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EXAMINING THE EFFECTS OF VIDEO GAME CHARACTER DESIGN
ON SELF-DISCREPANCIES AND ANXIETY

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*To those who are brave enough to step into the unknown—
may your curiosity continue to lead you toward unexpected discoveries.*

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ÖZET

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Bu çalışma, benlik tutarsızlıklarının durumluk kaygı üzerindeki etkilerini ve oyun karakteri tasarımının bu ilişkideki rolü incelemektedir. 94 katılımcı (18-26 yaş) Baldur's Gate 3 oyununda bir karakter tasarlayan bir deney grubu ve Sudoku oynayan bir kontrol grubu olmak üzere rastgele iki gruba ayrılmıştır. Durumluk ve Sürekli Kaygı Envanteri kullanılarak ön ve son durumluk kaygı ölçülmüş, benlik farklılıkları ise Bütünleşik Benlik Farklılıkları Endeksi kullanılarak ölçülmüştür. Sonuçlar, karakter tasarlayan deney grubunun durumluk kaygısında önemli bir azalma olduğunu, kontrol grubunda ise böyle bir değişiklik olmadığını göstermiştir. Regresyon analizleri, deney grubundaki yüksek gerçek-olması gereken benlik tutarsızlığına sahip katılımcıların daha fazla kaygı azalması yaşadığını göstermiştir. Bu durum, karakter tasarım sürecinin benlik tutarsızlıklarını düzenleyerek durumluk kaygı üzerinde olumlu etkileri olabileceğini düşündürmektedir, ancak katılımcıların tasarladıkları karakterlerin farklı benlikleriyle benzerliğini değerlendirdikleri değişkenler üzerinde durumluk kaygı düzeylerinde anlamlı bir fark bulunmamıştır. Bulgular, karakter yaratma ve rol yapma oyunlarının terapötik müdahalelerde potansiyel olarak kullanılabileceğini göstermektedir. Çalışma, Benlik Uyuşmazlığı Kuramı ile dijital müdahale yöntemlerini birleştirerek klinik psikoloji alanına katkı sağlamaktadır. Araştırma bulguları mevcut literatür doğrultusunda tartışılmıştır.

Anahtar kelimeler: Benlik Uyuşmazlığı Kuramı, durumluk kaygı, video oyunları, karakter tasarımı, sanal terapötik müdahaleler

ABSTRACT

TUNÇOL, Aleyna Su. Examining the Effects of Video Game Character Design on Self-Discrepances and Anxiety. Başkent University, Institute of Social Sciences, Clinical Psychology Master's Program with Thesis, 2025.

This study examines the impact of self-discrepancies on state anxiety, and the role of game character design in this relationship. Ninety- four participants aged 18–26 were randomly divided into two groups: an experimental group who designed a character in the Baldur's Gate 3 game, and a control group who played Sudoku. State anxiety was measured using the State-Trait Anxiety Inventory before and after the experiment, and self-discrepancies were measured using the Integrated Index of Self-Discrepancies. The results showed that the experimental group experienced a significant decrease in state anxiety, whereas the control group did not. Regression analyses revealed that participants in the experimental group with high actual-ought self-discrepancies experienced a greater reduction in state anxiety compared the control group state whether the finding is significant. This suggests that the character design process may positively affect state anxiety by regulating self-discrepancies. However, the perceived similarity between the designed characters and participants' different self-representations did not significantly affect state anxiety levels. These results imply that character creation and role-playing games could be used in therapeutic interventions. This study contributes to clinical psychology by combining self-discrepancies theory with digital intervention methods. Research findings are discussed in line with the current literature.

Keywords: Self-Discrepancy Theory, state anxiety, video games, character design, virtual therapeutic interventions

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1. INTRODUCTION

Video games, one of the popular entertainment elements of modern culture, have increased their popularity in the last five years and are thought to have reached 700 million players worldwide. According to Statista (2020), it is estimated that there will be 3.01 players worldwide in 2023. The universal game culture is also studied in the field of psychology as it affects different people from different communities. Literature has shown that video games are not just entertainment but also have been found to provide significant benefits in different areas of the individual. Furthermore, various fields of psychology have also been examined in terms of video games. Some research suggests that playing video games can be a means of coping with the stress of the outer world and the challenges of the everyday life and, in some cases, of avoiding them (Granic et al., 2014; Melodia et al., 2021). Role-playing games are discussed in the clinical psychology literature as psychotherapy material, but also the negative effects of playing video games such as gaming addiction, are discussed in the literature. Moreover, the psychological, emotional, cognitive, and social benefits of playing video games on the person are also among the subjects investigated in the literature (Granic et al. 2014).

In role-playing games, players construct a character based on how they want that character to look, their abilities, positive and negative traits, physical and cognitive attributes (Hitchens & Drachen, 2009). As a transitional object, game characters designed by players provide a sense of control and self-representation (Tabin, 2005). One source of the distress experienced by people is the distorted beliefs about one's own self, which leads to self-discrepancy (Higgins, 1987). According to Bowman (2007), the characters designed by the players represent either the main characteristics of the person, or a suppressed or more exaggerated self. In parallel with this finding, according to the exploratory study conducted by Causo & Quinlan (2021), participants created their characters in Dungeons & Dragon, a tabletop role-playing game, according to their own ideal characteristics that resemble themselves or make them feel in inner balance. Finally, according to Blackmon's (1994) study, people who have difficulty in expressing their emotions are more comfortable in expressing their own emotions while describing the emotional states of the characters they designed. In the current study, it is thought that people will experience and be able to reflect their different selves during

the process of designing a game character, and it will be observed how anxiety changes in people according to the experience of different selves.

Earlier studies in psychology literature have shown that playing video games improves cognitive skills such as perception, attention, and decision-making processes (Reynaldo et al., 2021). In addition, a study conducted by Drew & Waters (1986) suggests that playing computer games other than general cognitive ability may affect areas such as peripheral localization or the capacity of visual attention. Cognitive psychologists working in this area also studied the relationship between video games and learning. Koepp et al. (1998) tried to understand what happens neurochemically in the brain when playing computer games and as a result of this study, the researchers observed an increase in dopamine levels during video game playing, especially in the brain areas that control reward and learning. In addition, studies have been conducted in the field of psychology on elderly people with cognitive decline. Drew and Waters (1986) have found that playing video games enhances hand-eye coordination as well as general and verbal intelligence scores.

1.1. Self-Discrepancy Theory

William James was the first researcher to state that a person has more than one and different self-concept and that this differentiation is related to self-esteem by distinguishing between the ideal and actual self. According to James (1890), if what one achieves does not match what one wants, disappointment occurs. Moreover, some psychodynamic theorists such as Adler (1912; 1928), Freud (1914; 1957), Horney (1950) and Rogers (1961) presented their observations and theories about conflicts and inconsistencies in self and related emotional effects.

According to Freud, self-observation, conscience, and the ego ideal are functions of the superego, and the ego ideal develops through the positive outcomes of approval behaviours from parents or other authority figures in one's past experiences, and these experiences become rules for the ego to measure and evaluate itself. The ego ideal tells how the person should behave. If the person behaves according to the ego ideal, he/she experiences a sense of success and pride,

by behaving contrary to the ego ideal arouses feelings of guilt and inferiority (Freud, 1914;1957).

Adler (1912; 1928) introduced the concept of the guided self-ideal. According to this, people are born with inferiority feelings, and they strive for superiority to get rid of this feeling, and each person has a personal, fictional goal or guided self-ideal to achieve the image of success (Ansbacher & Ansbacher, 1956).

While Horney says that people who are raised with caring parents will develop their real self, the real self will not be acceptable in people who have grown up with overprotective, fearful parents in childhood and the person will be alienated from his/her own self. In addition, they will have feelings of inferiority and isolation. In order to fulfil one's needs and desires, an idealised self-image such as "becoming a hero, a genius, a saint or a god" (Horney, 1950).

Finally, Rogers (1961) tried to understand the effect of the actual self, which is the self that the person is at that moment, and the ideal self as a *self-actualizing tendency*, which is the self that person would like to see in himself/herself and tried to minimize the discrepancy between these two selves and their effects on affect. According to Rogers (1959; 1961), the concept of self is associated with self-actualization and the desire to gain the approval of others in early life and the need to have a positive *self-regard*. If the gap between one's actual self and one's ideal self is widened, one feels anxious, vulnerable and one's self-esteem is lowered, whereas if the discrepancy is small, that is, if one feels more in line with one's ideal self, one is compatible and healthy (Rogers, 1959; 1961).

In 1987, Tory Higgins proposed the Self-Discrepancy Theory (SDT), which includes the effects of incompatibilities in the self on the positive and negative emotional states of the person, based on theories about the self. SDT suggests that different representations of oneself and the relationship between these representations create different emotional states in people. According to the SDT, the traits that a person really thinks they possess reflect their actual self and actual self can be considered as self-concept (Carver et al., 1999), the ideal self, that is, the traits that a person would like to have, including their hopes, desires and aspirations, and the ought self, that is, the traits that a person thinks they must possess, that is, their duties and obligations, are the standards for self-evaluation. All three selves of a person can represent both their own point of view and that of their significant others' such as mother, father, siblings, romantic partner,

friends etc. (Higgins, 1987). From this perspective, six self-representations are constructed. These are actual/own, actual/other, ideal/own, ideal/other, ought/own, and ought/other (Higgins, 1989).

Actual/own which is representations that the person believes they possess and actual/other selves which is other people's representations of one's self-concept express one's true self (Kihlstrom & Cantor, 1984). Other selves of the person are expressed as self-guides (Strauman & Higgins, 1988). People seek to establish a balance between these self-concepts and self-guides otherwise a discrepancy between the selves may lead to emotional and psychological problems such as depression and anxiety. (Higgins et al., 1986). While the discrepancy between the actual and ought self occurs when a person feels that he or she is failing and unable to fulfil the obligations and liabilities that others impose on him or her and includes feelings of guilt, worthlessness, fear, threat, and similar feelings of uneasiness, whereas the dissonance between the actual and ideal self occurs because one's dreams and hopes have not been met and includes feelings such as disappointment, sadness, and shame (Higgins, 1987; 1989). In addition to these three selves, Ogilvie (1987) proposed the concept of a fourth self, the undesired or feared self. In this study, the person's unwanted self will also be examined. Ogilvie's (1987) concept of undesired self also helped to develop the Integrated Self-Discrepancies Index (ISDI) by Hardin & Lakin's (2009) measure of self-discrepancies. The undesirable self or feared self is not the self that the person does not want to become, but as the name suggest, the self that the person is worried and afraid of becoming (Carver et al., 1999). As Ogilvie (1987) suggests, the undesired/feared self is more experience based than the ideal self.

According to SDT, people strive to reduce the discrepancy between their actual selves and their ideal or ought selves (self-guides), otherwise, this self-discrepancy is thought to cause several emotional and psychological problems (Higgins, 1987; 1989). In line with the previous theories in the literature, it has been stated that the discrepancy between one's self-concept and one's ideal self evokes depressive symptoms (James, 1890; Lewis, 1971; Rogers, 1961). In another study, depressive mood was found to be associated with high actual/ ideal discrepancy scores, and self-reported anxious mood was found to be associated with high actual/ ought dissonance scores (Higgins et al, 1985; Strauman, 1989, 1992; Strauman & Higgins, 1988).

The SDT has important implications for the study and treatment of psychopathology and anxiety more precisely (Levinson & Rodebaugh, 2013). Bridging the gap between one's actual and ideal or ought self can result in effective treatment (Strauman et al., 2006). Moreover, a significant difference was demonstrated between clinically depressed and non-depressed individuals in terms of actual/own and ideal/own discrepancies, and a significant difference was found between clinically anxious and non-clinically anxious individuals in terms of actual/own and ought/other discrepancies (Scott & O'Hara, 1993). However, some studies have also suggested that self-discrepancies cause emotional discomfort in people in general, although they cannot find a specific relationship with an emotion (Boldero & Francis, 2000; Fairbrother & Moretti, 1998; Scott & O'Hara, 1993; Tangney et al., 1998; Weigel & Hope, 1999). It has been shown that people who consulted the therapist experienced a significant conflict and discrepancy between their actual selves and ideal selves before the therapy, and with the reduction of this discrepancy during therapy, this improved the emotional state and personal satisfaction of the person during and after the therapy (Rogers & Dymond, 1954).

Finally, Higgins' (1987) SDT was chosen for this study because this theory provides a theoretical framework for explaining the emotional consequences of self-discrepancy between people's actual selves and different self-representations. An important aspect of this theory is that it relates different self-discrepancies to different emotional experiences. Furthermore, SDT has been increasingly used not only in social psychology but also in clinical psychology in recent years. In particular, SDT provides an effective perspective for understanding the relationship between internal conflicts in an individual's self-perception and psychopathology, as well as the person's overall well-being. Since the aim of this study is to understand how a game-based character creation process can regulate the internal conflicts arising from self-discrepancies, it is considered that studying SDT directly aligns with the experimental design of the current study and its potential for clinical application.

1.2. Self-Discrepancy and Psychopathology

In studies conducted by different researchers such as Higgins et al. (1986), Strauman (1989), Strauman & Higgins (1987; 1988, and Woodman & Steer (2011), several emotional consequences were found as a result of the actual/ideal and actual/ought self-discrepancies as

suggested by SDT. It is known that negative affect is a common feature in many psychopathologies, so studies in the field of self-discrepancy have gone beyond depression and anxiety and focused on different psychopathologies (Kring & Bachorowski, 1999). Experiencing self-discrepancy can lead to different negative emotions, and in this way, it is also a risk factor for the person to have a psychological disorder (Mason et al., 2019). For example, integrative cognitive affective therapy (ICAT) for bulimia nervosa (Wonderlich et al., 2015) explains that for bulimia nervosa, the person's self-discrepancy causes negative affect towards oneself, such as self-blame and self-affirmation, and explains the person's bulimic behaviours. In addition, self-assurance and positive outcomes are fostered when the gap between the ideal or ought self and the actual self is narrowed (Renaud & McConnell, 2007). Consistent with the other result, according to McIntyre and Eisenstadt (2011) and Moretti and Higgins (1990), the low discrepancy between the selves is associated with more positive affect such as happiness and more self-esteem.

Considering the transdiagnostic process between self-discrepancy and psychopathology, self-discrepancy increases one's vulnerability to negative emotions and decreases positive emotions (Mason et al., 2019). The main aspects of mood and anxiety disorders are an increase in negative emotions and a corresponding decrease in positive emotions (Hofmann et al., 2012). Although actual/ideal and actual/ought discrepancies are significantly linked to anxiety and depression, actual/ideal self-discrepancy is more predictive of both anxiety and depression, contrary to what the SDT suggests (Mason et al., 2019). According to the study of Gibbons et al. (2009), a decrease in self-discrepancies was found in patients treated for mood, anxiety and personality disorders, and this decrease was accompanied by an improvement in the quality of life. However, in this study the relationship between self-discrepancies and anxiety had changed according to assessment procedures. In another study by Watson et al. (2014) on heterogeneous diagnoses and therapeutic interventions, the changes in self-discrepancy were found to be associated with changes in both depression and anxiety. Considering all the literature, it was thought that self-discrepancy could affect the person in an emotional aspect, but the literature could not meet at a point about which self-discrepancy has an effect on which psychopathology and how it affects which psychopathology and what are the moderator and mediator variables or as in the specific case of the present study, no study has been encountered that looks at the state anxiety that it evokes in the person. However, a study found no effect of change associated

with any eating disorder outcome even change in self-discrepancy occurs in bulimia nervosa treatment (Peterson et al., 2017).

Considering the theoretical and evidence-based studies on the relationships between self-discrepancies and psychopathology, the clinical implications of self-discrepancies such as intervention may provide an important contribution. On the other hand, although self-discrepancies may provide benefits in the treatment process, more studies should be carried out specifically in intervention and treatment to understand the outcomes (Mason et al, 2019).

1.3. Player and Designed Game Characters: Identity, Self-Discrepancies, and Psychological Functions

A review of the literature suggests that no prior study has specifically examined the types of selves reflected in the game characters designed by players. In contrast to others, video games are an interactive media tool in which people not only observe or listen but, on the contrary, actively participate. The fact that video games are open to interaction and keep the player in an active role facilitates the experiential integration of the player with the game character, and the pleasantness of identification is due to the temporary diminishment of self-discrepancy while playing a video game and the experience of it by the player. (Klimmt et al., 2009). According to Looy et al. (2014), people are often motivated to achieve a state where self-concepts align with personally corresponding self-guides, and video games have the capacity to enable such a state temporarily. Moreover, particularly virtual environments such as video games, where characteristics such as race and gender can be changed or controlled, are suitable settings for research on how identity and self are presented (Bailenson et al., 2008; Blascovich et al., 2009). Game characters are particularly noteworthy for self and identity research as they allow individuals to reveal themselves through the appearance, abilities, and behaviours of game characters (Bailenson & Beall, 2006).

According to the study conducted by Bailenson et al. (2008), game characters designed by the player reflect various aspects of the self. Therefore, in the current study, the task of designing a game character is given for individuals to reflect their ideal, actual, and undesired selves and for these selves to triggered to be revealed. Studies have demonstrated that when

people design their own game characters, depending on the image they want to portray, they switch between their own self, which Higgins (1987) calls the "actual self", and idealised and desired versions of the self (Vasalou et al., 2008). Bessiere et al. (2007) suggests that gamers recognise aspects of their "ideal self" through game characters, which may have important psychological effects for people who have low self-esteem.

Moreover, nowadays many video games can be played online, and even if not online, a game includes the design of a character and a story that evolves accordingly and has more details in designing options and realistic graphics. As such role-playing games are a type of game in which the player freely creates their own character, interacts with the environment in the way they prefer, and makes their own decisions for the game (Bainbridge, 2007). Once the player is inside the role-playing game, their character becomes the only tool through which the player can interact with the world and its objects, make decisions, and create a story for themselves. Therefore, it can be understood that players create game characters that resemble themselves in order to reflect and engage with this world (Mancini et al., 2019). Role-playing games (RPGs) are fun, narrative and sometimes social experiences, but they have always been associated with psychological experiences. Role-playing games have been used in the psychological literature to study psychological phenomena such as personality and identity (Bowman & Lieberoth, 2018). Additionally, although game characters are a reflection of oneself in the world, game character customization features offered by the platform vary from person to person depending on context, culture, and gender (Triberti et al., 2017). Previous studies in the literature have shown that game characters can serve different psychological functions on the player. For example, they may serve interpersonal variables such as social connection (Lomanowska and Guitton, 2014) and self-functioning variables such as self-expression (Sung et al., 2011) and exploration of the self and identity (Bessiere et al., 2007; Hefner et al., 2007; Klimmt et al., 2009).

Researchers have come to investigate the psychological factors that influence how a game character is chosen or designed. According to the systematic review study compiled by Mancini et al. (2019), personalizing and identifying with a game character that resembles or differentiates from one's actual self-outside the virtual world, are identity processes that meet some self-identity needs of players, such as self-esteem and self-efficacy. According to Loewen et al.

(2021), self-discrepancy theory (SDT) (Higgins, 1987) suggests a beneficial perspective for understanding game character choices of a person. According to the study, it is hypothesized that discrepancies between the actual self and the ideal self or the self that should be, in addition to eliciting different emotions, stimulate motivation to resolve perceived discrepancies. According to the results of the study, the greater the perceived discrepancy between the actual and ideal self, the more the players chose idealized avatars over realistic avatars, and the less the perceived discrepancy between the actual self and the ought self, the less they chose realistic avatars and game characters have a compensatory function for self-discrepancy in people who experience a gap between their actual self and their ideal self or ought self (Loewen et al., 2021). According to another study, the game characters of women with high neurotic scores were designed to reflect the best version of themselves and in addition to neuroticism, people who are introverted, have low self-esteem personality traits are more inclined to use game characters to compensate for their inadequacies (Dunn & Guadagno, 2012). The choice of game character with a self that differs from one's actual self may indicate that the person is trying to cope with a self-element that will not be accepted in the social environment, such as religious disillusionment or sexual orientation. Furthermore, role-playing may sometimes intensify these self-discrepancies between a person and their game character (Dunn & Guadagno, 2012).

1.4. State Anxiety

The origin of the word anxiety comes from the Greek word "angh", which means contraction and contraction (Rachman, 2004). According to Spielberger (1983), anxiety can be divided into two different components, which are constant and stable characteristics in the person, that is, trait anxiety, while the concept of state anxiety is a transient and emotional state (Spielberger, 1983). State anxiety is an emotional response to a temporary situation that often activates the autonomic nervous system, in which a person feels threatened at a certain moment in time, which involves unpleasant feelings of nervousness, or worry that disturbs the person in that situation (McDowell, 2006). Even if the trait anxiety scores are high, if the person does not perceive a threat to himself/herself, the state anxiety scores will be low (Mathews & MacLeod, 2010). According to the basic assumption of state-trait models, the effect of the trait is mediated by the state, and in this way, the effect of the state on behavior is stronger than the trait (Tovilović

et al., 2009). The relationship between trait and state is best provided experimentally by mood induction studies (Tovilović et al., 2009). Mood induction procedures are strategies to temporarily evoke an emotion that is not currently in the environment in a controlled manner (Coan & Allen, 2007). In this study, the participants will be asked to create a game character to induce self-discrepancy. According to Bower (1981), an increase in a particular emotion at a given time, such as state anxiety, will result in a processing error that preferentially encodes of emotionally congruent stimuli.

State anxiety was measured as the main variable in this study. The study aimed to evaluate the effect of the game character creation process, which is a short-term intervention, on immediate emotional regulation. State anxiety is relevant to the aim of the study as it refers to immediate emotional change. Additionally, anxiety responses triggered by internal conflicts, such as self-discrepancy, are generally shaped by the individual's current circumstances, so measuring this variable in the short term after experimental manipulation aligns with the study's objectives.

1.5. Role-Playing in Psychology: From Therapeutic Techniques to Video Games

The term role-playing was introduced into the psychological literature even earlier than 1943 (Lippitt, 1943). In the American Psychological Association, Rotter and Wickens (1947) introduced a report in which role-playing was evaluated as a behavioural method to measure trait aggression and the participants were asked to act out situations in which one person was in a superior and dominant position compared to others. The study was inspired by the emerging concept of psychodrama, which was founded by Moreno (1945). The concept of role-playing, which did not enter the psychology literature before 1948, increased to a hundred articles in 1960, while studies in this field increased even more in 1975 and later (Bowman & Lieberoth, 2018). The concept of therapeutic role-playing is defined in psychology as "an attempt to simulate or replicate important parts of the non-therapeutic environment under the observation and intervention of the therapist" (Kanfer & Phillips, 1966).

Today, the concept of role-playing in therapy is accepted as a way to treat different clinical problems, such as low self-esteem, anxiety, depression, and lack of social skills (Rubin, 2020).

Psychodrama is a practice that involves encouraging people to recognise and realise their psychological problems through role-playing with the help of a therapist (Blatner, 2000). Psychodrama, like a role-playing game, helps the client to take on roles and responsibilities by recognising different behavioural and emotional patterns of individuals and by replaying past or future scenarios. In this way, it contributes not only to the development of social skills but also to the development of empathy (Bowman & Lieberoth, 2018). Currently, in the field of psychology, role-playing is considered as a valid therapeutic method that allows individuals to experience their own strengths and weaknesses, to provide new perspectives on thinking, to change dysfunctional behaviour patterns that cause difficulties, and to experience their own psychological problems (Corsini, 2017; Enfield, 2007; Gutierrez, 2017).

In developmental psychology, *pretend play* has been recognised as an important milestone in the development of children. In fact, it is so much so that even animals learn important skills needed for survival through hands-on play (Pellegrini & Smith, 2007). Moreover, as for the purpose of play therapy in children, the therapeutic reenactment of inner ideas, emotions and desires related to life experiences helps the child to become aware of the conflicts and ego dysfunctions that are the cause of disturbing behaviours and emotions and offers the opportunity to make sense of and solve these problems (Ginsburg, 2007). Although many studies in the literature address fantasy play and role-playing, there are very few studies on role-playing video games. In this context, the person's choice of character and the underlying reasons may provide useful clinical diagnostic data (Loewen et al., 2021).

1.6. The Aims and Importance of the Study

The main aim of this study is to investigate how self-discrepancies emerge during the game character design process and their impact on participants' anxiety levels. Specifically, the study aims to evaluate the role of self-discrepancies of participants who attended a game character design experience and their state anxiety score changes depending on this experiment.

While existing literature has extensively examined self-discrepancies and their impact on character design and game choices, a noteworthy gap remains in understanding the emotional consequences for the individuals involved. This study aims to address this gap by offering an

experimental setup designed to explore self-discrepancies. In the current digital world, where video games have become extremely popular across ages, cultures, and genders, individuals often project their ideal, ought, or undesirable selves onto the characters they play as the literature suggests. Despite this tendency and the increasing study of video games in clinical psychology, experimental studies directly investigating self-discrepancies were considered to be lacking. In this way, it is thought that examining not only video games but also the self-discrepancies and related symptoms that people experience in their daily lives may be useful in terms of literature and perhaps bring a new perspective to treatment methods. Therefore, it is thought that this study may help to understand how triggered self-discrepancies that people may experience in daily life and how it affects state anxiety as a result, and therefore daily functioning. In addition, while most studies focus on the actual and ideal self-discrepancy, some studies focus on the actual and ideal or ought self-discrepancy, but there is no literature on the person's undesired self. In light of these studies in the literature, this study examines the process of designing a game character in which an individual reflects his/her self-discrepancies and its effects on state anxiety.

Finally, the present study is considered valuable because it approaches SDT, which is a social psychology theory, from the perspective of clinical psychology. This interdisciplinary approach aims to bridge the gap between theoretical frameworks and practical applications, and to improve our approaches to how self-discrepancies induced through game character design can have implications in the context of clinical psychology.

1.7. Hypotheses of the Study

In light of existing research in the literature, the following hypothesis will be examined while investigating the relationships between independent and dependent variables:

H1. There will be no significant difference between the experimental (character design) group and the control (relaxing game) group in terms of baseline state anxiety (Time 1) and trait anxiety.

H2. Participants in the character design group will show a reduction in state anxiety from Time 1 to Time 2, compared to the control group.

H3. In the character design group, higher levels of self-discrepancy (actual–ideal, actual–ought, actual–undesired) will predict greater reductions in state anxiety (T2 – T1 difference).

H4. In the control group, self-discrepancy scores (actual–ideal, actual–ought, actual–undesired) will not significantly predict the change in state anxiety between Time 1 and Time 2.

H5. In the character design group, higher perceived similarity between the designed character and self-representations (actual, ideal, ought, undesired) will predict greater reductions in state anxiety from Time 1 to Time 2.

2. METHOD

2.1. Participants

A total of 85 participants were determined according to power analysis using G*Power 3.1 (Faul et al., 2007). In total, data was collected from 139 people. In terms of the experimental manipulation of the study, considering the possible effect of it, all the participants had low, moderate (2-3 hours) or no contact with computer games. In addition to these criteria, other exclusion criteria for participation in the study are a) being younger than the age of 18 b) having a long-term mental illness or another medical condition, taking psychoactive or hypnotic drugs. Participants were offered bonus points for participating in the experiment as part of PSK476, PSK351, PSY331, and PSI331 courses at Başkent University. Announcements to participate in the study were made through the relevant course site.

Participants who included these exclusion criterias were eliminated by checking the demographic information form filled out by the participants in the first part of the study. Accordingly, after the data were evaluated and cleaned, 94 ($M = 22.02$, $SD = 1.50$) people remained in total, with 47 participants included in the experimental group, and 47 participants in the control group. The final dataset included demographic information, two state anxiety scores collected before (Time 1) and after (Time 2) the intervention to understand how the state anxiety scores of the participants changed and trait anxiety scores, and self-discrepancy measures for 94 participants. Demographic information of the participants is shown in Table 1.

All participants were assigned equally to the experimental and control groups using “randomiser.org”. Accordingly, the mean age of the participants was 22.02 years ($SD = 1.50$). 90.4% of the participants were female and 9.6% were male. Regarding education level, 85.1% of the participants have a high school diploma and continue their education. 14.9% of the participants have a bachelor's degree.

Ethical permission was obtained from the Ethical Committee of Başkent University (see Appendix 6). Each participant participated individually, and the experiment was conducted in

one day, and it took about half an hour. Data collection was started in accordance with ethical approval.

Table 2.1.

Descriptives of the Participants

Variable	N	%	M	SD	Min	Max
Age	94		22.02	1.50	20	26
Gender						
Female	85	90.4				
Male	9	9.6				
Education Level						
High School	80	85.1				
Bachelor's Degree	14	14.9				
Group						
Control	47	50.0				
Experiment	47	50.0				

2.2. Materials

In the current study, an informed consent form, a demographic information form, the Integrated Self-discrepancy Index (ISDI), and the State-Trait Anxiety Inventory (STAI) were used.

2.2.1. Informed Consent Form

A form was given to the participants to sign that provides information about the general purpose and content of the study and the duration of the study, including information such as whether they can leave the study if necessary (see Appendix 1 and Appendix 2).

2.2.2. Demographic Form

Considering the purpose of the study, a demographic information form was given to the participants that contains general information such as questions about age, gender, education level, the average amount of time spent playing video games per week, having any psychiatric/neurological diagnosis, and taking psychoactive or hypnotic drugs (see Appendix 3).

2.2.3. State-Trait Anxiety Inventory (STAI)

The STAI is a self-report instrument that measures anxiety symptoms with two subscales which are state and trait anxiety. The state anxiety scale measures how an individual's anxiety is at a certain time and in certain situations, whereas the trait anxiety scale measures how the individual's anxiety is independent of the time, conditions, and situations in which the individual is. The scale is a 4-point Likert-type scale prepared by Spielberger in 1983 and contains 40 items (20 items for “state” anxiety and 20 items for “trait” anxiety) and each item is scored between 1 (almost never) and 4 (almost always). Higher scores correspond to higher anxiety. The STAI is an appropriate instrument to measure two different dimensions of anxiety in both academic and clinical settings (Sesti, 2000).

The validity and reliability studies of the scale in the Turkish population were conducted in 1985 by Öner and Le Compte and the scale was found to be internally consistent. Accordingly, Cronbach's Alpha coefficient was .89 for the state anxiety subscale and .79 for the trait anxiety subscale. In this study, it was used to measure participants' state and trait anxiety before the experiment and state anxiety after the experiment procedure.

Within the scope of this the study, although participants were randomly assigned to groups, it should be ensured that individuals in the character design and control groups are similar in terms of both state and trait anxiety levels prior to the experiment. Therefore, trait and state anxiety were also measured before manipulation to test whether there was a difference in baseline levels between groups. This was done so that the changes observed afterwards could

be interpreted more accurately as being due to the intervention or to pre-existing individual differences.

2.2.4. Integrated Self-discrepancy Index (ISDI)

In this study, the Integrated Self-Discrepancy Index (ISDI) was used to understand the self-discrepancies of participants. ISDI is a measurement tool that integrates both idiographic and nomothetic methods of self-discrepancies created by Harkin and Larkins in 2009. The integration of both idiographic and nomothetic methods provides individuals with the opportunity to identify the most salient characteristics for themselves (as suggested by Higgins, 1987; 1999), and at the same time (as suggested by Tangney et al., 1998), this provides support in situations where the feature detection task is complex. In this way, ISDI enables the ideal, ought, and undesired self-discrepancies to be measured and understood (Hardin & Lakin, 2009). Firstly, in the idiographic section, participants were asked to write 5 adjectives describing themselves for each type of self (ideal, ought, and undesired). Later in the nomothetic measures part, the participants are given approximately 100 adjectives and if participants cannot write down five characteristics for each self, they can use these adjectives, or they can change the adjectives they have already written if they think that there is an adjective in the list that describes them better. In the last part, the participants are left with 5 adjectives for each personality type, and are asked to evaluate them on a 5-point Likert-type scale (1 = being does not describe me at all, and 5 = being perfectly describes me) and write them in the boxes on the side. After the game character creation experiment, a new section was added at the end of the ISDI to allow participants to rate on a Likert-type scale from 1 to 5 how similar the character they designed is to their desired self or undesired selves.

Higher scores indicate lower self-discrepancy, while lower scores indicate higher self-discrepancy (Hardin & Lakin, 2009). In the study conducted by Hardin and Lakin (2009) Cronbach's Alpha of the index was found to be .71 for ideal self-discrepancy and .65 for ought self-discrepancy.

In 2015, Gürcan conducted validity and reliability tests for the adaptation of ISDI into Turkish. Ideal self-discrepancy has an internal reliability coefficient of .78. It was found to be .81 for the ideal self and .86 for the undesirable self-discrepancies.

2.3. Procedure

To reach participants between the ages of 18-26, participants were invited to the experiment by giving bonus points to the participants within the course. The announcement of the experiment was posted on the relevant course page and reached the participants in this way. Participants received an online link for the Demographic Form to understand their gaming habits and general demographic information before the day of the experiment. The researcher contacted all the participants through the contact information provided voluntarily by the participants in the Demographic Form and asked the participants to choose the period they were available through Google Calendar and Calendy and to come to the place where the experiment was conducted to participate in the experiment at this time. All experiments were conducted on the same computer in a quiet and distraction-free room at Başkent University Labyrinth Psychology Studies Center. All participants were given the same instructions so that the researcher's attitude would not affect the results of the experiment, and no intervention was made in the experimental process except to explain the parts of the experiment that the participants did not understand.

On the day of the experiment, participants signed an informed consent given by the researcher in a quiet environment to understand the purpose of the research and to participate in the study voluntarily on the computer. First, the State-Trait Anxiety Inventory (STAI, Spielberger, 1983) was given to obtain anxiety scores as a pre-test before the experiment and then, the Integrated Self-discrepancy Index (ISDI; Hardin & Lakin, 2009) was given to understand discrepancies in self before the experimental manifestation.

During the experiment, the experiment group was asked to create a character on the character design screen of the game Baldur's Gate 3 (Larian Studios, 2023), which was shown on the computer. Baldur's Gate 3 is an award-winning role-playing game in the category of role-playing game, developed and published by Larian Studios in 2023. In this study, only the

character design screen of the game was used, and participants were asked to create a character within 10 minutes. On the character design screen, hair, body shapes, voices and abilities, and races can be combined with any desired style. Therefore, there is no gender selection in the game, only the body shapes that resemble male and female bodies. The character creation screen is thought to reflect one's selves because it combines many different elements, gives free access to choose different body types, races, abilities, and classes, history of the character and allows one to choose different abilities such as strength, dexterity, constitution, intelligence, wisdom, and charisma according to participant's choice. On the abilities screen, participants have a total of 27 points to distribute to six attributes. Participants assign these points to the traits according to which trait they want their character to emphasize. These characteristics are thought that the characteristics that a person can use while reflecting his/her selves. Due to its wide range of character creation possibilities, it was chosen as a game in which participants could reflect their selves. This game was also chosen because the game is in Turkish, there are brief explanations on the character creation screen and the interface is understandable.

During the experiment, participants were not given any instruction on how to create a character only a brief introduction to the interface was given by the researcher before the character creation process begins. Each participant was free to make the character as they wish and to choose various abilities according to the character they want. After each participant in the experimental group had designed the game character, they filled in the section created by the researcher in the last part of the ISDI (Hardin & Lakin, 2009). In this section, the participants gave a score between 1 and 5 on how much the game character they created reflects their actual, ought, ideal, and undesired selves. Finally, after the experimental process, participants were given only a State Anxiety Inventory to measure their state anxiety after character design.

The participants in the experimental group were asked to rate the characters they designed after the character design process with a Likert-type scale between 1 and 5, according to how they see themselves now and how similar they are to the three different types of self in ISDI. The resulting scores were labelled as character and self (how similar the person sees their current characteristics and the character they created), character and ideal self (how similar the person sees the character they created and the ideal self they evaluated in ISDI), character and ought self (how similar the person sees the character they created and the ought self they evaluated in

ISDI) and finally character and undesired self (how similar the person sees the character they created and the undesired self they evaluated in ISDI) and added to the tables as variables with this name.

To compare the different groups, a control group was added to the study and the same tests will be administered to this control group, but instead of the game character creation task, for 10 minutes Sudoku game by Exertar Games. The reason for choosing Sudoku as the control group task is that it is considered to be a neutral activity that does not involve self-representation and will not lead participants to think about their selves. It does not allow participants to express themselves or reflect their characteristics. Thus, it was desired to determine whether the effect of the character creation process was merely a general relaxation or a mechanism based on self-representation. Finally, the State Anxiety Inventory was applied as a post-test to understand the state anxiety that is evoked in participants and the study was completed. The whole process took approximately 30 minutes for each participant. The flow of participants and the experimental procedure are illustrated in Figure 1.

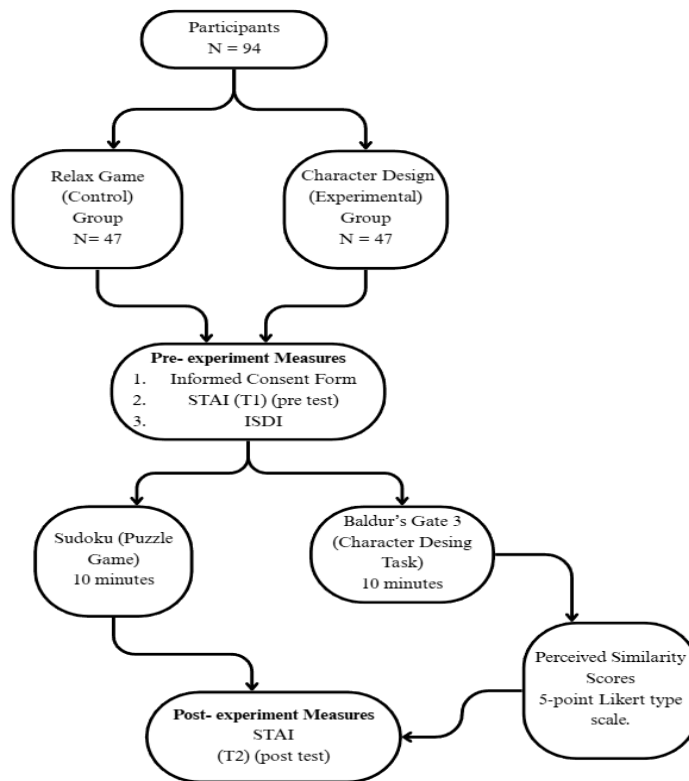


Figure 2.1. *The procedure of the experimental setup.*

Note. STAI = State-Trait Anxiety Inventory; ISDI = Integrated Self-Discrepancy Index.

2.4. Research Design and Statistical Analysis

The basic assumption of the study is based on the hypothesis that the anxiety caused by self-discrepancies can be regulated through the game character design process.

The independent variables of the study are self-discrepancies, measured using the ISDI (Hardin & Lakin, 2009). These self-discrepancies were calculated using Actual-Ideal (A-I), Actual-Ought (A-O), and Actual-Undesired (A-U) self-discrepancy scores. The dependent variable of the study is the T2_T1 variable, which reflects the change in State Anxiety levels measured before and after participation in the experiment.

An independent samples t-test was used to test H1. To test H2, a mixed ANOVA analysis was applied with a 2 (Time: T1 and T2) x 2 (Group: Experimental and Control) design. This analysis was conducted to evaluate state anxiety changes between groups and over time. Multiple regression analyses were conducted to test hypotheses H3, H4, and H5. In H3 and H4, self-discrepancy scores (A-I, A-O, A-U) were considered as predictor variables, and the T2_T1 anxiety difference was considered as the dependent variable. These analyses were conducted separately for the experimental (character design) and control (Sudoku) groups. For H5, perceived similarity scores, which participants rated on a 1–5 Likert scale to indicate how much their characters resembled their Actual, Ideal, Ought, and Undesired selves, were included in the model as predictors of T2_T1 anxiety change.

In this study, demographic variables such as age, gender, and frequency of gaming were collected for descriptive statistics. All analyses were performed using the Statistical Package for Social Sciences (SPSS) software.

The current research aims to examine the effect of discrepancies between individuals' Actual, Ideal, Ought, and Undesired Self levels on state anxiety and how this process can be regulated through game character design. By offering participants the opportunity to design their game characters, they were given the chance to symbolically externalise their self-representations, and the psychological effects of this experience were evaluated. In this context, the study aims to contribute to the clinical psychology literature by demonstrating how the character design process can be used not only for entertainment but also for emotional regulation and anxiety reduction.

3. RESULTS

All data were entered into the Statistical Package for the Social Sciences (SPSS) one by one. Apart from the control group data, the score of the Likert-type scale between 1 and 5, in which the participants in the experimental group coded how similar they found their own selves (actual, desired, undesired, ought selves) with the characters they created, was entered.

Preliminary analyses were conducted to ensure that the data set was ready for analyses. Descriptive analysis in SPSS was examined, and there was no missing data since all participants' data were collected face-to-face in the lab. Categorical variables such as participants' groups, gender, and educational status were transformed into numerical values to be used in SPSS analysis. The experimental group was coded as 1 and the control group as 2. The female was coded 1 and the male was coded 2. Since there was no participant chose the option "I do not want to specify my gender", that option was not labelled even though it was included in the demographic form. For education level, high school was coded as 1, associate degree as 2, undergraduate as 3 and graduate as 4.

Considering the participants' self-discrepancies in the experimental group, it can be said that they experienced the least self-discrepancy in the Undesired Self ($M = 3.72$, $SD = 0.98$) variable. Apart from this, it can be suggested that they experience a moderate level of Ideal Self ($M = 3.19$, $SD = 0.86$) inconsistency. Finally, the mean of the Ought Self variable is 3.54 and the standard deviation is 0.778.

In the experimental group, descriptive analyses of the participants' self-discrepancy scores and the measurements of which of the selves and the character they created resembled were carried out. Accordingly, when the scores of the characters created by the person and their ideal selves ($M = 3.89$) were analysed, the participants stated that the characters they designed were more similar to their 'ideal selves'. In Table 1 below, it can be said that the characters created by the participants were less similar to their Undesired Selves ($M = 1.74$). The participants resembled the characters they created to their actual selves ($M = 3.07$) and Ought selves ($M = 3.49$) at a moderate level.

Table 3.1.*Descriptives of Self-discrepancies and Character Design Scores in the Experimental Group*

Variable	Mean	Std. Deviation	N
Ideal Self	3.235	0.862	47
Ought Self	3.591	0.778	47
Undesired Self	3.694	0.975	47
Character and Actual Self ^a	3.07	0.923	47
Character and Ideal Self ^b	3.89	0.938	47
Character and Ought Self ^c	3.49	1.081	47
Character and Undesired Self ^d	1.74	1.031	47

^a Rating between 1 and 5 of how much the participants resemble the character they have created.

^b Rating between 1 and 5 of how much the participants resemble the characters they have created and their Ideal Self.

^c Rating between 1 and 5 of how much the participants resemble the characters they have created and their Ought Self.

^d Rating between 1 and 5 of how much the participants resemble the characters they have created and their Undesired Self.

The part of the ISDI scale in which the participants evaluated their undesired self was reverse coded. For elaboration, if the score coded by the person was 1, it was coded as 5 by the researcher. After reverse coding, it shows that the participants with high scores in this aspect do not have these characteristics. It is seen that the participants with high scores in the ideal and ought self categories also have these characteristics. Thus, self-discrepancy is low.

A new variable was created for the difference (T2 - T1) between post-state anxiety (Time 2) and pre-state anxiety (Time 1) scores. Age, pre-state anxiety, trait anxiety, post-state anxiety, ideal self, ought self, undesired self, character and actual self, character ideal self, character and ought self, character and undesired self, and T2 -T1 variables, and Z-score calculations were carried out through SPSS for all the variables mentioned. According to Tabachnick and Fidell, (2013) the standard value to be used to identify outliers is ± 3.29 . To detect outliers, z-score values were calculated and values with a Z-score of ± 3.29 were examined. As a result of the

analysis, no outlier was detected since the z-scores of all variables were found to be within the range of ± 3.29 .

The literature was examined to determine whether the data set is normally distributed. According to the literature, the Skewness and Kurtosis values should be evaluated separately and the values should be between -1 and +1 (Mishra et al., 2019). When Skewness and Kurtosis values were examined separately for the experimental and control groups, using SPSS, it was found that all values fell between -1 and +1, indicating that, the data were normally distributed (Kline, 2015). According to the results of the analyses, Skewness and Kurtosis values of all variables except character and undesired self variables were found between -1 and +1. Character and Undesired Self variables do not show normal distribution. Skewness and Kurtosis values are as shown in the Table 2 below.

Table 1.2.

Descriptive Statistics and Normality Test Results of the Variables

Variable	N	Min	Max	M	SD	Skewness	Kurtosis
State Anxiety 1	94	20	60	38.46	9.43	0.36	-0.23
Trait Anxiety	94	24	67	45.38	9.83	0.15	-0.67
State Anxiety 2	94	20	66	37.56	9.63	0.35	0.11
Ideal Self	94	1.4	5.0	3.20	0.86	0.38	-0.35
Ought Self	94	1.4	5.0	3.55	0.78	-0.12	0.08
Undesired Self	94	1.0	5.0	3.72	0.99	-0.59	-0.15
Character & Actual Self	47	1	5	3.07	0.92	-0.12	-0.20
Character & Ideal Self	47	2	5	3.89	0.94	-0.61	-0.36
Character & Ought Self	47	1	5	3.49	1.08	-0.46	-0.40
Character & Undesired Self	47	1	5	1.74	1.03	1.54	1.80
T2_T1 ^a	94	-16	18	-0.91	7.25	0.21	-0.20

^a T2_T1, the difference between participants' state anxiety scores measured before (Time 1) and after (Time 2) the experimental manipulation.

According to the result of Pearson Correlation Analysis in the control group, which can also be shown in Table 3 below, a positive correlation was found between the State Anxiety 1 and the State Anxiety 2 variables, $r(47) = .670, p < .01$. Moreover, a positive relationship was found between the Trait Anxiety and the State Anxiety 2 variables, $r(47) = .574, p < .01$. However, the correlation between the T2_T1 (the difference between Time2 and Time 1 scores of State Anxiety) variable and the State Anxiety 1 variable was negatively and significantly correlated. $r(47) = -.344, p = .018$. Finally, in the control group, there was no significant relationship between Trait Anxiety and the T2_T1 variables.

Table 3.3.

Pearson Correlations of the Control Group

Variable	1	2	3	4	5	6	7
State Anxiety 1							
Trait Anxiety	.588**						
State Anxiety 2	.670**	.574**					
Ideal Self	-.262	-.242	-.339*				
Ought Self	-.356*	-.223	-.401**	-.019			
Undesired Self	-.437**	-.401**	-.370*	.016	.315*		
T2_T1 ^a	-.344*	.028	.466**	-.114	-.088	.052	

Note. ** $p < .01$. * $p < .05$.

^a T2_T1, the difference between participants' state anxiety scores measured before (Time 1) and after (Time 2) the experimental manipulation.

In the experimental group, according to the results, which can also be seen in the Table 5, a moderate positive significant relationship was found between Trait Anxiety and State Anxiety 1. $r(47) = .511, p < .001$. A strong and significant positive relationship was observed between State Anxiety 1 and State Anxiety 2 variables. Moreover, a negative and statistically significant relationship was detected between State Anxiety 1 and T2_T1 variables, $r(47) = -.494, p < .001$. Finally, no statistically significant relationship was found between Trait Anxiety and T2_T1 variables, $r(47) = -.093, p = .532$.

In the experimental group, a negative correlation was found between the difference between State Anxiety 2 and State Anxiety 1 variables (T2_T1) and State Anxiety 1. This indicates a decrease in the participants' baseline state anxiety after the experimental manipulation (character creation process). In the control group, there is a significant negative correlation between the T2_T1 variable and the State Anxiety 1 variable. However, when these two groups are compared, this relationship is weaker than the relationship in the experimental group. As a result, although there is a change in anxiety scores over time in both groups, the effect of this is stronger in the experimental group. In this case, it is thought that the experimental manipulation will provide a decrease in participants with high baseline anxiety.

Moreover, a correlation analysis was carried out involving the three self-discrepancies to see if there was a significant relationship between the self-discrepancies of the participants. Accordingly, no significant relationships were found between the Ideal Self and the Ought Self, and between the Ideal Self and the Undesired Self. However, a statistically significant, strong and positive relationship was found between Ought Self and Undesired Self ($r(90) = .436, p < 0.001$). This finding is considered to be noteworthy.

Another correlation analysis was performed in the experimental group to understand the types of selves according to which the participants designed the characters they created (see in Table 4). Accordingly, a positive and significant correlation was found between the Ideal Self of the participants and the Character and Ideal Self variables (Likert-type scale between 1 and 5 in which the participants evaluated how similar the characters they created were to their ideal selves). The greater the Ideal Self Discrepancies of the participants, the more similar the characters they designed were to their “ideal selves”, $r(45) = .288, p = .049$. There is also a positive and statistically significant relationship between Ought Self and Character and Self, $r(45) = .356, p = .014$. However, there was no correlation between Undesired Self and which type of self the character resembles, $r(45) = -.148, p = .322$.

Finally, the correlation between how much the participants in the experimental group resembled the characters they designed (Character and Actual Self, Character and Ideal Self, Character and Ought Self, Character and Undesired Self) and the change in anxiety (T2_T1) variables was examined. As a result, no statistically significant relationship was found between selves and the T2_T1 variable.

3.1. T-Test Analysis of H1 and Mixed- Design Analysis of Variance of H2: Comparisons Between Groups

An Independent samples t test was conducted to test H1. According to the results, there was no statistically significant difference in baseline state anxiety scores (T1) of the control group ($M = 40.09$, $SD = 9.33$) and the experimental group ($M = 36.83$, $SD = 9.34$), $t(92) = 1.69$, $p = 0.094$. Another Independent samples t test conducted to understand whether groups are different according to trait anxiety scores. According to results, there were no statistically significant difference in trait anxiety scores between the control group ($M = 47.06$, $SD = 1.41$) and the experimental group ($M = 43.70$, $SD = 1.42$), $t(92) = 1.67$, $p = 0.097$. Therefore, H1 was supported.

Table 3.4.*Pearson Correlations of the Experimental Group*

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. State Anxiety 1											
2. Trait Anxiety	.511**										
3. State Anxiety 2	.745**	.503**									
4. Ideal Self	-.193	-.458*	-.166								
5. Ought Self	-.093	-.542**	-.311*	.316							
6. Undesired Self	.012	-.519**	.040	.297*	.568**						
7. T2_T1 ^a	-.494**	-.093	.213	.065	-.269	.035					
8. Character & the Actual Self ^b	-.178	-.187	-.260	.337*	-.356*	.097	.079				
9. Character & Ideal Self ^c	-.216	-.229	-.128	.288*	.344*	.335*	.149	.164			
10. Character & Ought Self ^d	-.384**	-.263	-.388**	.066	.264	-.184	.056	.166	.438**		
11. Character & Undesired Self ^e	-.025	.109	.017	.053	-.084	-.148	.059	-.050	-.208	-.197	

Note. ** $p < .01$. * $p < .05$. The variables introduced below represent participants' ratings of the perceived similarity between the designed characters and the different self-discrepancies measured by the ISDI.

Character & the Actual Self^b: The score of perceived similarity between the designed character and the participant's present self. Character & Ideal Self^c: The score of perceived similarity between the designed character and the participant's ideal self. Character & Ought Self^d: The score of perceived similarity between the designed character and the participant's ought self. Character & Undesired Self^e: The score of perceived similarity between the designed character and the participant's undesired self.

^a T2_T1, the difference between participants' state anxiety scores measured before (Time 1) and after (Time 2) the experimental manipulation.

Higher Ideal Self, Ought Self, and Undesired Self scores indicate that individuals experience less self-discrepancy, while lower scores indicate that individuals experience more self-discrepancy in these aspects of self. According to this, independent samples t-test was conducted to determine whether there was a significant difference in the scores of self discrepancies between the groups and no statistically significant difference was found in the scores of self discrepancies (Ideal Self, $t(92) = -0.411$, $p = 0.682$, Ought Self, $t(92) = -0.581$, $p = 0.563$ and Undesired Self, $t(92) = 0.245$, $p = 0.807$) between these two groups. This shows that the groups are the same in terms of self-discrepancy scores.

A mixed-design ANOVA was conducted to examine the state anxiety scores of participants in the control and experimental groups across two time points (Time 1 and Time 2).

The main effect of time was not statistically significant, $F(1, 92) = 1.472$, $p = .228$, $\eta^2 = .016$, indicating that, overall, state anxiety levels did not significantly change over time across both groups. However, the main effect of group was statistically significant, $F(1, 92) = 7.417$, $p = .008$, $\eta^2 = .075$. This result suggests that there was a significant difference in overall state anxiety levels between the experimental and control groups, regardless of time (see in Table 5.).

Table 3.5.

Mixed-design ANOVA Summary Table for State Anxiety Scores Across Time and Groups

Variable	df	F	p	η^2
Time	1, 92	1.472	.228	.016
Group	1, 92	7.417	.008	.075
Time x Group	1, 92	4.325	.040	.045

Importantly, the interaction effect between time and group was also statistically significant, $F(1, 92) = 4.325$, $p = .040$, $\eta^2 = .045$, indicating that the change in anxiety levels over time differed between the groups. Simple effects analyses revealed a significant decrease in anxiety in the experimental group from Time 1 ($M = 36.83$, $SD = 9.34$) to Time 2 ($M = 34.40$, $SD = 8.31$), $p = .022$. In contrast, no significant change was observed in the control group between Time 1 ($M = 40.09$, $SD = 9.33$) and Time 2 ($M = 40.72$, $SD = 9.91$), $p = .542$. Furthermore, at Time 2, the experimental group had significantly lower state anxiety than the

control group, $p = .001$, whereas no significant difference was found between the groups at Time 1, $p = .094$.

These findings support H2, indicating that participants in the character design (experimental) group experienced a significant reduction in state anxiety from Time 1 to Time 2, while no such change was observed in the control group.

3.2. Multiple Linear Regression Results on the Self-Discrepancies and State Anxiety

Prior to the regression analysis, collinearity values were analysed to understand whether the independent variables show a correlation between them (multicollinearity problem). As a result, the Tolerance value is as follows for Actual-Ideal, Actual-Ought and Actual-Undesired independent variables, respectively: 0.968, 0.803, and 0.802. Variance Inflation Factor (VIF) values for the same independent variables are as follows: 1.033 for Actual-Ideal, 1.245 for Actual-Ought and 1.247 for Actual-Undesired. According to the values accepted in the literature, the fact that the tolerance value is above 0.10, and the VIF values are below 10 indicates that there is no multicollinearity issue among these variables. Tabachnick and Fidell (2013). The conclusion drawn from this analysis shows that the variables used are independent of each other and the regression analysis can provide reliable results.

To test H3 (for the game character design group, self-discrepancies scores will predict the Time 2 and Time 1 anxiety scores' differences) multiple linear regression analysis was conducted to examine the effect of self-discrepancies (ideal, ought and undesired self variables) on anxiety difference (T2_T1) in the character design group (experimental group). Accordingly, the model was not statistically significant, [$F(3, 43) = 2.341, p = .087, R^2 = .140, R^2_{adjusted} = .080$]. However, the ought self variable significantly predicted the T2_T1 variable negatively ($\beta = -.456, p = .013$). In this case, H3 was partially supported. Regression analysis is shown in the Table 6 below.

Table 3.6.

Regression Coefficients of Self- Discrepancy Scores on Anxiety Difference in Experimental Group

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²	<i>Adjusted R</i> ²
Constant	1.645	4.877		.337	.738		
Ideal Self	0.988	1.115	.134	.886	.380		
Ought Self	-3.738	1.434	-.456	-2.607	.013	.140	.080
Undesired Self	1.666	1.137	.255	1.466	.150		

Note. Dependent variable = T2_T1

SE: Standard Error

Another multiple regression analysis was applied to test H4 (for the relax game group, self-discrepancy scores will predict the Time 2 and Time 1 anxiety scores' differences). According to the results of the analysis, H4 is not supported. In the relax game group (control group), self inconsistencies (ideal, ought, undesired self) did not predict the relationship between T2_T1, [$F(3,43) = 0.422$, $p = 0.738$, $R^2 = .029$, $R^2_{adjusted} = -.039$]. The results of the regression analysis are shown in Table 7 below.

Table 3.7.

Regression Coefficients of Self- Discrepancy Scores on Anxiety Difference in Control Group

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²	<i>Adjusted R</i> ²
Constant	5.436	7.422		.732	.468		
Ideal Self	-1.054	1.343	-.118	-.785	.437		
Ought Self	-1.180	1.577	-.119	-.748	.458	.029	-.039
Undesired Self	0.700	1.221	.091	.573	.570		

Note. Dependent variable = T2_T1

SE: Standard Error

Finally, multiple linear regression analysis was conducted to test H5 (for the game character design group, scores for how similar the selves are to the designed characters will predict the Time 2 and Time 1 anxiety scores' differences.). H5 is also not supported. It was determined that the scores in which the participants evaluated how similar the characters they designed were to their selves did not predict the T2_T1 variable, [$F(4,42)= 0.454, p= 0.769, R^2 = .04, R^2_{adjusted} = -.050$]. Table 8 shows the results of the regression analysis.

Table 3.8.

Regression Coefficients of Character and Self- Discrepancy Scores on Anxiety Difference

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	R^2	<i>Adjusted</i> R^2
Constant	-6.223	5.703		-1.091	.281		
Character & Actual Self	-.733	1.063	-.106	-.690	.494		
Character & Ideal Self	1.221	1.160	.180	1.053	.298	.041	-.050
Character & Ought Self	.080	1.004	.014	.080	.937		
Character & Undesired Self	.581	.962	.094	.604	.549		

Note. Dependent variable = T2_T1 (difference between T2 and T1 state anxiety). The variables introduced below represent participants' ratings (1-5 Likert scale) of the similarity between the characters they designed and the different self-discrepancies measured by the ISDI.

Character & the Actual Self: The score of perceived similarity between the designed character and the participant's present self. Character & Ideal Self : The score of perceived similarity between the designed character and the participant's ideal self. Character & Ought Self : The score of perceived similarity between the designed character and the participant's ought self. Character & Undesired Self : The score of perceived similarity between the designed character and the participant's undesired self.

SE: Standard Error

4. DISCUSSION

The present study aimed to examine the effect of self-discrepancies on state anxiety and the role of the game character design process in this relationship. An experimental study was conducted for this purpose, and participants were randomly assigned to either the experimental group, which designed a character, or the control group, which played Sudoku. State anxiety was measured before and after the experiment. Differences in state anxiety before and after the experiment between the groups were measured using T-test analysis, and self-discrepancies (actual-ideal, actual-ought, actual-undesirable) were tested using multiple linear regression analysis to determine whether they predicted pre- and post-state anxiety scores and the perceived similarity scores between the character designed by the participant's self-representations and the self-discrepancies.

The discussion section of the current study is structured around two main points. First, the effects of the game character design process on state anxiety and how this effect is formed in the context of the self-discrepancies of individuals (actual-ideal, actual-ought, actual-undesirable) were discussed. In this direction, it was examined whether the character design process created a significant change in the state anxiety levels in the experimental group and the results obtained were evaluated in the light of the literature. In addition, the extent to which perceived similarity between character and self-representations (actual, ideal, ought and undesired selves) predicts the state anxiety difference was analyzed through multiple linear regression analyses.

Secondly, the character design process implemented in the experimental group and the perceived similarity between the characters they created and themselves in this process with their self-representations, were discussed. The extent to which the participants' characters resembled their actual, ideal, ought or undesired selves and how these similarities affected state anxiety were evaluated. All findings are discussed in the context of SDT(Higgins, 1987), identification with game characters literature, and therapeutic usage of the game mechanisms. It can be said that this structure is not only based on statistical findings but also provides a ground for a discussion that can contribute to theoretical and applied psychology.

4.1.The Effect of Character Design on Regulation of Anxiety

The second hypothesis stated that there would be a significant difference in the change in state anxiety levels between the character design group and the control group from Time 1 to Time 2. Based on the result, the hypothesis is supported, so there was a significant decrease in the state anxiety levels of the participants after the video game character design process. In the experimental group, a statistically significant decrease in state anxiety was found after character design. This shows that the character design process contributed positively to the psychological state of the individual. Participants may have been able to externalize their emotional loads at a symbolic level by reflecting their internal self-representations on the characters they designed, and thus may have experienced a short-term relief and a decrease in their anxiety. This finding is supported by previous studies. For example, Bessière et al. (2007) reported that individuals tend to achieve their ideal selves through game characters, which can have a positive emotional impact. Similarly, Fox and Bailenson (2009) emphasised that game characters can influence individuals' emotional states by contributing to self-regulatory processes. Pimentel and Kalyanaraman (2020) experimentally demonstrated that creating a character representing one's anxieties and fears leads to a decrease in anxiety level. Furthermore, Pimentel and Kalyanaraman (2020) argue that the character design process functions as a mechanism that reduces self-discrepancies between players and their characters. Evaluating this finding alongside the results of the current study suggests that the character design process may have helped participants to regulate state anxiety caused by self-discrepancies.

However, Schnurr and Scholl-Grissemann (2015) stated that character design reduces anxiety through both symbolic processes associated with self-discrepancies and the enjoyment of the process itself. In this context, the creative interaction, freedom of customisation and distracting structures experienced during character design may also affect anxiety by providing short-term relief. To distinguish these effects, the control group was not exposed to the character design process, but played a relaxing game of Sudoku instead. In the control group, a statistically significant decrease in state anxiety levels between Time 1 and Time 2 was also observed. This finding shows that even a manipulation that does not involve a self-related stimulus such as Sudoku can reduce state anxiety to a certain extent. A possible explanation for this is that this effect may be related to the relaxing nature of the lab environment or the entertaining or

distracting nature of the activity itself. The decrease in state anxiety that is observed in the experimental group was statistically more significant. This suggests that the character design process activated a self-related process in participants who encountered self-discrepancies, rather than simply providing relief. This may suggest that the functions offered by character design create a stronger psychological effect than entertainment-based distractions alone.

Nonetheless, in the current study, only a short-term intervention was conducted (10 minutes), and long-term effects were not assessed. Factors such as the depth of the relationship with the character, the time spent with the character, the narratives that is experienced with the character and the consistency of this process are thought to be important in terms of evaluating the psychological effects of character design in the longer term.

4.2. Self-Discrepancies and Change in Anxiety

In the study, it was found that only ought self-discrepancy significantly predicted the change in state anxiety in the experimental group. As the actual-ought self-discrepancy increased, a greater decrease was observed in the state anxiety of the participants. This result is consistent with Higgins' (1987) SDT. According to Higgins (1987), the difference between the actual self and the ought self causes anxiety in individuals. In this context, the findings obtained are consistent with the theoretical expectations. This result can be evaluated in the following ways: Individuals may already be experiencing anxiety due to this discrepancy and may have regulated it through the character design process. The participants' character design through an RPG game provided an opportunity to externalize their internal conflicts about actual-ought self-discrepancies on a virtual level and to work with this representation and regulate their anxieties. Participants may have confronted their “ought selves” through the character and experienced this representation of self through the character. By externalizing their self-discrepancies, they may have reduced the gap between their actual self and the person they are supposed to be. The character design process allows individuals to symbolically differentiate themselves from these expectations by transferring ought-self elements—representing the person they believe they should be and the person society expects them to be—onto the character. This can provide emotional relief by reducing the stress on the individual.

Within the scope of the third hypothesis of the current study, it was assumed that as self-discrepancy increases, the effect of the character design process on reducing anxiety would be greater. However, according to the results of multiple linear regression, only actual-ought self-discrepancy significantly predicted this reduction in state anxiety. Therefore, the third hypothesis of the study was partially supported. In this study, the fact that actual-ideal self-discrepancy did not explain state anxiety change was found to be consistent with the literature. Scott and O'Hara (1993) found that individuals with high actual-ought self-discrepancies also had high levels of anxiety, whereas ideal self-discrepancies were associated more with depressive symptoms. In the current study, depressive symptoms were not measured; only state anxiety change was measured. Therefore, the lack of significance of actual-ideal discrepancy can be considered an expected result.

Additionally, this result is consistent with Higgins' (1987) SDT. Higgins (1987) states that actual-ought self-discrepancy is more closely related to anxiety, while actual-ideal self-discrepancy is more closely related to depression. The character design process, particularly about social norms associated with the ought self, may have created an effective coping mechanism for anxiety by providing an opportunity to concrete the perception of “the person I should be” through the character.

According to Gürcan-Yıldırım and Gençöz's (2020) study in a Turkish sample, actual-ideal self-discrepancy was associated with depression, but had no significant relationship with anxiety. In the same study, it was found that actual-ought self-discrepancy was associated with depressive symptoms rather than anxiety. The current study differs from their study, in which actual-ought self-discrepancy was found to be associated with a decrease in anxiety. This difference is thought to be due to both measurement differences and the nature of the experimental procedure. In addition, in Gürcan-Yıldırım and Gençöz's study (2020), variables such as resilience and emotion regulation were considered as moderators and these variables were found to affect the self-discrepancy-emotion relationship. Instead of measuring these variables directly, the present study evaluates the process of character design as one that allows individuals to regulate their anxiety by offering them the freedom to express themselves. Therefore, the study adopted an approach that focuses on regulating state anxiety by

externalizing and concretizing individuals' self-representations through virtual interaction offered to participants.

Additionally, the majority of the participants in the study were women. Although this is a limitation, it can be used to explain this finding. According to Prentice & Carranza (2002), women are expected to have stricter and higher social obligations than men. This may lead to a more rigid internalization of women's “ought selves”. Women, especially in societies shaped by traditional values, are more strictly exposed to norms related to the “ought self” (Eagly & Wood, 2012), which means that women may experience the actual- ought self inconsistency more and this may have a greater impact on their anxiety experiences. The female participants may have been able to relieve this anxiety more by transferring the selves they thought they should be through the character design process onto the characters. On the other hand, the female participants may have distanced themselves from the role of “the woman who should be” expected by society through the design of a game character. Figure 1 exemplifies a designed character that visually differs from the traditional female roles typically imposed by societal expectations.



Figure 4.1. *An image from character design process.*

Note. Source: Baldur's Gate 3, developed by Larian Studios (2023). Copyright 2023 Larian Studios. Used for educational and research purposes under Larian Studios' Fan Content Policy (Larian Studios, 2023).

This symbolic freedom may have contributed to a reduction in state anxiety by allowing individuals to temporarily escape from internalized pressures and social expectations. In other words, for women experiencing high actual-ought self-discrepancy, the character design process may have provided a relaxing effect by reducing the cognitive load in the face of discrepancy.

To sum up, participants may have bridged the gap between their actual and ought selves that were shaped by moral or social expectations via the character design process. Thus, the character design process may function as symbolic solution to the individual's expression of his/her conflicting aspects with the expectations of society, in the virtual environment. These results suggest that game character creation processes may function as a tool to reduce ought self-discrepancy.

4.3 .Perceived Character-Selves Similarity and State Anxiety

The effect of the perceived similarities between the characters created by the participants and their self-representations (actual, ideal, ought, undesirable) on state anxiety was not found to be significant. These findings suggest that changes in state anxiety cannot be explained solely by individuals' subjective perceptions of similarity between characters and self-representations. Rather, the main factor reducing anxiety may be the effects of mechanisms such as symbolic externalisation and concretisation, which are provided by the character design process itself. The relationship that people establish with the virtual characters, emotional attachment, sense of control, and the values the character represent are variables that increase identification with the character and this identification, is a factor that reduces self-discrepancy (Turkay, 2014). According to another finding, identifying with a virtual character is a complex process involving multiple variables, and this process is shaped not only by physical or representational similarities but also by time spent with the character and interactions in the context of the game. (Klimmt et al. 2009). In the current study, similarity was measured using a single-item Likert scale and was based on the subjective opinion of the participant, which suggests that it may have been insufficient to reflect the depth of the relationship with the character. In addition, the participants had limited time with the character and did not have an experience with their character in the context of a game. It is believed that spending time with the character in a

narrative context may increase identification and reduce self-discrepancy and thus may be effective on anxiety.

In the systematic review conducted by Lemenager et al. (2020), it was found that game addiction was more common in players who had high identification with virtual game characters and that this was associated with impaired physical, social, and self-perceptions. This result may suggest that the character design process may be seen as a kind of escape mechanism for the individual and that the characteristics that the individual cannot cope with in his/her self are presented in a virtual self. However, in the current study, the participants needed not to have any psychological disorder rather than a pathological behaviour that caused a problem to the person. Therefore, the current study argues that identification with a virtual character does not always have a negative psychological outcome, on the contrary, a virtual interaction such as character design can be used as therapeutic purposes when properly structured. In the current study, particular attention was paid to the fact that the participants did not have any diagnosis or medication for it, and that their weekly gaming time was not regular or frequent. Identifying with the character mentioned in the current study does not mean establishing a dysfunctional or addictive relationship with the game or the character. It can be argued that identifying with game characters can be more than just an escape mechanism and can be a tool to support psychological well-being (Klimmt et al., 2009).

4.4. Contributions to Clinical Psychology

SDT is essentially a social psychology theory, but it is believed that it can be applied within the framework of clinical psychology. The adaptation of the theory to clinical psychology is thought to affect the internal conflicts about self-concept that may be experienced in psychopathologies. This integration not only provides a theoretical contribution to clinical psychology but also offers a fresh perspective on therapeutic practice.

In recent years, master's and doctoral theses have been conducted in Turkey on the integration of SDT into the field of clinical psychology. For example, Kütük (2023) conducted a qualitative study in which she examined the self-discrepancies experienced by psychotherapists professionally and their subjective psychotherapy experiences. Türe (2021)

conducted both a quantitative and qualitative study in the context of motherhood and investigated how the discrepancy between ideal, ought and actual selves is related to negative emotions such as shame and guilt in mothers. Finally, in Gürcan's (2015) study, self-discrepancies were examined in terms of depression and anxiety by examining the role of personality characteristics such as problems in emotion regulation, psychological resilience, psychological well-being, and relationship with parents.

The findings of this study suggest that spending time with one's designed character in a controlled digital environment can be a potential therapeutic tool for regulating psychological affect. In particular, by externalizing self-representations (actual, ideal, ought, and undesired), it can provide an external view of self-discrepancies that are experienced by people. From this perspective, the character design process can be a technique that can be used in psychotherapeutic interventions.

The Narrative Therapy technique introduced by White & Epston in 1990 is also thought to be in parallel with the point this study aims to reach. Narrative Therapy aims to separate the problems experienced by the person from the identity of the person by taking a step back from the problematic behaviors or emotions with personalized narratives and thus supports the development of resilience, and positive identity in the individual. In a safe game environment accompanied by a narrative, the person finds solutions to various problems by taking on different roles and aims to find solutions to dysfunctional beliefs in this way. In this approach, individuals focus on their strengths by simply rewriting their own backstories. Similarly, the process of character design enables individuals to transform their inner conflicts by externalizing them. Similarly, the character design process is thought to enable individuals to observe their internal conflicts by concretizing them in the character. For example, by experiencing their fears, unmet expectations, desires, or weaknesses through a game character, individuals can find opportunities to explore these conflicts symbolically in a safer way.

Not only the character design process itself, but also interacting with the character designed by the individual for a sufficient time in the game and having a meaningful experience may allow the individual to form more functional and reconstructed thoughts about self-representations and experiences. In this context, it is suggested that digital game content developed specifically for certain psychopathologies may provide therapeutic benefits in areas

such as emotional processing, self-discrepancies, and gaining awareness in treatment-resistant people.

Leff et al. (2013) showed that avatar therapy for psychosis patients resulted in significant improvement. In avatar therapy, patients think that the source of the auditory hallucinations they hear is a virtual character and create a character representing the voices. The therapist is in control of this character's speech and behaviour, and allows it to have a dialogue with the participant. In other words, it enables the participant to concretely confront their hallucinations in a safe environment and gain resilience against them. Looking at the results, 60% of psychosis patients who did not benefit from medication reported a reduction in the severity and frequency of their symptoms after this therapy. Examining the results, it was evident that some patients experienced a notable improvement in their auditory hallucinations, with some reporting that the hallucinations had completely disappeared after a few sessions. While this was not true for every case, the study demonstrates that avatar therapy has significant therapeutic potential, particularly in cases of treatment-resistant psychosis. This finding suggests that character creation is not only a game-based leisure activity, but can also be used to gain psychological insights and symptom regulation.

Moreover, creating a more visual environment, via character design, in which the person can be more interactive and have control, may have the same effect. For example, visual imagery techniques used in therapy help substance abusers to reject their addicted selves by creating an ideal self for them (Avants et al., 1994). Ultimately, interventions that involve a character design process can be used in many different psychological disorders. Character design also allows the individual to symbolically identify with the person they “want to be”. McKenna and Bargh (2000) indicated that creating identities representing one's ideal self in a virtual environment can increase self-esteem and help to cope with negative emotions. Such mechanisms may prepare the ground for the development of game-based practices for adults that can be integrated with traditional therapy. The inclusion of such applications in clinical intervention practices opens the door to innovation in clinical psychology.

Clinical psychologists can obtain more material to use in therapy by presenting narrative-based games to their clients as an exercise. For example, a client who comes with complaints of depressive symptoms can be asked to create a character that reflects their ideal self, and

scenarios can be created in which this character makes decisions and solves problems in a therapeutic story-based game. The information gathered in the virtual environment during therapy sessions can be explored by the therapist with the client. This allows clients to concretize their internal conflicts and identify the areas where they struggle, develop more functional coping strategies, and rehearse new behaviours within a safe narrative framework. Such applications can provide therapeutic benefits, particularly in areas such as self-concept, identity development, and emotion regulation. In this way, it is thought to increase therapeutic insight in the individual. Especially for therapists working with young adults and adolescents, this approach can be a motivating tool for the treatment process and may integrate with the interests of individuals.

The therapeutic use of character design processes and RPGs is thought to be similar to virtual reality (VR) based therapies. Virtual reality therapies have taken their place in the literature as effective interventions, especially in conditions that cause discomfort to the person such as phobias, post-traumatic stress disorder, and social anxiety (Freeman et al., 2017). In VR practices, individuals can come into contact with threatening situations through virtual characters or their representations in a controlled environment. This allows the traumatic content to be reconstructed, therefore less threatening, in the mind of the individual in a safe context. Moreover, according to Steinman et al. (2016), exposure therapy is regarded as a gold standard treatment for anxiety disorders such as phobias, social anxiety, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD).

In recent years, the integration of gamification into psychological interventions, particularly Cognitive Behavioral Therapy (CBT), has become an area of increasing interest in digital therapy research. In this study, it can be said that the effect of character design on decreasing state anxiety overlaps with the findings in the gamified CBT literature. In particular, character design and personalization processes are equivalent to gamification elements that aim to strengthen intervention effectiveness by increasing the individual's participation and commitment to therapy (Fleming et al., 2018). The active participation of individuals in the therapy process by using their virtual characters can be effective in emotional regulation processes by allowing the person to cognitively reconstruct these thoughts by distancing him/her from the thoughts about the self-discrepancy that cause negative affect (Götz et al., 2023).

This finding aligns with recent studies highlighting the efficacy of virtual interventions based on game characters in promoting identity exploration and therapy adherence, particularly among marginalised groups like LGBTQ+ individuals (Kundu et al., 2024). In a safe therapeutic environment, these individuals can engage in experiential learning and narrative reconstruction by creating idealised or alternative self-representations.

Compared to VR therapies, applications with RPG-based character design offer much more customization and the ability to reflect one's own characteristics and thus a broader perspective in terms of self-representation. Therefore, it may be a more effective method for the detailed study of concepts such as self and identity. The fact that it is more accessible and affordable compared to VR therapies may also make its widespread use in clinical psychology more favorable.

The “chair work” technique, which is used especially in schema therapy, is a technique that allows the person to restructure his/her schemas and modes (Young, 2003). Similarly, the character design process in RPG games is thought to serve the same mechanism. In this process, the person can symbolize and reconstruct his/her internal conflicts and avoid self-discrepancies. In addition, this approach can also be linked to mode-based schema therapy techniques. Young (2003) suggests that when individuals experience situations that activate different schema modes, these modes (e.g., punitive parent or angry child) manage the individual's behavior. RPG characters can function as a virtual reflection of these modes. The individual can work with their modes and schemas by experiencing maladaptive coping, parent modes or child modes through the game character. It is thought that such virtual characters can be used especially for the study of the healthy adult mode and that this mode can be developed by creating a game environment where the person can make functional decisions.

4.5. Examining Results in a Cultural Context

As this study was conducted only within the Turkish cultural context, the findings must be evaluated accordingly. Contrary to popular belief, Turkey's cultural structure is hybrid, combining individualistic and collectivistic values. In Turkish culture, the way people see themselves is often shaped by how they behave in social situations, their family responsibilities

and their moral values, rather than by what they have achieved individually (Kağıtçıbaşı, 2005). In societies such as Turkey, where social roles and moral obligations have a strong influence on individuals, it is believed that thoughts about 'being the person society expects' have a greater impact on psychological experiences. The predominance of female participants in the present study may have caused these gender dynamics to become more apparent. As researchers such as Prentice and Carranza (2002) and Eagly and Wood (2012) emphasise, socially imposed roles such as the 'ideal woman' and the 'woman who should be' can lead to more intense emotional problems when they diverge from one's actual self. In the current study, it was observed that female participants transmitted their 'ought selves' symbolically through the character design process, which reduced their state anxiety levels. In this context, the character design process may have given individuals the chance to confront their selves and symbolically project social expectations onto the character. However, it should be pointed out that the predominance of women in the sample does not mean that self-discrepancies are only present in this group. The literature argues that women are more prone to emotional awareness than men (Kring & Gordon, 1998; Barrett et al., 2000). This situation may have enabled female participants to benefit more from the character design process, particularly in terms of ought self-discrepancy.

In addition, descriptive analyses showed that participants most closely identified the characters they designed with their ideal selves, while similarities with their unwanted selves were at the lowest level. This means that the character design process is not only a game or entertainment, but also that the representations of the self are externalized in a virtual environment. Although the level of similarity perceived by the participants in the study did not predict the change in state anxiety, their tendency to design their ideal selves may indicate that the participants consciously or unconsciously thought about their self-representations. According to Gürcan-Yıldırım and Gençöz's (2020) study, psychological well-being in Turkish culture was found to be related not only to approaching the ideal self but also to moving away from the unwanted self. When it comes to the current study, the fact that the characters designed by the individuals resemble the least undesirable self may indicate that they have an internal motivation to suppress or eliminate the characteristics that they do not want to be in themselves on the virtual platform.

4.6. Limitations and Suggestions for Future Studies

Although the findings of the study are important, they also have some limitations. The majority of the sample consists of women and the age range is limited to 18-26 years. This uneven distribution makes it difficult to statistically test the impact of gender-related variables. However, it suggests that the experiences of female participants may dominate the results. This situation reduces the generalizability of the results. The imbalance in the ratio of men to women may affect the nature of the results, especially in gender-role-specific variables such as self-discrepancies. The small number of male participants meant that a gender-based comparison of the effect of actual-ought discrepancy on state anxiety could not be concluded.

Moreover, in CBT-based or gamified psychological interventions, ensuring the long-term effectiveness of the treatment should be a key consideration. In the current study, long-term follow-up studies were not conducted to observe the sustainable effects of the intervention. This makes it difficult to understand how long the anxiety reduction will last, or how much the person will benefit from it. Future studies should therefore be longitudinal to measure longer-term effects.

In addition, the participants were not allowed to spend time with their characters after the character design process. The literature states that the time spent with a virtual character determines identification and emotional impact (Turkay, 2014; Klimmt et al., 2009). This limitation may have prevented participants from forming meaningful bonds with their virtual characters or identifying with them. Research shows that spending time with a character that represents oneself increases emotional investment in that character and deepens cognitive and emotional processing (Turkay, 2014; Birk & Mandryk, 2019). Therefore, future studies should include a part for interacting with the avatar after character design to create an environment similar to that of a role-playing game and allow participants to bond with their characters. This would also enable the evaluation of the long-term effects of such interactions on emotion regulation. In addition, the participants were free of psychological or neurological problems. Therefore, it is not known how the results will be in the sample with psychological or neurological disorders.

Finally, assessments of perceived similarity between self-representations and character were made with only single-item scale, which may have limited the depth of the measurement. In addition, it may be difficult to say that the variables used fully reflect psychological processes. Because individual differences could not be taken into account.

Future studies should include more demographic variables such as age and gender in the analysis and include character design processes involving longer-term interventions in their methods. They could also measure the extent to which participants identify with their characters by using scales such as the Player Identification Scale by Van Looy et al. (2012) instead of their subjective perceptions. Additionally, RPG and character design-based therapeutic intervention methods should be developed and their long-term effects should be examined. In addition, intervention methods can be developed and applied to people with depression, anxiety disorder and self-esteem problems. Since game-based character design provides a safer environment for the person to face their problems, it should be investigated how these processes will work, especially in therapy-resistant cases.

In addition, story-oriented games are known to increase people's identification with characters and affect emotions. (Ferchaud et al., 2020). Therefore, the effect of the story experiences in the game on the emotional processes and self-discrepancies should be investigated. In this context, the inclusion of story-based games in psychotherapy practices can be evaluated.

The findings of this study are thought to offer an important multidisciplinary perspective in terms of integrating digital environments into traditional therapy processes as an intervention tool. Especially in the Turkish sample, such a study has not been conducted before. The adaptation of SDT (Higgins, 1987), which was originally a social psychology theory, to clinical psychology through the virtual character design process is one of the things that make this study distinctive.

As a result, the findings obtained in this study show that the character design process is not only an entertaining activity, but also can be a therapeutic tool that has an effect on the person's self-discrepancies, allowing the person to experience the conflicts about the self through the character and to reduce the state anxiety levels. The results indicate that traditional

therapy techniques can be enhanced by digital resources and that game-based methods have significant potential for use in psychological interventions in the future.

In summary, for future studies, it is suggested to increase the level of identification by allowing people to spend longer time with the designed character, to create a more subjective and unique experience for the individual by including the story context into the experimental setup, and to include personal variables such as the individual's personality traits or their current problems in the study. In addition, it is recommended that qualitative applications that enable deeper analysis of the individual be included in the research process, rather than relying solely on quantitative analyses. For example, after the character design process, semi-structured interviews can be conducted with participants to understand how they interpreted the process, which self-representations they considered when designing their characters, and to examine the emotional state involved in detail. This can help us understand how the self-discrepancies experienced by individuals affect the character design process. Such qualitative data not only enriches the findings but also contributes to the integration of the character design process into therapy applications. Especially for individuals experiencing depression, social anxiety, or identity-related issues, the character design process and following story-based games with these characters can provide an alternative expression space when it is difficult for the individual to verbally express their internal conflicts. Finally, it is recommended that future studies include methodologies that will reveal how participants in these qualitative studies process their feelings, thoughts and representations of self through character.

In addition, the long-term effects of such practices should be examined separately in periods when identity development is at the forefront, such as adolescents and young adults. It is thought that RPG character design processes can be used especially in individuals with depression, social anxiety and identity conflict. In this respect, the current study may be considered as a step in the integration of digital technologies into psychotherapy.

5. CONCLUSION

How people see their self-representations (actual, ideal, ought and undesired) is important for their psychological well-being. To such an extent that if a person experiences a discrepancy between their actual self and other self-representations, it can cause negative affect and impact their daily life. People are trying to balance the self they are with the self they should be or the self they want to be while trying to stay away from their undesired selves. The inability to balance between selves causes people to experience “self-discrepancy” and is associated with negative emotions such as depression, anxiety and guilt.

The current study aims to examine whether people can regulate their state anxiety by embodying these self-representations through the character design process in a game, which is an interactive environment that allows them to transfer their selves, and whether this process will relieve their state anxiety.

When the results were analyzed, it was observed that the participants who experienced “actual-ought self-discrepancy” experienced a decrease in state anxiety after the character design process. By experiencing the “ought selves” reflecting the selves that society expects from them through their character, the participants had the opportunity to confront and distance themselves from these expectations concretely. This result shows that game character design is not only for entertainment purposes but can also lead to psychological relief.

In addition, the prediction effect between the similarity scores of the participants' designed characters to different self-representations and the change in anxiety was not significant. This suggests that identification with the character is influenced by the time spent with that character or the meaningful experience involving narrative rather than the perception of similarity. In the current study, the participants' time spent with the character was limited and the fact that they did not have a meaningful experience with this character in the context of the game may have affected their identification experiences.

The current study is thought to offer a new perspective on the field of clinical psychology. The “Self-Discrepancy Theory” originating from social psychology has been adapted to clinical

psychology through digital environments. Tools such as character design and games can offer a safer and symbolic expression space, especially for clients who resist traditional therapies or have difficulty conveying their identity conflicts. This process can be a perspective that both keeps the client in therapy and increases motivation due to its playful nature.

As a result, the character design process is thought to be a promising tool in the future in terms of the therapeutic use of digital environments, which can create anxiety-reducing effects that enable the individual to confront self-discrepancies. In future studies, it is recommended to extend the time spent with the character, to include the narrative context and to evaluate the resulting therapeutic material within the scope of therapy.

REFERENCES

- Adler, A. (1912). *The neurotic character*. Cosmopolitan Book Corporation.
- Adler, A. (1928). *Understanding human nature*. Greenberg.
- Ansbacher, H. L., & Ansbacher, R. R. (1956). *The individual psychology of Alfred Adler*. New York: Basic Books.
- Avants, S. K., Margolin, A., & Singer, J. L. (1994). Self-reevaluation therapy: A cognitive intervention for the chemically dependent patient. *Psychology of Addictive Behaviors*, 8(4), 214–222. <https://doi.org/10.1037/0893-164X.8.4.214>
- Bainbridge, W. S. (2007). The scientific research potential of virtual worlds. *Science*, 317(5837), 472–476. <https://doi.org/10.1126/science.1146930>
- Bailenson, J. N., Yee, N., Blascovich, J., Beall, A. C., Lundblad, N., & Jin, M. (2008). The use of immersive virtual reality in the learning sciences: Digital transformations of teachers, students, and social context. *Journal of the Learning Sciences*, 17(1), 102–141. <https://doi.org/10.1080/10508400701793141>
- Bailenson, J. N., & Beall, A. C. (2006). Transformed social interaction: Exploring the digital plasticity of avatars. In R. Schroeder & A. S. Axelsson (Eds.), *Avatars at work and play: Collaboration and interaction in shared virtual environments* (pp. 1–16). Springer.
- Barrett, L. F., Lane, R. D., Sechrest, L., & Schwartz, G. E. (2000). Sex differences in emotional awareness. *Personality and Social Psychology Bulletin*, 26(9), 1027–1035. <https://doi.org/10.1177/01461672002611001>
- Bessiere, K., Seay, A.F., Kiesler, S. (2007). The Ideal Elf: Identity Exploration in World of Warcraft. *Cyberpsychology & Behavior*, 10 (4). 530-535. <https://doi.org/10.1089/cpb.2007.9994>
- Birk, M. V., & Mandryk, R. L. (2019). Improving the efficacy of cognitive training through avatar customization: Crowdsourced quasi-experimental study. *JMIR Mental Health*, 6(1), e10133. <https://doi.org/10.2196/10133>

- Blackmon, W. D. (1994). Dungeons and Dragons: The use of a fantasy game in the psychotherapeutic treatment of a young adult. *American Journal of Psychotherapy*, 48(4), 624–632. <https://doi.org/10.1176/appi.psychotherapy.1994.48.4.624>
- Blascovich, J., Loomis, J., Beall, A. C., Swinth, K. R., Hoyt, C. L., & Bailenson, J. N. (2009). Immersive virtual environment technology as a methodological tool for social psychology. *Psychological Inquiry*, 13(2), 103–124. https://doi.org/10.1207/S15327965PLI1302_01
- Blatner, A. (2000). *Foundations of psychodrama: History, theory, and practice* (4th ed.). Springer Publishing Company.
- Boldero, J., & Francis, J. (2000). The relation between self-discrepancies and emotion: The moderating roles of self-guide importance, location relevance, and social self-domain centrality. *Journal of Personality and Social Psychology*, 78(1), 38–52. <https://doi.org/10.1037/0022-3514.78.1.38>
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, 36(2), 129–148. <https://doi.org/10.1037/0003-066X.36.2.129>
- Bowman, S. L., & Lieberoth, A. (2018). Psychology and role-playing games. In *Role-playing game studies* (pp. 245-264). Routledge.
- Bowman, D. and McMahan, R.P. (2007) Virtual Reality: How Much Immersion Is Enough?, *Computer*, 40(7), 36-43. <https://doi.org/10.1109/MC.2007.257>
- Carver, C. S., Lawrence, J. W., & Scheier, M. F. (1999). Self-discrepancies and affect: Incorporating the role of feared selves. *Personality and Social Psychology Bulletin*, 25, 783–792. <http://dx.doi.org/10.1177/0146167299025007002>.
- Causo, F., & Quinlan, E. (2021). Defeating dragons and demons: Consumers' perspectives on mental health recovery in role-playing games. *Australian Psychologist*, 56(3), 256-267.
- Coan, J. A., & Allen, J. J. B. (Eds.). (2007). *Handbook of emotion elicitation and assessment*. Oxford University Press.
- Corsini, R. J. (2017). *Role-playing in psychotherapy*. AldineTransaction.

- Drew, B., & Waters, J. (1986). Video games: Utilization of a novel strategy to improve perceptual motor skills and cognitive functioning in the non-institutionalized elderly. *Cognitive Rehabilitation*, 4(2), 26–31.
- Dunn, R. A., & Guadagno, R. E. (2012). My avatar and me—Gender and personality predictors of avatar-self discrepancy. *Computers in Human Behavior*, 28(1), 97–106. <https://doi.org/10.1016/j.chb.2011.08.015>
- Eagly, A. H., & Wood, W. (2012). Social role theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 458–476). Sage Publications.
- Enfield, G. (2007). Becoming the hero: The use of role-playing games in psychotherapy. In L. C. Rubin (Ed.), *Using superheroes in counseling and play therapy* (pp. 227–241). Springer Publishing Company.
- ExaGames. (n.d.). *Sudoku Generator* [Computer software]. Itch.io. <https://exagames.itch.io/sudoku-generator>
- Fairbrother, N., & Moretti, M. (1998). Sociotropy, autonomy, and self-discrepancy: Status in depressed, remitted depressed, and control participants. *Cognitive Therapy and Research*, 22(3), 279–297. <https://doi.org/10.1023/A:1018796810260>
- Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191.
- Ferchaud, A., Seibert, J., Sellers, N., & Escobar Salazar, N. (2020). Reducing Mental Health Stigma Through Identification With Video Game Avatars With Mental Illness. *Frontiers in psychology*, 11, 2240. <https://doi.org/10.3389/fpsyg.2020.02240>
- Fleming, T., Bavin, L., Lucassen, M., Stasiak, K., Hopkins, S., & Merry, S. (2018). Beyond the Trial: Systematic Review of Real-World Uptake and Engagement With Digital Self-Help Interventions for Depression, Low Mood, or Anxiety. *Journal of medical Internet research*, 20(6), e199. <https://doi.org/10.2196/jmir.9275>

- Fox, J., & Bailenson, J. N. (2009). Virtual self-modeling: The effects of vicarious reinforcement and identification on exercise behaviors. *Media Psychology*, 12(1), 1–25. <https://doi.org/10.1080/15213260802669474>
- Freeman, D., Haselton, P., Freeman, J., Spanlang, B., Kishore, S., Albery, E., ... & Slater, M. (2017). Automated psychological therapy using immersive virtual reality for treatment of fear of heights: A single-blind, parallel-group, randomised controlled trial. *The Lancet Psychiatry*, 5(8), 625–632.
- Freud, S. (1957). *The ego and the id*. Standard Edition, 19.
- Freud, S. (1914). *On narcissism: An introduction*. In Standard edition (Vol. 14).
- Gibbons, M. B. C., Crits-Christoph, P., Barber, J. P., Wiltsey Stirman, S., Gallop, R., Goldstein, L. A., Temes, C. M., & Ring-Kurtz, S. (2009). Unique and common mechanisms of change across cognitive and dynamic psychotherapies. *Journal of Consulting and Clinical Psychology*, 77(5), 801–813. <https://doi.org/10.1037/a0016596>
- Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*, 119(1), 182–191. <https://doi.org/10.1542/peds.2006-2697>
- Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78. <https://doi.org/10.1037/a0034857>
- Gutierrez, R. (2017). Therapy & dragons: A look into the possible applications of table top role playing games in therapy with adolescents.
- Gürcan-Yıldırım, F. D., & Gençöz, T. (2020). Self-discrepancies and their relations to depression and anxiety: The role of emotion regulation and resilience. *Current Psychology*, 41, 4154–4165. <https://doi.org/10.1007/s12144-020-00701-8>
- Gürcan, D. (2015). *Perceived parental relationship, self-discrepancy, and personality characteristics in relation to psychological well-being* [Doctoral dissertation, Middle East Technical University]. Ulusal Tez Merkezi. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>

- Gürcan, D. (2015). Self-discrepancy and personality characteristics in relation to psychological well-being: The role of perceived parental relationship (Master's thesis, Middle East Technical University, Ankara, Turkey). YÖK Ulusal Tez Merkezi.
- Hardin, E. E., & Lakin, J. L. (2009). The integrated self-discrepancy index: A reliable and valid measure of self-discrepancies. *Journal of Personality Assessment*, 91(3), 245-253. <https://doi.org/10.1080/00223890902794291>
- Hefner, D., Klimmt, C., & Vorderer, P. (2007). Identification with the player character as determinant of video game enjoyment. *Entertainment Computing–ICEC 2007*, 39–48. Springer.
- Higgins, E. T. (1999). When do self-discrepancies have specific relations to emotions? the second-generation question of Tangney, Niedenthal, Covert, and Barlow (1998). *Journal of Personality and Social Psychology*, 77(6), 1313–1317. <https://doi.org/10.1037/0022-3514.77.6.1313>
- Higgins, E. T. (1989). Continuities and discontinuities in self-regulatory and self-evaluative processes: A developmental theory relating self and affect. *Journal of Personality*, 57(2), 407–444. <https://doi.org/10.1111/j.1467-6494.1989.tb00488.x>
- Higgins, E. T. (1987). Self-Discrepancy: A theory relating self and affect. *Psychological Review*, 94(3), 319-340.
- Higgins, E. T., Bond, R. N., Klein, R., & Strauman, T. (1986). Self-discrepancies and emotional vulnerability: how magnitude, accessibility, and type of discrepancy influence affect. *Journal of personality and social psychology*, 51(1), 5–15. <https://doi.org/10.1037/0022-3514.51.1.5>
- Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social Cognition*, 3(1), 51–76. <https://doi.org/10.1521/soco.1985.3.1.51>
- Hitchens, M., & Drachen, A. (2009). The Personal Experience of Narratives in Role-Playing Games. In *AAAI Spring Symposium: Intelligent Narrative Technologies II*, 53-60.

- Hofmann, S. G., Sawyer, A. T., Fang, A., & Asnaani, A. (2012). Emotion dysregulation model of mood and anxiety disorders. *Depression and Anxiety*, 29(5), 409–416.
- Homey, K. (1950). *Neurosis and human growth*. New York: Norton.
- James, W. (1890). *The principles of psychology*. New York: Holt.
- Kağıtçıbaşı, Ç. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology*, 36(4), 403–422. <https://doi.org/10.1177/0022022105275959>
- Kanfer, F. H., & Phillips, J. S. (1966). *Learning foundations of behavior therapy*. Wiley.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. The Guilford Press.
- Kihlstrom, J.F., & Cantor, N.E. (1984). Mental Representations of the Self. *Advances in Experimental Social Psychology*, 17, 1-47.
- Klimmt, C., Hefner, D., & Vorderer, P. (2009). The video game experience as "true" identification: A theory of enjoyable alterations of players' self-perception. *Communication Theory*, 19(4), 351–373. <https://doi.org/10.1111/j.1468-2885.2009.01347.x>
- Koepp, M. J., Gunn, R. N., Lawrence, A. D., Cunningham, V. J., Dagher, A., Jones, T., Brooks, D. J., Bench, C. J., & Grasby, P. M. (1998). Evidence for striatal dopamine release during a video game. *Nature*, 393(6682), 266–268. <https://doi.org/10.1038/30498>
- Kring, A. M., & Bachorowski, J.-A. (1999). Emotions and psychopathology. *Cognition and Emotion*, 13(5), 575–599. <https://doi.org/10.1080/026999399379195>
- Kring, A. M., & Gordon, A. H. (1998). Sex differences in emotion: Expression, experience, and physiology. *Journal of Personality and Social Psychology*, 74(3), 686–703. <https://doi.org/10.1037/0022-3514.74.3.686>
- Kundu, A., Barbareschi, G., Kawaguchi, M., Yano, Y., Ohashi, M., Kitaoka, K., Seike, A., & Minamizawa, K. (2024). “I Wanted to Create my Ideal Self”: Exploring avatar

perception of LGBTQ+ users for therapy in virtual reality. *arXiv preprint*.
<https://doi.org/10.48550/arXiv.2409.00383>

Kütük, N. N. (2023). Investigating Professional Self- Discrepancies of Psychotherapists: The Role of Personal Psychotherapy [Master's thesis, Baskent University]. Ulusal Tez Merkezi. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>

Larian Studios. (2023). *Baldur's Gate 3* [Video game]. Larian Studios.
<https://baldursgate3.game>

Leff, J., Williams, G., Huckvale, M., Arbuthnot, M., & Leff, A. P. (2013). Avatar therapy for persecutory auditory hallucinations: What is it and how does it work? *Psychosis*, 6(2), 166–176. <https://doi.org/10.1080/17522439.2013.773457>

Levinson, C. A., & Rodebaugh, T. L. (2013). Social anxiety and eating disorder comorbidity: the role of negative social evaluation fears. *Eating behaviors*, 13(1), 27–35.
<https://doi.org/10.1016/j.eatbeh.2011.11.006>

Lewis H. B. (1971). Shame and guilt in neurosis. *Psychoanalytic review*, 58(3), 419–438.

Lippitt, R., (1943). The psychodrama in leadership training. *Sociometry*, 6, 286-292

Lomanowska, A. M., and Guitton, M. J. (2014). My avatar is pregnant! Representation of pregnancy, birth, and maternity in a virtual world. *Computers in Human Behavior* 31, 322–331. <https://doi.org/10.1016/j.chb.2013.10.058>

Looy, J. V., Courtois, C., De Vocht, M., & De Marez, L. (2012). Player identification in online games: Validation of a scale for measuring identification in MMOGs. *Media Psychology*, 15(2), 197–221. <https://doi.org/10.1080/15213269.2012.674917>

Loewen, M. G. H., Burris, C. T., & Nacke, L. E. (2021). Me, Myself, and Not-I: Self-Discrepancy Type Predicts Avatar Creation Style. *Frontiers in psychology*, 11, 1902. <https://doi.org/10.3389/fpsyg.2020.01902>

Mancini, T., Imperato, C., & Sibilla, F. (2019). Does avatar's character and emotional bond expose to gaming addiction? Two studies on virtual self-discrepancy, avatar identification and gaming addiction in massively multiplayer online role-playing game

- players. *Computers in Human Behavior*, 92, 297 - 305. <https://doi.org/10.1016/j.chb.2018.11.007>
- Mason, T. B., Smith, K. E., Engwall, A., Lass, A., Mead, M., Sorby, M., Bjorlie, K., Strauman, T. J., & Wonderlich, S. (2019). Self-discrepancy theory as a transdiagnostic framework: A meta-analysis of self-discrepancy and psychopathology. *Psychological Bulletin*, 145(4), 372–389. <https://doi.org/10.1037/bul0000186>
- Mathews, A., & MacLeod, C. (2010). Induced processing biases have causal effects on anxiety. *Cognition and Emotion*, 16(3), 331–354. <https://doi.org/10.1080/02699930143000518>
- McDonald DG, Kim H (2010) When I die, I feel small: Electronic game characters and the social self. *J Broadcast Electron Media*, 45, 241-258. https://doi.org/10.1207/s15506878jobem4502_3
- McDowell, I. (2006). *Measuring health: A guide to rating scales and questionnaires* (3rd ed.). Oxford University Press.
- McIntyre, K. P., & Eisenstadt, D. (2011). Social comparison as a self-regulatory measuring stick. *Self and Identity*, 10(2), 137–151. <https://doi.org/10.1080/15298861003676529>
- McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 From Cyberspace: The Implications of the Internet for Personality and Social Psychology. *Personality and Social Psychology Review*, 4(1), 57-75. https://doi.org/10.1207/S15327957PSPR0401_6
- Melodia, F., Canale, N., Griffiths, M. D. (2021). The role of avoidance coping and escape motives in problematic online gaming: A systematic literature review. *International Journal of Mental Health and Addiction*. Advance online publication. <https://doi.org/10.1007/s11469-020-00422-w>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia*, 22(1), 67– 72. https://doi.org/10.4103/aca.ACA_157_18
- Moreno, J. L. (1945). *Psychodrama: Volume I*. Beacon House.

- Moretti, M. M., & Higgins, E. T. (1990). Relating self-discrepancy to self-esteem: The contribution of discrepancy beyond actual-self ratings. *Journal of Experimental Social Psychology*, 26(2), 108–123. [https://doi.org/10.1016/0022-1031\(90\)90071-S](https://doi.org/10.1016/0022-1031(90)90071-S)
- Ogilvie, D. M. (1987). The undesired self: A neglected variable in personality research. *Journal of Personality and Social Psychology*, 52(2), 379–385. <https://doi.org/10.1037/0022-3514.52.2.379>
- Oner, N. and Le Compte, A. (1985) Durumluk Surekli Kaygi Envanteri El Kitabı. *Bogazici Universitesi Yayinlari*, Istanbul, 1-26.
- Pellegrini, A. D., & Smith, P. K. (2005). Play in Great Apes and Humans. In A. D. Pellegrini & P. K. Smith (Eds.), *The nature of play: Great apes and humans* (pp. 3–12). The Guilford Press.
- Peterson, C. B., Berg, K. C., Crosby, R. D., Lavender, J. M., Accurso, E. C., Ciao, A. C., Smith, T. L., Klein, M., Mitchell, J. E., Crow, S. J., & Wonderlich, S. A. (2017). The effects of psychotherapy treatment on outcome in bulimia nervosa: Examining indirect effects through emotion regulation, self-directed behavior, and self-discrepancy within the mediation model. *The International journal of eating disorders*, 50(6), 636–647. <https://doi.org/10.1002/eat.22669>
- Pimentel, D., & Kalyanaraman, S. (2020). Customizing your demons: Anxiety reduction via anthropomorphizing and destroying an “anxiety avatar”. *Frontiers in Psychology*, 11, Article 566682. <https://doi.org/10.3389/fpsyg.2020.566682>
- Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of Women Quarterly*, 26(4), 269–281.
- Przybylski, A. K., Weinstein, N., Murayama, K., Lynch, M. F., & Ryan, R. M. (2012). The ideal self at play: the appeal of video games that let you be all you can be. *Psychological science*, 23(1), 69–76. <https://doi.org/10.1177/0956797611418676>
- Rachman, S. (2004). *Anxiety*. Psychology Press.

- Renaud, J. M., & McConnell, A. R. (2007). Wanting to be better but thinking you can't: Implicit theories of personality moderate the impact of self-discrepancies on self-esteem. *Self and Identity*, 6(1), 41–50. <https://doi.org/10.1080/15298860600764597>
- Reynaldo, C., Christian, R., Hosea, H., & Gunawan, A. A. (2021). Using video games to improve capabilities in decision making and cognitive skill: A literature review. *Procedia Computer Science*, 179, 211-221. <https://doi.org/10.1016/j.procs.2020.12.027>
- Rogers, C. R., & Dymond, R. F. (Eds.). (1954). *Psychotherapy and personality change*. University of Chicago Press.
- Rogers, C. R. (1959). A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of a science* (Vol. 3). New York: McGraw-Hill.
- Rogers, C. R. (1961). *On becoming a person*. Boston: Houghton Mifflin.
- Rotter, J. B., & Wickens, D. D. (1948). The consistency and generality of ratings of "social aggressiveness" made from observations of role playing situations. *Journal of Consulting Psychology*, 12(4), 234–239. <https://doi.org/10.1037/h0054313>
- Rubin, L. C. (2007). Introduction: Look, up in the sky! An introduction to the use of superheroes in psychotherapy. In L. C. Rubin (Ed.), *Using superheroes in counseling and play therapy* (pp. 3–21). Springer Publishing Company.
- Russoniello, C. V., O'Brien, K., & Parks, J. M. (2009). The effectiveness of casual video games in improving mood and decreasing stress. *Journal of Cybertherapy and Rehabilitation*, 2(1), 53–66.
- Schnurr, B., and Scholl-Grissemann, U. (2015). Beauty or function? How different mass customization toolkits affect customers' process enjoyment. *J. Consum. Behav.* 14, 335–343. <https://doi.org/10.1002/cb.1524>
- Scott, L., & O'Hara, M. W. (1993). Self-discrepancies in clinically anxious and depressed university students. *Journal of Abnormal Psychology*, 102(2), 282–287. <https://doi.org/10.1037/0021-843X.102.2.282>

- Sesti, A. M. (2000). The use of the State-Trait Anxiety Inventory in measuring anxiety in college students. *Journal of Instructional Psychology*, 27(2), 94–97.
- Smahel, D., Blinka, L., & Ledabyl, O. (2008). Playing MMORPGs: connections between addiction and identifying with a character. *Cyberpsychology & behavior : the impact of the Internet, multimedia and virtual reality on behavior and society*, 11(6), 715–718. <https://doi.org/10.1089/cpb.2007.0210>
- Spielberger, C. D. (1983). *State-Trait Anxiety Inventory for Adults (STAI-AD)* [Database record]. APA PsycTests. <https://doi.org/10.1037/t06496-000>
- Statista. (2020). *Statista*. <https://www.statista.com/>
- Steinman, S. A., Wootton, B. M., & Tolin, D. F. (2016). Exposure therapy for anxiety disorders: An overview and new directions. In M. W. Otto & S. G. Hofmann (Eds.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (pp. 27–58). Guilford Press.
- Strauman, T. J., & Higgins, E. T. (1987). Automatic activation of self-discrepancies and emotional syndromes: When cognitive structures influence affect. *Journal of Personality and Social Psychology*, 53, 1004–1014.
- Strauman, T. J., & Higgins, E. T. (1988). Self-discrepancies as predictors of vulnerability to distinct syndromes of chronic emotional distress. *Journal of Personality*, 56(4), 685–707. <http://dx.doi.org/10.1111/j.1467-6494.1988.tb00472.x>.
- Strauman, T. J. (1989). Self-discrepancies in clinical depression and social phobia: Cognitive structures that underlie emotional disorders? *Journal of Abnormal Psychology*, 98(1), 14–22. <https://doi.org/10.1037/0021-843X.98.1.14>
- Strauman, T. J., Vieth, A. Z., Merrill, K. A., Kolden, G. G., Woods, T. E., Klein, M. H., Papadakis, A. A., Schneider, K. L., & Kwapil, L. (2006). Self-system therapy as an intervention for self-regulatory dysfunction in depression: a randomized comparison with cognitive therapy. *Journal of consulting and clinical psychology*, 74(2), 367–376. <https://doi.org/10.1037/0022-006X.74.2.367>

- Sung, Y., Moon, J. H., Kang, M., & Jeong, D. (2011). Conceptualizing personal web usage in work contexts: A preliminary framework. *Computers in Human Behavior*, 27(5), 2282–2289. <https://doi.org/10.1016/j.chb.2011.07.006>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Pearson/Allyn & Bacon.
- Tabin, J. K. (2005). Transitional Objects in Play Therapy with Adolescents. In L. Gallo-Lopez & C. E. Schaefer (Eds.), *Play therapy with adolescents* (pp. 68–80). Jason Aronson.
- Tangney, J. P., Niedenthal, P. M., Covert, M. V., & Barlow, D. H. (1998). Are shame and guilt related to distinct self-discrepancies? A test of Higgins's (1987) hypotheses. *Journal of Personality and Social Psychology*, 75(1), 256–268. <https://doi.org/10.1037/0022-3514.75.1.256>
- Triberti, S., Milani, L., Villani, D., Grassi, A., & Riva, G. (2017). Identification toward characters in video games: Integrating theory of identification and self-discrepancy theory. *Cyberpsychology, Behavior, and Social Networking*, 20(10), 654–659. <https://doi.org/10.1089/cyber.2017.0304>
- Tovilović, S., Stojanović, D., & Žuljević, D. (2009). The contribution of personality traits and state-trait anxiety to the prediction of aggression. *Psihologija*, 42(3), 271–286. <https://doi.org/10.2298/PSI0903271T>
- Turkay, S., & Kinzer, C. K. (2014). The effects of avatar: Based customization on player identification. *International Journal of Gaming and Computer-Mediated Simulations*, 6(1), 1–25. <https://doi.org/10.4018/ijgcms.2014010101>
- Türe, D. (2021). *Mother-shaming memories: The role of maternal self-discrepancy on negative emotions and shaming experiences of mothers* [Doctoral dissertation, Middle East Technical University]. Ulusal Tez Merkezi. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- Van Looy, J., Courtois, C., & De Vocht, M. (2014). Self-discrepancy and MMORPGs: Testing the moderating effects of avatar identification and pathological gaming in *World of Warcraft*. In T. Quandt & S. Kröger (Eds.), *Multiplayer: The social aspects of digital gaming* (pp. 236–244). Routledge.

- Van Reijmersdal, E. A., Jansz, J., Peters, O., & van Noort, G. (2013). Why girls go pink: Game character identification and game-players' motivations. *Computers in Human Behavior*, 29(6), 2640–2649. <https://doi.org/10.1016/j.chb.2013.06.046>
- Vasalou, A., Joinson, A. N., Bänziger, T., Goldie, P., & Pitt, J. (2008). Avatars in social media: Balancing accuracy, playfulness and embodied messages. *International Journal of Human-Computer Studies*, 66(11), 801–811. <https://doi.org/10.1016/j.ijhcs.2008.06.001>
- Villani, D., Carissoli, C., Triberti, S., Marchetti, A., Gilli, G., & Riva, G. (2018). Videogames for Emotion Regulation: A Systematic Review. *Games for health journal*, 7(2), 85–99. <https://doi.org/10.1089/g4h.2017.0108>
- Watson, J. C., Steckley, P. L., & McMullen, E. J. (2014). The role of empathy in promoting change. *Psychotherapy research : journal of the Society for Psychotherapy Research*, 24(3), 286–298. <https://doi.org/10.1080/10503307.2013.802823>
- Weilage, M., & Hope, D.A. (1999). Self-discrepancy in social phobia and dysthymia. *Cognitive Therapy and Research*. 23, 637-650.
- White, M. & Epston, D. (1990) *Narrative Means to Therapeutic Ends*. W. W. Norton, New York.
- Wonderlich, S. A., Peterson, C. B., Smith, T. L., & Klein, M. H., Mitchell, J. E., & Crow, S. J. (Collaborators). (2015). *Integrative cognitive-affective therapy for bulimia nervosa: A treatment manual*. The Guilford Press.
- Woodman, T., & Steer, R. (2011). Body self-discrepancies and women's social physique anxiety: the moderating role of the feared body. *British journal of psychology (London, England: 1953)*, 102(2), 147–160. <https://doi.org/10.1348/000712610X507821>

APPENDICES

APPENDIX 1: INFORMED CONSENT FORM FOR ONLINE SURVEY

Değerli Katılımcı,

Bu araştırma, Başkent Üniversitesi Klinik Psikoloji Yüksek Lisans Programı'nda öğrenim görmekte olan Psk. Aleyna Su Tunçol tarafından, Dr. Tuğba Uyar Suiçmez danışmanlığındaki yüksek lisans tezi kapsamında yürütülmektedir.

Bu çalışma, oyun karakteri tasarlanırken kişilerin nasıl hissettiklerini ve bu duyguların stres seviyelerini nasıl etkilediğini öğrenmeyi amaçlamaktadır. Birazdan yanıtlayacağınız anket, araştırmanın yüz yüze bir şekilde bilgisayar üzerinden gerçekleştirilecek olan ikinci oturumuna katılacak katılımcıları belirlemek amacı ile belirlenen çeşitli soruları içermektedir. Verdiğiniz yanıtlar doğrultusunda, çalışmanın ikinci oturumu için sizinle paylaştığınız mail adresi ya da cep telefonunuz üzerinden iletişime geçilecektir. Bundan dolayı aktif olarak kullandığınız ve kontrol ettiğiniz bir mail adresi ya da telefon numarasını vermeniz çalışmanın gidişatı açısından daha verimli olacaktır. Bu kısım yaklaşık olarak 5-10 dakika sürmektedir. Ankette genel olarak rahatsızlık verecek sorular bulunmamaktadır. Ancak, herhangi bir rahatsızlık hissetmeniz durumunda çalışmadan ayrılabilirsiniz. Katılım gönüllülük esasına dayanmaktadır. Araştırmada sizden kimlik belirleyici hiçbir bilgi istenmeyecek olup, edinilen bilgiler sadece araştırmacılar tarafından değerlendirildikten sonra bilimsel yayımlarda kullanılacaktır. Araştırmayla ilgili daha fazla bilgi almak ya da soru sormak istemeniz durumunda Psk. Aleyna Su Tunçol ile iletişime geçebilirsiniz. Çalışmaya olan katkılarınızdan dolayı teşekkür ederiz.

Bu çalışma hakkında bilgilendirildim. Çalışmaya kendi rızam ile katılıyorum ve istediğim zaman çalışmayı sonlandırabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum.

Katılıyorum

☐

Katılmıyorum

☐

İmza

İletişim Bilgileri: Aleyna Su Tunçol

APPENDIX 2: INFORMED CONSENT FORM FOR EXPERIMENTAL SESSION

Değerli Katılımcı,

Bu araştırma, Başkent Üniversitesi Klinik Psikoloji Yüksek Lisans Programı'nda öğrenim görmekte olan Psk. Aleyna Su Tunçol tarafından, Dr. Tuğba Uyar Suiçmez danışmanlığındaki yüksek lisans tezi kapsamında yürütülmektedir. Bu çalışma, oyun karakteri tasarlanırken kişilerin nasıl hissettiklerini ve bu duyguların stres seviyelerini nasıl etkilediğini öğrenmeyi amaçlamaktadır. Çalışma yaklaşık olarak 30 dakika sürmektedir. Uygulama boyunca katılımcıya bazı psikolojik değerlendirme ölçekleri uygulanması ile birlikte bilgisayar üzerinden bazı uygulamalar yapması istenecektir. Araştırma sonuçlarının sağlıklı sonuç verebilmesi için, soruları ve uygulamayı samimi olarak cevaplandırmanız son derece önemlidir. Doğru ya da yanlış cevap yoktur. Kendinize en yakın hissettiğiniz cevabı vermeniz yeterli olacaktır. Ankette ve görüşme sorularında genel olarak rahatsızlık verecek sorular bulunmamaktadır. Ancak, herhangi bir rahatsızlık hissetmeniz durumunda çalışmadan ayrılabilirsiniz.

Katılım gönüllülük esasına dayanmaktadır. Araştırmada sizden kimlik belirleyici hiçbir bilgi istenmeyecek olup, edinilen bilgiler sadece araştırmacılar tarafından değerlendirildikten sonra bilimsel yayımlarda kullanılacaktır. Araştırmayla ilgili daha fazla bilgi almak ya da soru sormak istemeniz durumunda Psk. Aleyna Su Tunçol ile iletişime geçebilirsiniz. Çalışmaya olan katkılarınızdan dolayı teşekkür ederiz.

Bu çalışma hakkında bilgilendirildim. Çalışmaya kendi rızam ile katılıyorum ve istediğim zaman çalışmayı sonlandırabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum.

Tarih

.....

Katılıyorum

☐

Katılmıyorum

☐

İmza

İletişim Bilgileri: Aleyna Su Tunçol

APPENDIX 3: DEMOGRAPHIC FORM

1.Doğum yılınız:

2. Cinsiyetiniz: K () E () Diğer (Lütfen Belirtiniz:.....) Belirtmek istemiyorum ()

3. En son mezun olduğunuz öğrenim derecesi:

☐ Üniversite

☐ Yüksek Lisans

☐ Doktora

4.Düzenli video oyunu oynuyor musunuz?

Evet () Hayır ()

Evet ise haftalık ortalama ne kadar belirtiniz:.....

5. Daha önce psikolojik/nörolojik bozukluklarla ilişkili herhangi bir tanı aldınız mı?

Evet () Hayır ()

Evet ise belirtiniz:

6. Düzenli bir ilaç kullanıyor musunuz?

Evet () Hayır ()

Evet ise belirtiniz:

APPENDIX 4: STATE- TRAIT ANXIETY INVENTORY (STAI)

Aşağıda kişilerin kendilerine ait duygularını anlatmada kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyunuz, sonra da o anda nasıl hissettiğinizi ifadelerin yan tarafındaki kutulardan uygun olanını işaretlemek yoluyla belirtiniz. Doğru ya da yanlış yanıt yoktur. Herhangi bir ifadenin üzerine fazla zaman harcamaksızın genel olarak nasıl hissettiğinizi gösteren yanıtı işaretleyiniz. Lütfen boş soru bırakmayınız.

	Hiç	Biraz	Çok	Tümüyle
1. Şu anda sakinim				
2. Kendimi emniyette hissediyorum				
3. Şu anda sinirlerim gergin				
4. Pişmanlık duygusu içindeyim				
5. Şu anda huzur içindeyim				
6. Şu anda hiç keyfim yok				
7. Başıma geleceklerden endişe ediyorum				
8. Kendimi dinlenmiş hissediyorum				
9. Şu anda kaygılıyım				
10. Kendimi rahat hissediyorum				
11. Kendime güvenim var				
12. Şu anda asabım bozuk				
13. Çok sinirliyim				
14. Sinirlerimin çok gergin olduğunu hissediyorum				
15. Kendimi rahatlamış hissediyorum				
16. Şu anda halimden memnunum				
17. Şu anda endişeliyim				
18. Heyecandan kendimi şaşkına dönmüş hissediyorum				
19. Şu anda sevinçliyim				
20. Şu anda keyfim yerinde				

APPENDIX 5: INTEGRATED SELF- DISCREPANCY INDEX (ISDI)

Bir sonraki sayfada size uygun olduđunu dűşündűđűnűz bazı űzellikleri sıralamanız istenecektir. Üç farklı benlik için ayrı listeler yapmanız gerekmektedir.

☐ İdeal benlik: İdeal olarak sahip olmak istediđiniz űzelliklerdir. Sahip olmak istediđiniz, dilediđiniz, umut ettiđiniz kişilik űzellikleri ideal benliđinizi oluşturur.

☐ Zaruri benlik: Sahip olmanız gerektiđini dűşündűđűnűz űzelliklerdir. Görev, zorunluluk, sorumluluk ya da ahlaki olarak sahip olmanız gerektiđini dűşündűđűnűz űzellikler zaruri benliđinizi oluşturur.

☐ İstenmeyen benlik: Sahip olmak istemediđiniz űzellikler istenmeyen benliđinizi oluşturur.

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

Her bir liste için, sıralamanız gereken űzellikleri dikkatlice dűşűnűnűz. űzellikleri sıralarken, dilediđiniz kelimeleri kullanabilirsiniz.

Daha sonra bu kutucukları doldurmanız istenecektir.

O zamana kadar lütfen önemsemeyiz.

- 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 özelliklerdence 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
Canayakın	Ayrımcı	Taklitçi	Kayıtsız	Gözü açık
Kadirşinas	Saygısız	Kusurlu	Kendine güveni olmayan	Utangaç
Artistik	Otoriter	Özgür	Normal	Enerjik
Çekingen	Hevesli	Marifetli	İtaatkar	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	Gözükara	İşgüzar	Sevimli	Öngörülemez
Soğukkanlı	Etkileyici	Uysal	Atik	Güvenilmez
İçten	Aklı havada	Dağınık	Radikal	Fedakar
Kültürlü	Hassas	Sistemli	Akıllı	Sıradan
Kurnaz	Dedikoducu	İlimli	Saf	Yalancı
Meraklı	Kolay aldanan	Modern	Entrikacı	Bilge
Hilekar	Duyarsız	Mütevazı	Küçümseyen	Zeki

Toplamda 15 adet özelliği tamamladıysanız, bir sonraki sayfaya geçiniz.

Yönerge: Şimdi ise sayfa 2'deki 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

Bu sayfada hiç bir işaretleme yapmayınız. Cevaplandırmanızı sayfa 2'de yapınız.

Yönerge: Şu an, oluşturduğunuz karakter ile şu an sahip olduğunuz özellikler ve listelemiş olduğunuz özelliklerin ve ne kadar uyumlu olduğunu puanlamanız istenmektedir. Puanlamayı yaparken aşağıdaki ölçeği göz önünde bulundurunuz ve her bir özelliğin karakterinize ne kadar uygun olduğunu düşünerek aşağıya uygun rakamı yazınız.

Hiç uymuyor	Çok az uyuyor	Bir miktar uyuyor	Oldukça uyuyor	Tamamen uyuyor
1	2	3	4	5

Şu an sahip olduğunuz özellikler	
İdeal Benlik	
Zaruri Benlik	
İstenmeyen Benlik	

APPENDIX 6: ETHICAL COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 02.05.2024-337472



T.C.
BAŞKENT ÜNİVERSİTESİ REKTÖRLÜĞÜ
Akademik Değerlendirme Koordinatörlüğü



Sayı : E-62310886-605-337472
Konu : Aleyna Su Tunçol'un Etik Onayı

02.05.2024

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 17.04.2024 tarih ve 332781 sayılı yazınız.

Enstitünüz Psikoloji Ana Bilim Dalı öğretim üyesi, Dr. Öğretim Üyesi Tuğba Uyar Suiçmez danışmanlığında, Klinik Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Aleyna Su TUNÇOL tarafından yürütülecek olan, "Examination the Effects of Video Game Character Design on Self-Discrepancies and Anxiety" adlı çalışma değerlendirilmiş ve bilgilerinize ekte sunulmuştur.

Prof. Dr. Sadegül AKBABA ALTUN
Kurul Başkanı

Ek: Değerlendirme Formu

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Konu : Bilimsel Çalışma

22 Nisan 2024

İlgili Makama

Üniversitemiz Sosyal Bilimler Enstitüsü Psikoloji Ana Bilim Dalı öğretim üyesi, Dr. Öğretim Üyesi Tuğba Uyar Suiçmez danışmanlığında, Klinik Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Aleyna Su TUNÇOL tarafından yürütülecek olan, "Examination the Effects of Video Game Character Design on Self-Discrepancies and Anxiety" adlı çalışma değerlendirilmiş ve yapılmasında bir sakınca olmadığı tespit edilmiştir.
Bilgilerinize saygılarımızla sunarız.

Başkent Üniversitesi Sosyal ve Beşeri Bilimler ve Sanat Alan Araştırma Kurulu

Ad, Soyad	Değerlendirme	İmza
Prof. Dr. Gözen Güner Aktaş	Olumlu/ Olumsuz	
Prof. Dr. Sadegül Akbaba Altun	Olumlu/ Olumsuz	
Prof. Dr. Fatih Çetin	Olumlu/ Olumsuz	
Prof. Dr. Hasan Tahsin Fendoğlu	Olumlu/ Olumsuz	
Prof. Dr. Filiz Kalelioğlu	Olumlu/ Olumsuz	
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