0	1	2	3
19. Gevşeyip rahatlamakta zorluk çektim.	0	1	2	3
20. Beni yaptığım işten alıkoyan şeylere dayanamıyordum	0	1	2	3
21. Kışkırtılmakta olduğumu hissettim.	0	1	2	3



Appendix F: Exercise Dependency Scale-21 (EDS-21)

Egzersiz Bağımlılığı Ölçeği

	Asla	Nadiren	Bazen	Genellikle	Sık sık	Her zaman
1. Huzursuzluktan sakınmak için egzersiz yaparım	1	2	3	4	5	6
2. Tekrarlayan fiziksel problemlere rağmen egzersiz yaparım	1	2	3	4	5	6
3. İstediğim etkiye/yararlara ulaşmak için sürekli olarak egzersiz şiddetimi artırırım	1	2	3	4	5	6
4. Egzersiz yapma süremi azaltamıyorum	1	2	3	4	5	6
5. Aile ya da arkadaşlarımla zaman geçirmek yerine egzersiz yaparım	1	2	3	4	5	6
6. Egzersiz yapmak için çok fazla zaman harcarım	1	2	3	4	5	6
7. Yapmayı düşündüğümde çok daha uzun süre egzersiz yaparım	1	2	3	4	5	6
8. Endişeli hissetmekten sakınmak için egzersiz yaparım	1	2	3	4	5	6
9. Yaralandığımda bile egzersiz yaparım	1	2	3	4	5	6
10. İstediğim etkiye/yararlara ulaşmak için sürekli olarak egzersiz sıklığımı artırırım	1	2	3	4	5	6
11. Egzersiz yapma sıklığımı azaltamıyorum	1	2	3	4	5	6

12. Okul yada işime konsantre olmam gerektiğinde bile egzersiz yapmayı düşünürüm	1	2	3	4	5	6
13. Serbest zamanlarımın çoğunu egzersiz yaparak geçiriyorum	1	2	3	4	5	6
14. Umduğumdan daha uzun süre egzersiz yaparım	1	2	3	4	5	6
15. Gergin hissetmekten sakınmak için egzersiz yaparım	1	2	3	4	5	6
16. Devam eden fiziksel problemlere rağmen egzersiz yaparım	1	2	3	4	5	6
17. İstediğim etkiye/yararlara ulaşmak için sürekli olarak egzersiz süremi artırırım	1	2	3	4	5	6
18. Egzersiz şiddetimi azaltamıyorum	1	2	3	4	5	6
19. Egzersiz yapmayı seçiyorum böylelikle aile/arkadaşlarımla zaman geçirmekten kurtuluyorum	1	2	3	4	5	6
20. Zamanımın büyük bir çoğunluğu egzersiz için harcanıyor	1	2	3	4	5	6
21. Planladığımdan daha uzun egzersiz yaparım	1	2	3	4	5	6

Appendix G: Debrief From

Araştırma Sonrası Bilgilendirme Formu

Çalışmamıza katıldığınız için teşekkür ederiz. Bu araştırmanın amacı egzersiz davranışı ile benlik farklılıklarının arasındaki ilişkide öz-bilinç duygularının ve depresyonun aracı rolünü incelemektir. Katıldığınız anket ile ilgili olumsuz bir deneyiminiz varsa ya da araştırma hakkında merak ettiğiniz bir sorunuz varsa çalışmanın yürütücüsü İlayda Mutlu ile iletişime geçebilirsiniz.

