BAŞKENT UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY
CLINICAL PSYCHOLOGY MASTER'S PROGRAM WITH THESIS

AUTOBIOGRAPHICAL MEMORY PROCESS IN NON-CLINICAL ANXIETY AND COMORBID DEPRESSION

BY

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MASTER'S THESIS

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ANKARA – 2024

BAŞKENT ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
YÜKSEK LİSANS TEZ ÇALIŞMASI ORİJİNALLİK RAPORU

Tarih: 05/01/2024

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Anabilim Dalı: Psikoloji Anabilim Dalı

Programı: Klinik Psikoloji Tezli Yüksek Lisans Programı

Danışmanın Unvanı/Adı, Soyadı: Doç. Dr. Elvin DOĞUTEPE

Tez Başlığı: Autobiographical Memory Process in Non-Clinical Anxiety and Comorbid Depression

Yukarıda başlığı belirtilen Yüksek Lisans tez çalışmamın; Giriş, Ana Bölümler ve Sonuç Bölümünden oluşan, toplam 42 sayfalık kısmına ilişkin, 05/01/2024 tarihinde tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda belirtilen filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 9'dur. Uygulanan filtrelemeler:

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"Başkent Üniversitesi Enstitüleri Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Usul ve Esaslarını" inceledim ve bu uygulama esaslarında belirtilen azami benzerlik oranlarına tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

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Tarih: 05 /01 / 2024

Öğrenci Danışmanı Unvan, Ad, Soyad, İmza:

Doç. Dr. Elvin DOĞUTEPE

To my family…

ACKNOWLEDGMENTS

First of all, I would like to thank my thesis advisor, Assoc. Prof. Elvin Doğutepe, whom I admired for her knowledge and attitude throughout my master process. I want to express my gratitude to for her patience, always constructive feedback, and endless support during my thesis. I am so appreciative of her for shedding light on this path, for welcoming me with great kindness and understanding despite my mistakes. It was a great chance for me to be her thesis student. I am grateful to her for motivating and believing me whenever I feel hopeless. In a word, I express her thanks for her presence.

I would like to thank Prof. Emel Erdoğan Bakar, whom I never missed any of her lectures during my college years and listened to with great admiration and felt quite lucky to be able to take lessons from, for participating in my thesis jury. I would also like to thank Asst. Prof. Özlem Kahraman Erkuş for participating in my thesis jury and sharing her valuable time and feedback.

I would like to thank Asst. Prof. Burçin Akın Sarı, who counseled me during the supervision process. I am grateful to her for introducing me to schema therapy, for her constructive attitude and feedback during the process, and for everything she added to me. I would also like to thank Asst. Prof. Tuğba Uyar Suiçmez for the knowledge she contributed to me during the master's degree process, as well as her positive energy, compassionate approach, and presence.

I would like to thank my family for always supporting and believing in me in this process. I would like to thank my dear father for his countless sacrifices in my education and for teaching me to face all the difficulties and to accept myself and life as it is. I would like to thank my beautiful mother for the compassion and understanding she showed me in this process and for giving me strength, as well as my dear siblings Bige and Mustafa for always bringing joy to my life, and my dog Lily for her presence.

I would also like to thank Hüseyin Isen for the love and endless support he has shown me. I am grateful to him for always being there for me in my most difficult moments, for making me feel strong, and most importantly, for his patience in this process.

Last but not least, I would like to thank Elif Gaye Büyükkayaer, Sena Bulmuş, Gökçenaz Ökten, Yasemin Sena İbiş, Gülce Özcan, Merve Deniz, Onur Karaduman, İlayda Kaya, Hilal Ünsaldı, Melis Halli, and Deniz Köroğlu for their friendship and endless support.

ÖZET

AKBULUT, Rabia. Klinik Olmayan Anksiyete ve Eşlik Eden Depresyonda Otobiyografik Bellek Süreci. Başkent Üniversitesi, Sosyal Bilimler Enstitüsü, Klinik Psikoloji Tezli Yüksek Lisans Programı, 2024.

Bu çalışma, klinik olmayan bir örneklemde anksiyete ve eşlik eden depresyonda otobiyografik belleği değerlendirmeyi amaçlamaktadır. Araştırmanın örneklemini gönüllülük esasına dayalı olarak 18-25 yaş arası genç yetişkinler oluşturmaktadır. Araştırmaya toplam 97 kişi katılmıştır. Çalışmada Beck Anksiyete Ölçeği (BAÖ), Beck Depresyon Ölçeği (BDÖ) ve Otobiyografik Bellek Testi (OBT) kullanılmıştır. Analiz sonuçlarına, gruplar hem total anı sayısı (spesifik ve aşırı genelleme), hem de ipucu kelimesinin duygusu (pozitif veya negatif) bakımından farklılaşmıştır. Yüksek anksiyete-yüksek depresyon (HAHD) grubu, karşılaştırma ve yüksek anksiyete (HA)'den daha az özgül olmuştur. HA grubu ise karşılaştırma grubundan farklılaşmamıştır. Pozitif ipucu kelimeler bakımından HAHD, her iki gruptan daha az özgülken, HA'da, karşılaştırma grubundan daha az özgüldür. Negatif için ise, HAHD sadece karşılaştırma grubundan daha özgülken, HA ile farklılaşmamıştır. HA ise, karşılaştırmadan daha özgül bulunmuştur. Özgüllüğün karşıtı olan aşırı genelleme için, HAHD karşılaştırma grubundan daha fazla aşırı genelleme yaparken, HA, karşılaştırma grubundan farklılaşmamıştır. Pozitif için, HA ve HAHD, karşılaşma grubundan daha fazla aşırı genelleme yaparken, negatif için, HAHD ve HA'nın karşılaştırma grubuna göre daha az aşırı genelleme yaptığı, ancak HA ve HAHD'nin her iki ipucu için de farklılaşmadığı bulunmuştur. Latans bakımından HAHD'nin tepki süresi karşılaştırmadan ve HA'dan daha uzundur. HA ve karşılaştırma grubu arasında bir fark yoktur. Pozitif ipucu kelimeler için HAHD ve HA'nın tepki süresi karşılaştırma grubundan daha uzunken, HAHD de HA'dan uzundur. Negatif için, karşılaştırma, HAHD ve HA'dan uzundur ancak HA ve HAHD farklılaşmamıştır. Araştırmanın güçlü yönleri, sınırlılıkları ve katkıları ilgili literatür ışığında tartışılmıştır.

Anahtar Kelimeler: Kaygı, depresyon, eş tanı, otobiyografik bellek

ABSTRACT

AKBULUT, Rabia. Autobiographical Memory Process in Non-Clinical Anxiety and Comorbid Depression. Başkent University, Institute of Social Sciences, Clinical Psychology Master's Program with Thesis, 2024.

This study aims to assess the autobiographical memory of participants with anxiety and comorbid depression in a non-clinical sample. The sample of the study consisted of young adults between the ages of 18 and 25 on a voluntary basis. A total of 97 people participated in the study. The Beck Anxiety Inventory (BAI), the Beck Depression Inventory (BDI), and the Autobiographical Memory Test (AMT) were used in the study, respectively. According to the results of the analysis, the groups differed both in terms of the total number of memory (specific and overgeneral) and the emotion of the cue word (positive or negative). The high anxiety-high depression (HAHD) group was less specific than the comparison and high anxiety (HA). The HA group did not differ from the comparison group. For positive cue words, HAHD was less specific than both groups, while HA was less specific than comparison group. For the negative, HAHD was only more specific than the comparison group, while HA did not differ. On the other hand, HA was more specific than the comparison. For overgeneralization, the opposite of specificity, HAHD was more overgeneral than the comparison group, while HA did not differ from the comparison group. For positive, HA and HAHD were more overgeneral than comparison group, whereas for negative, HAHD and HA were less overgeneral than comparison group, but HA and HAHD did not differ for both cues. In terms of latency, the response time of HAHD is longer than the comparison and HA. There is no difference between HA and comparison group. For positive cue words, HAHD and HA have longer reaction times than comparison group, while HAHD is longer than HA. For negative, comparison is longer than HAHD and HA, but HA and HAHD did not differ. The strengths, limitations, and contributions of the study are discussed in light of the relevant literature.

Keywords: Anxiety, depression, comorbidity, autobiographical memory

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LIST OF ABBREVIATIONS

AMs	autobiographical memories
APA	American Psychiatric Association
DSM	Diagnostic and Statistical Manual of Mental Disorders
GAD	generalized anxiety disorder
HA	high anxiety
HAHD	high anxiety – high depression
SAD	social anxiety disorder
WHO	World Health Organization

1. INTRODUCTION

Autobiographical memory is a type of memory that includes events experienced in one's own life. It is defined as the ability to develop a personal history through the integration of perspective, interpretation, and assessment across oneself, others, and time (Fivush, 2011). Autobiographical memories play a role in a person's understanding of who they are, allowing them to conclude their current attitudes and behaviors, how they will act in the future based on past actions and attitudes, or how they may feel and think in the future based on how they have previously felt (Niedzwienska & Swiezy, 2010). While autobiographical memory allows the individual to construct a self through remembered memories, the self functions as a system that decides which experiences to record and how to record them, and which autobiographical memories to remember (Wang & Conway, 2004). In conclusion, autobiographical memory enables us to construct a comprehensive life story, develop a sense of self, establish socio-emotional relationships with others, and develop goals for the future (Bluck, 2003).

Autobiographical memory, which affects not only our past but also our present and future, is an interdisciplinary research topic that has been studied in many subfields of psychology and has yielded important findings. Research suggests a strong relationship between autobiographical memory and emotion (Holland & Kensinger, 2010; Talarico et al., 2004). An experience's emotional impact might affect how it is recalled in the future. The information recalled can also be impacted by the emotions and emotional objectives experienced during autobiographical recall (Holland & Kensinger, 2010). In conclusion, emotions have significant effects on the way positive and negative events are remembered (Berntsen & Rubin, 2002).

Numerous studies show that there is a correspondence between autobiographical memory and mood (Burt et al.,1995; Lemogne et al., 2006). For example, in depressed individuals, negative memories are generally more accessible than positive or neutral memories, indicating mood congruence. Concerning this issue, the cognitive theories of depression and anxiety developed by Beck (1976) are prominent. According to Beck (1976), certain life events (such as upsetting or threatening) make mood-related memories more accessible. The close association of autobiographical memory with emotion is of great importance in terms of psychological disorders. Because the bias of autobiographical memory according to the current mood may contribute to the disorder's continuation (Williams et al., 2007). In this context, it is crucial to investigate the autobiographical memory process in depression and anxiety.

There have been several research on the relationship between depression and autobiographical memory, and a broad understanding has been obtained (e.g., Dalgleish et al., 2007; Mackinger et al., 2000; Williams & Broadbent, 1986; Williams, 1996). However, a limited amount of study has been conducted regarding anxiety, and the results have shown some inconsistency (Burke & Mathews, 1992; Wessel et al., 2001) Therefore, the current study's objectives were to shed more light on the relation between anxiety and autobiographical memory. Also, there are some studies on depression and anxiety, although there is a lack of studies comparing the autobiographical memory traits of anxious and comorbid depressed people in the same study. For this reason, the current study aims to assess the impact of the co-existence of two disorders with such high comorbidity. In accordance with these objectives, this study will emphasize the literature on the concepts of anxiety, depression, and autobiographical memory. Subsequently, studies evaluating the relationship between anxiety, depression, and autobiographical memory will be presented. In conclusion, the importance, aims, and hypotheses of the study are presented.

1.1. Anxiety

The word "anxiety" has been coming from the French word "anxiété", which is used to mean distress, worry, and fear for no reason, and its origin is based on the Latin word "anxietas" (Crocq, 2015). Before defining anxiety, it must be differentiated from fear. Similar to anxiety, fear is a stimulant signal, but it operates through a different mechanism. Anxiety is a response to an ambiguous, internally focused conflict; on the contrary, fear is an externally focused response to a significant threat (Craske et al., 2009). In other words, anxiety can be defined as the anticipation of a future threat (Cohen et al., 2016).

Anxiety is a state of mind that is accompanied by psychological and physiological changes, including tension, worry-filled thoughts, and an increase in blood pressure (Kazdin, 2000). It should be remembered that anxiety is a functional process that alerts the brain to danger and enables us to avoid the perceived threat (Cohen et al., 2016). Many people encounter experiences that create anxiety or tension in their daily lives. An ordinary level of anxiety enables the organism to protect itself and survive against a possible threat or danger. In this respect, anxiety may be regarded as a biological requirement for an organism's survival (Uzbay, 2002). When a person's everyday functioning is negatively impacted by excessive worry that something awful will happen despite the fact that his physical or mental health is not in danger, this is considered abnormal anxiety. In other words, what is pathological is not the anxiety itself but rather the decline in functionality brought on by the duration and severity of the anxiety,

which impairs daily functioning. Anxiety disorders have a number of common cognitive, physiological, and behavioral features, such as negative self-evaluations, persistent anxiety about the present or the future, avoidance, increased heart rate, tremor, rapid breathing, and muscle tension (Wilmshurst, 2005). According to the World Health Organization (WHO), worry, excessive fear and changes in behavior are characteristic features of anxiety disorders. The symptoms are severe enough to cause significant discomfort or reduce functionality (World Health Organization, 2022). On the other hand, American Psychological Association (n.d.) describe anxiety as "any of group of disorders that have as their central organizing theme the emotional state of fear, worry, or excessive apprehension." Anxiety disorders in the DSM-V published by the APA (2013) are classified on Table 1.1.

Table 1.1

Classification of Anxiety Disorders According to DSM-V.

Anxiety Disorders	**Definition of Anxiety Disorders**
Separation Anxiety Disorder	Anxiety about separation from attached person or environment.
Selective Mutism	Unable to speak specific social situations (e.g., at school)
Specific Phobia	Fear or anxiety about a specific object or situation (e.g., animals)
Social Anxiety Disorder	Anxiety in social situations involving evaluation by others
Panic Disorder	Characterized by recurrent, unexpected panic attacks
Agoraphobia	Fear of situations that may be difficult to escape or help
Generalized Anxiety Disorder	Extreme anxiety about certain events or activities
Substance/Medication-Induced Anxiety Disorder	Occurs due to the physiological effects of the substance or drug
Anxiety Disorder Due to Another Medical Condition	Occurs based on the medical condition of the individual
Unspecified Anxiety Disorder	Inadequately meet the diagnostic criteria for AD

Adapted from American Psychiatric Association, 2013.

1.1.1. History of anxiety disorders

Sigmund Freud made important contributions to the understanding and explanation of anxiety within the framework of the psychoanalytic approach. In 1895, Freud used the term "anxiety neurosis" to introduce the concept of anxiety for the first time in literature. According

to Freud's early views, neurotic anxiety, unlike fear, which is an anxiety response to a real perceived danger, is a result of suppressed libido (accumulated somatic sexual tension). According to this view, sexual desires, fantasies, experiences, or images that arise as a result of libidinal stimulation and are perceived as threats are suppressed, and this sexual tension that cannot be released turns into anxiety (Nemiah, 1996).

In the post-Freudian period, different theorists and approaches explained anxiety in different ways, and with the mental health theories that emerged in the 19th century, necessitating consensus on identifying, grouping, and treating conditions using statistical data. In line with this purpose, efforts were made to create an extensive classification system for mental health. For this purpose, in 1952, the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification system appeared. In the DSM-I (1952), anxiety was nearly equated with "psychoneurotic disorders". In psychoneurotic disorders, "anxiety" was seen as a danger sign that was sent and noticed by the conscious side of the personality. The broad classification for anxious symptomatology made in the DSM-II was known as "neuroses". It was argued that anxiety was the main trait of the neuroses, making anxiety and neurosis essentially synonyms. Subsequently, in DSM-III (1980) following sections were included: Phobic disorders (Agoraphobia with or without panic attacks, Simple Phobia, and Social Phobia), Anxiety States (Panic Disorder, and Obsessive-Compulsive Disorder, Generalized Anxiety Disorder), and Post-Traumatic Stress Disorder (Crocq, 2015). Anxiety disorders, when transitioning to DSM-IV, have been categorized as Generalized Anxiety Disorder, Specific Phobia, Social Phobia, Panic Disorder (with or without agoraphobia), Post-Traumatic Stress Disorder, Obsessive-Compulsive Disorder, and Acute Stress Disorder (APA, 2000). In the latest DSM-V, Post-Traumatic Stress Disorder, Acute Stress Disorder, and Obsessive-Compulsive Disorder were excluded from anxiety disorders and discussed under separate headings (APA, 2013).

1.1.2. Etiology of anxiety disorders

Anxiety disorders are believed to have a multicomponent etiology, including biological, psychological, and environmental factors (Albano et al., 2003). Genetic and environmental factors make individuals sensitive to anxiety. Genetic factors gain importance when faced with environmental risk factors (Vasey & Dadds, 2001). Genetic research studies demonstrate that genes are a risk factor for anxiety and predict around one-third of the variance in anxiety assessments (Barlow, 2002; Eley, 2001). Furthermore, biological theory suggests that changes in the amygdala, prefrontal cortex, locus coeruleus, and hippocampus' structure and function

are related to abnormalities in three fundamental central neurotransmitter systems: serotonin, noradrenaline, and GABA (Gamma-Aminobutyl Acid) (Dell'Osso et al., 2013). It is emphasized that these systems contribute to the development and persistence of anxiety symptoms. What is meant to be expressed by psychological vulnerability are temperamental characteristics. Behavior inhibition and shyness are two temperamental traits that are thought to be associated with anxiety. Behavioral inhibition is known as the persistent propensity to demonstrate restraint, withdrawal, and silence when confronted with new and unfamiliar circumstances and people. It has been theorized that children with behavioral inhibition and a shy temperament are more likely to experience anxiety disorders later in life (Hirshfeld-Becker et al., 2008). Finally, it is known that environmental and psychosocial factors play an important role in the emergence and development of anxiety disorders. Parental attitudes, social relationships, and stressful life events affect the risk of developing anxiety (Boutelle et al., 2009; Jorm et al., 2003). According to Schiele and Domschke (2018), early stressful events have a considerable negative effect on the hypothalamic-pituitary-adrenal axis' ability to regulate stress, which might result in anxiety later in life.

1.1.3. Epidemiology of anxiety disorders

Anxiety disorders are among the most prevalent mental health problem in society. Anxiety disorders occur in cases 80–90% of before the age of 35, and between the ages of 10 and 25 appears to be a high-risk timeframe for their development (Michael et al., 2007). This age of onset varies according to the subtype of anxiety disorder. The average age of beginning for Specific Phobias and Separation Anxiety Disorder is 7 years of age. Other disorders include Panic Disorder, Social Anxiety Disorder (SAD), and Agoraphobia without panic attacks, which are 24, 13, and 20 respectively (Bandelow & Michaelis, 2015). A German epidemiological study found that Generalized Anxiety Disorder (GAD), SAD, and Specific Phobia were more prevalent in the 18–34 age range, while panic disorder was more common in the 35–49 age range. The prevalence declined between 50 and 64, and the lowest rates were found in the elderly aged 65 to 79 (Jacobi et al., 2014). The prevalence rates during a lifetime range from 13.6% to 28.8%. These results are likely affected by variations in case definition, diagnostic tools, response rates, sample compose (e.g., age disparities), as well as the inclusion of various types of anxiety disorders in determining the overall prevalence rate (Michael et al., 2007). In addition, according to the World Health Organization (2017), anxiety disorders are more common in women (4.6%) than in men (2.6%). According to the 1997 "Turkey Mental Health Profile" study, the one-year prevalence of anxiety disorders in Turkey is 6.7 percent (Kılıç,

1998). From 2000 on, there have been very few studies on the epidemiology of anxiety disorders in Turkey. In these studies, it is difficult to generalize the results to the general population as the sample is usually university students or outpatients (Binbay et al., 2013).

1.1.4. Clinical symptoms of anxiety disorders

Each anxiety disorder has distinct symptoms that distinguish it from the others. However, clinical appearance can be categorized into affective, cognitive, physiological, and behavioral symptoms. Affective symptoms are intensely manifested in anxiety disorders. Anxiety disorder patients may experience emotional symptoms like worry, fear, restlessness, nervousness, tension, alertness, and uneasiness (Beck et al., 2005). On the other hand, cognitive symptoms can be classified as hypervigilance, distraction, blocking, cognitive distortions, confusion, difficulty reasoning, fear of losing control, inability to remember important things, fear of death, derealization, and depersonalization (Beck et al., 2005). Furthermore, anxiety is an organism's self-protection mechanism, displaying physiological symptoms in response to perceived danger. These physiological symptoms include difficulty breathing, heart throbbing, frequent and deep breathing, dry mouth, fainting, nausea, chest tightness, dizziness, tremor, sweating, fatigue, stomachache, vomiting, fatigue, muscle tension, and sleep problems (Chand & Marwaha, 2023). Behavioral symptoms occur as a result of hyperactivation or inhibition of the normal behavioral system. These symptoms are mainly escaping and avoiding anxiety-provoking situations, restlessness, inhibition, immobility, posture collapse, and coordination problems (Chand & Marwaha, 2023).

1.1.5. Comorbidity of anxiety disorders

The anxiety disorders are frequently comorbid with other psychiatric disorders (Garner et al., 2009). The comorbidity of anxiety disorders among themselves was reported to be 50% in population-based studies, while it was 70% in the clinical sample. From 0 to 21% of people with Anxiety Disorders also have Attention Deficit and Hyperactivity Disorder, and 3 to 13% of people with Conduct Disorder, and Oppositional Defiant Disorder do as well (Costello et al., 2004; Rapee et al., 2009). There is frequently co-occurrence of depression and anxiety (Hirshfeld, 2001). Furthermore, many of the symptoms seen of these disorders might be considered to overlap. According to Maser and Cloninger (1990), individuals with depression and anxiety have characteristics such as being in a negative state of mind, feeling hopeless, being alert, low energy, difficulty sleeping, ruminative thinking, attention and focusing

difficulty, and biased evaluation. In the National Comorbidity Survey, a large-scale research of the epidemiology of mental disorders in the United States, a secondary anxiety disorder was present in 58% of patients with major depression, and major depression was also diagnosed in 68% of patients with any anxiety disorder. (Kessler et al., 1996). Research indicates that over half of patients with depressive disorders also have anxiety disorders, and over half of patients with anxiety disorders also have depressive disorders (Mineka et al., 1998). According to Rivas-Vazquez and colleagues (2004), individuals with a co-diagnosis of depression and anxiety are more numerous than those with either diagnosis alone.

1.2. Depression

Depression is derived from the Latin word "depressus" and means to be low, to suppress (Işık & Işık, 2013). There are various definitions in the literature about depression. However, The World Health Organization (WHO) and American Psychiatric Association's (APA) explanations gained prominence in literature. The general definition of depression used today is defined by the World Health Organization WHO (2023) as including various symptoms such as sadness, decreased energy, and loss of interest. Additionally, it is accompanied by symptoms including difficulty in sleeping, a decrease in appetite, a low sense of self-worth, feelings of guilt and worthlessness, and a decline in self-confidence. According to the degree and severity of the symptoms, the level of the depressive episode can be classified as mild, moderate, or severe (WHO, 2023). On the other hand, according to APA (2013), depression is a disorder defined by depressed mood or loss of interest or pleasure. It is characterized by a depressed mood, a marked decrease in interest, weight change, sleeping irregularities, psychomotor agitation or retardation, fatigue, feelings of worthlessness and guilt, difficulty concentrating, and recurrent thoughts of death during the two weeks. Depressive disorders in the DSM-V published by the APA (2013) are classified as follows on Table 1.2.

Table 1.2

Classification of Depressive Disorders According to DSM-V.

Depressive Disorders	**Definition of Depressive Disorders**
Disruptive Mood Dysregulation Disorder	Characterized with bursts of intense and disproportionate anger
Major Depressive Disorder	Characterized by depressed mood, decreased interest, sleep and eating problems, worthlessness, and guilt over a two-week period.
Persistent Depressive Disorder (Dysthymia)	Have a depressed mood for at least two years
Premenstrual Dysphoric Disorder	Characterized by emotional lability and physical symptoms in the week before the start of the menstrual cycle (e.g., depressed mood).
Substance/Medication-Induced Depressive Disorder	Depressed mood resulting from substance intoxication, withdrawal, or drug use.
Depressive Disorder Due to Another Medical Condition	Persistent depressed mood due to health condition.
Other Specified Depressive Disorder	Have depressive symptoms but do not meet the full criteria (specific cause is discussed with clinicians)
Unspecified Depressive Disorder	Have depressive symptoms but do not meet the full criteria (specific cause is not determined by the clinicians)

Adapted from American Psychiatric Association, 2013.

1.2.1. History of depression

The symptoms that define depressive states are based on thousands of years of medical history. Hippocrates was considered the first person to describe depression in the 5th century BC. He used the word for depression, meaning melancholy, and explained the term as follows: "If fear and sadness last a long time, such a state is melancholy" (cited in Bourin, 2020). Afterward, it was defined as a mental disorder by the German psychiatrist Emil Kraeplin in the 19th century, and the foundations of the modern classification of psychiatric disorders were formed. He made classifications of depressive states and maintained that a decline in physical and mental abilities is the primary pathology in clinical depression. Kraepelin also divided depression into the two subtypes of dementia praecox (which today is referred to as schizophrenia) and manic depression (depression stems from external tragedy, like a loved one's death) (Andreasen, 1994; Ebert & Bar, 2010).

Over time, different approaches have defined depression from different perspectives and with the mental health theories that emerged in the 19th century, necessitating consensus on identifying, grouping, and treating conditions using statistical data. In line with this purpose, efforts were made to create an extensive classification system for mental health. For this purpose, in 1952, the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification system appeared (Horwitz et al., 2017). Depression carried a more Kraepelinian stamp in DSM-I (1952) and DSM-II (1968). The DSM-I classified affective disorders that were marked by severe mood disturbances associated with melancholia as one of the three main categories (paranoid and schizophrenic reactions) of psychotic disorders. The DSM-II likewise grouped psychotic depression with manic states in a Kraepelinian style. Compared to the previous 2500 years of medical diagnosis, the first commonly used consensus-based categorization appeared with the DSM-III and defined Major Depressive Disorder (MDD) as characterized by a dysphoric mood, loss of interest, and at least four daily symptoms for at least 2 weeks: poor appetite, hypersomnia or insomnia, psychomotor retardation or agitation, decreased sexual drive, fatigue, feelings of worthlessness, diminished thinking, and recurrent thoughts of death or suicide (Horwitz et al., 2017). Depressive disorders, under the little umbrella of mood disorders in DSM-IV, have been given a separate chapter in DSM-V. Also, the DSM-V includes several new Depressive Disorders, such as Premenstrual Dysphoric Disorder and Disruptive Mood Dysregulation Disorder (APA, 2000, 2013).

1.2.2. Etiology of depression

Similar to anxiety, the components impacting depression include biological, psychological, and environmental factors (Goldstein & Rosselli 2003). Sullivan and colleagues (2000) stated in their study that heredity is an important factor in the occurrence of depression and showed that the effect of participation in twin studies is 31-42%. Further, research reveals that the probability of depression is approximately two and a half to three times higher for individuals with a first-degree relative who is depressed (Klein et al., 2001). On the other hand, studies on neurobiological systems also emphasize the importance of dopamine, noreepinephrine, and serotonin levels in depression (Saveanu & Nemeroff, 2012). Another risk factor for depression is unwelcome, negative life experiences. Numerous studies have shown that stressful life events (e.g., the loss of loved ones, connections, a sense of value, or competence) or specific experiences (e.g., childhood sexual or physical abuse) are the primary cause of the majority of severe episodes of depression (Hammen, 2005; Tennant, 2002).

1.2.3. Epidemiology of depression

Epidemiology of depression vary by age, sex, and income (Blanco et al., 2010). In the study conducted by the WHO in 2017, depression affects 4.4% of the world's population, with a rate of 5.1% for women and 3.6% for men. Every age group likewise showed this pattern. In older adults, prevalence rates reach their highest levels over 7.5% for females aged 55 to 74 and above 5.5% for males varying by age. Depression also affects adolescents and children under the age of 15 although less frequently than it does in other age groups (WHO, 2017). Additionally, According to the National Center for Health Statistics (2018), depression became less common as family income levels increased. 80% of people with depression stated that they had at least one problem with family, work, or activities. According to Küey's (1998) study, the prevalence of depressive symptoms is reported to be 20% in the general population and 10% at the clinical level in Turkey. In terms of gender, women are more likely to experience (5–9%) than males (3%) (Yetişkin, 2008).

1.2.4. Clinical symptoms of depression

There are several clinically observable indications of depression. Similar to anxiety, depression's clinical appearance could be divided into four categories: emotional, cognitive, somatic, and behavioral. In terms of mood, the majority of patients are depressed. The depressive mood is characterized by feelings of helplessness, hopelessness, and worthlessness (Köroğlu, 1993). Another symptom is anhedonia, which is characterized by a pronounced lack of interest and desire in formerly pleasurable activities. This expressed mood typically fluctuates throughout the day. Pessimism and a depressed mood are more noticeable in the early hours (Kaufman & Charney, 2000). Additionally, although it is not a distinguishing feature of depression, anxiety is among the most prevalent symptoms, just behind depressed mood and loss of interest (Işık ve Işık, 2013). Among cognitive symptoms, short-term and working memory, attention, verbal and nonverbal learning, visual and auditory processing, processing speed, motor functioning, and problem-solving are the cognitive dysfunction examples. In depression, functional impairment may be primarily mediated by cognitive dysfunction (Lam et al. 2014). Somatic symptoms include changes in appetite (increase or decrease in weight), listlessness, palpitations, and sleep problems (difficulty falling asleep, interrupted sleep) (Tylee & Gandhi, 2005). Moreover, psychomotor retardation and agitation are among the depressive symptomologies that can be evaluated by direct behavioral observations (Buyukdura et al., 2011). Psychomotor retardation is characterized by increased pauses and decreased volume in

speech, poor eye contact, decreased movement, and flat facial expression (Greden & Carrol, 1981). On the other hand, psychomotor agitation refers to motor restlessness, irritability, and increased psychomotor activity (Garriga et al., 2016).

1.2.5. Comorbidity of depression

Depression appears to be highly comorbid with other disorders. Several studies indicate that only 40–45% of the patients with a diagnosis of major depression had the disorder solely while 60–65% had at least one comorbidity (Rush et al., 2005; Zimmerman et al., 2002). Approximately 30% of people with anxiety disorders also suffer from a coexisting mood disorder. The intersection with anxiety and depression is so prevalent that researchers have suggested that major depression and Generalized Anxiety Disorder may almost be the same condition or closely related (England & Sim 2009). Another perspective regarding high comorbidity assumes that anxiety disorders and depression share a genetic propensity and that variations in phenotype brought on by environmental variables account for variations in clinical appearance (Kendler et at., 1995). Furthermore, personality disorders such as Borderline, Obsessive-Compulsive, and Histrionic can coexist with depression (Mimura, 2001).

1.3. Memory

Before defining autobiographical memory, it is necessary to demonstrate the memory system in a general context and the place of autobiographical memory within this system. Memory is a multi-stage process of retention of acquired information (Karakaş, 2017). In other words, memory is a function that enables past experiences to be evaluated, coded in the mind (encoding), stored, and recalled when necessary (retrieval) (Squire, 2009). It follows that memory is a fundamental brain function that enables learning, consciousness, and thus the integrity of the individual. It is a complex and multifaceted part of human cognition. It holds our thoughts, perceptions, and experiences together (Pathman et al., 2020). Along with its development over time, the most basic distinction about memory is William James' dichotomous model of memory, which includes short-term and long-term memory. According to this model, short-term memory is where the information we are aware of at a given moment is stored, whereas long-term memory is relatively permanent and corresponds to all the information we know (Haberlandt, 1997).

Then, the memory model created by Atkinson and Shiffrin (1968) comes to the fore. According to this model, memory consists of three separate parts. These parts are sensory memory, short-term memory, and long-term memory, respectively. Sensory memory serves to

store sensory signals (environmental input). A small amount of this information (7 ± 2 units) passes into short-term memory, which can store information for a few seconds. Encoded information from short-term memory is transmitted to long-term memory (Silbernagl & Despopoulos, 1997). The brain's memory process generates long-lasting memories, storing information from hours or decades ago, allowing for an unlimited amount of information to be stored for an indefinite period (Atkinson & Shiffrin, 1968). On the other hand, Baddeley (1974) proposed the concept of working memory (often referred to as short-term memory). Working memory is a memory system that supports our capacity to "keep things in mind" when executing complex tasks. It is the type of memory in which information is temporarily organized and held while cognitive tasks are performed. This type of memory can be likened to a work table where information is continuously transformed, transferred, and combined (Baddeley, 2010).

Other proposed distinctions focus on long-term memory. The most general one is that long-term memory consists of two subsystems: declarative (explicit) and non-declarative (implicit) (Squire,1994). According to this distinction, explicit memory also known as declarative memory is the long-term storage conscious recall of previous knowledge or experiences. Implicit memory, on the other hand, stores implicit information such as motor skills, language skills, etc. that is not verbalized and is not recognized during the retrieval process (Squire, 2009). Tulving (1972) divided explicit memory into two separate systems: episodic (event memory) and semantic (general knowledge). Semantic memory consists of one's general knowledge about the environment. Concepts, rules, and facts are stored here. On the other hand, episodic memory is a system in which personally experienced events are stored together with time and place information. It includes daily experiences such as what you had for breakfast yesterday (Renoult & Rugg, 2020). Rather than thinking of these two systems as independent of each other, it is necessary to think of them as two systems with significant overlaps but also divergent aspects (Tulving & Markowitsch, 1998).

At this point, it is necessary to distinguish between episodic memory and autobiographical memory. In the literature, the concepts of episodic memory and autobiographical memory can be used interchangeably (Tulving, 2001; Brewer, 1986). Although these two concepts refer to memory of personal experiences, autobiographical memory is associated with memories of the self. Therefore, autobiographical memory involves a remembering self in addition to a rememberer. Furthermore, the representation of earlier times by these states suggests that our remembering self must also possess a sense of subjective time (Tulving, 2001). On the other hand episodic memory is a slightly broader definition of autobiographical memories along with execution on specific learning tasks like word recall (Kopelman & Kapur 2001).

1.3.1. Autobiographical memory

Autobiographical memory is a type of memory that includes events experienced in one's own life. It is defined as the ability to develop a personal history through the integration of perspective, interpretation, and assessment across oneself, others, and time (Fivush, 2011). Autobiographical memories play a role in a person's understanding of who they are, allowing them to conclude their current attitudes and behaviors, how they will act in the future based on past actions and attitudes, or how they may feel and think in the future based on how they have previously felt (Niedzwienska & Swiezy, 2010). Briefly, autobiographical memory refers to an individual's personal history and life story. Although different researchers define autobiographical memory in different ways, most agree that these memories are about the self, have emotional content, and relate to events that are important to the person (Conway et al., 2004).

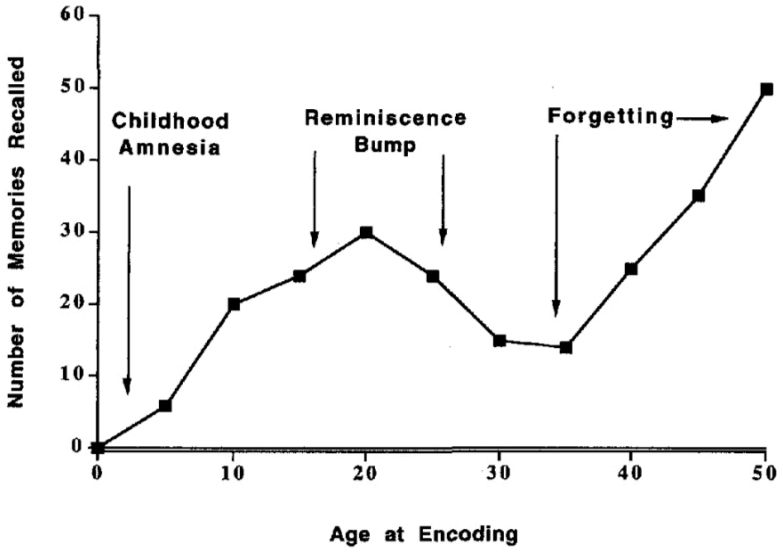
The most widely accepted view on this subject is the Self-Memory System (SMS), developed by Conway and Pleydell-Pearce (2000). A theoretical structure known as the SMS points out the interconnection between the self and memory. According to Conway (2005), the self and memory have a bidirectional connection in which the self both controls retrieval and memories serve as the context for the self. The process of recalling autobiographical memories is not a simple retrieval of memories but is described as an active construction process within the framework of current goals and needs (Conway & Pleydell-Pearce, 2000). The SMS comprises two major components: the "*working self"* and the "*autobiographical knowledge base"*. The self in this model is called the working self because of its similarity in function with working memory (Conway & Pleydell-Pearce, 2000). The tasks of the working self are related to goal coherence, such as structuring memories appropriately, maintaining coherence between goals, keeping irrelevant information at a distance, and goal prioritization (Conway, 2005). The working self consists of actively working processes such as motivation, cognition, affect, and behavior within the goal-subgoal hierarchy. The working self can be thought of as a goal-oriented mental model that combines the results of the unconscious, cognitions, affect, and behavior (Conway & Pleydell-Pearce, 2000). The autobiographical knowledge base, on the other hand, consists of general event knowledge and life processes that form an autobiographical memory integrated with the episodic memory system (Conway et al., 2004).

When the lifelong development of autobiographical memory is examined, the concept of the lifelong retrieval curve defined by Rubin and colleagues (1986) draws attention. According to this concept, the distribution of autobiographical recollections varies across a

person's lifetime. The lifespan retrieval curve has three main components: childhood amnesia, which can last from birth to 5 years of age; a period of increased recall known as the reminiscence bump, which covers adolescence and young adulthood (10–30 years); and finally, the forgetting period known as recency, which starts from the memory bump and continues until the present (Conway & Haque, 1999). When examining the effect of these concepts on autobiographical memory in the developmental process, the concept of "childhood amnesia" emerges in the first years of life. The concept of childhood amnesia states that people are unable to recall memories from the early years of life as though they were reliving episodic memory (Hayne & Jack, 2010). The reminiscence bump is another notable period of the lifespan retrieval curve. People can recall memories more clearly and in detail between the ages of 10 and 30 (Koppel & Rubin, 2016). Studies with older participants have explained that individuals recall more memories in the reminiscence bump interval since many formative events for self-identity occur in this age range and correspond to common cultural life scenarios (Conway et al., 2005). Also, the reminiscence bump appears to have similar characteristics in our country (Demiray et al., 2009). Finally, the concept of recency, also known as the forgetting period, is the period when autobiographical memories recorded after the reminiscence bump are gradually forgotten if they have not happened recently (Rathbone et al., 2008). A representative graph of the concepts previously described shown below in Figure 1.1.

Figure 1.1

Idealized Representation of the Life Span Retrieval Curve (Conway & Pleydell-Pearce, 2000).



1.3.2. Functions of autobiographical memory

In our daily lives, autobiographical memory serves a variety of functions. In this regard, three functions suggested by Bluck (2003) and Bluck and colleagues (2005) come into prominence: social, self, and directive. The social functions of autobiographical memory enable one to interact with people, empathize with each other, and strengthen social bonds (Bluck, 2003). In addition to facilitating social interaction, Pillemer (1992) argues that sharing personal memories makes the speaker more credible and persuasive. Social functioning plays a critical role in developing, strengthening, and maintaining social bonds (Bluck, 2003). The self-function of autobiographical memory has been defined as the function of past personal memories on present self-perception (Wilson & Ross, 2003). In other words, autobiographical memory plays a critical role in the persistence of the self (Bluck et al., 2005). Individuals develop an identity under the influence of their past life experiences and can protect this self through their autobiographical memories (Bluck et al., 2005). How people perceive themselves and their personalities is closely related to the kinds of events they have experienced since childhood and how they remember these memories. In this context, autobiographical memory helps individuals develop a coherent and continuous identity (Wilson & Ross, 2003). The situations and behaviors of individuals are affected by their self-perception. Changing perspectives leads to a constantly updated self-evaluation. In this way, we are actually rebuilding ourselves every day with our memories. In other words, remembering negative memories in our lives and focusing on them can create a negative self-perception (Wilson & Ross, 2003). Another function of autobiographical memory is the directive function. The directive function is defined as the ability of past experiences to guide our present and future decisions, thoughts, beliefs, and behaviors (Bluck et al., 2005). The directive function guides our behavior in our current lives and provides motivation for our future behavior, as well as being effective in evaluating our views and attitudes in problem-solving. By generating new questions from old knowledge, we are able to solve immediate problems and predict the near future (Baddeley, 1987; Cohen, 1998).

1.3.3. Anxiety and autobiographical memory

Studies indicate that information processing biases are crucial for the emergence and maintenance of anxiety and depression. Individuals with anxiety disorders tend to selectively recall information from the past in a way that confirms negative interpretations in line with their current situation and expectations (Clark, 1999). This affects the cognitive system and leads to

recall bias (Burke & Mathews, 1992). Dysfunctional retrieval of past experiences in autobiographical memory is a potential contributor to the persistence of current mood (Mathews & MacLeod, 2005). While there is strong evidence for depression (e.g., Broadley & Mathew, 1983; Clark & Teasdale, 1982; Williams & Broadbent, 1986b), studies with anxiety are contradictory (e.g., McNally et al., 1989; Richard & Whitaker, 1990; Williams et al., 1988). Therefore, it is important to examine anxiety and autobiographical memories. It is observed that emotional stimuli and events are remembered in a biased way by anxious individuals. In other words, patients with Anxiety Disorder are more likely to recall memories with threatening content compared to memories with positive content (Zlomuzica et al., 2014). Studies on memory and emotional disorders (e.g., depression and anxiety disorders) have addressed the impact of mood on encoding and retrieval processes. According to these studies, if the mood during encoding a situation or information is also experienced during retrieval, this increases retrieval performance. This is called *mood-dependent* recall. Accordingly, depressive individuals recall the events they had in the same situation in more detail, although these findings indicate that this retriveal bias is not common for anxiety disorders (Williams et al., 1988). However, research carried out in the following years reveals findings to the contrary (e.g., McNally et al., 1989; Richard & Whitaker 1990).

In one of the first studies on this subject, Richards and Whitaker (1990), two groups with high and low anxiety levels were formed, and both groups were presented with stimulant word groups related to happiness and anxiety. Participants were asked to recall an autobiographical memory related to these words. In both groups, it was seen that instant anxiety increased with words with negative content. The high-anxiety group responded more quickly to the anxiety-provoking stimulus words than the happiness-related cue words. Recall delay had no impact by the cue word for the control group. It is thought that anxiety has the effect of making threatening memories easier and more distinct (Williams et al., 1997).

Another focus of autobiographical memory studies in the literature is on the specificity of memories. Recall of specific autobiographical memories is an adaptive cognitive process (Dalgleish & Werner-Seidler, 2014). Deficiencies in the retrieval of these memories are referred to as overgeneral memory. Overgeneral memory refers to a lack of specificity in the retrieval of past events (Dalgleish & Werner-Seidler, 2014). Overgeneral memory encoding states cause a number of problems during recall. In a normal process, general (non-specific) descriptions appear initially during recollection. The mnemonic cues then generate more specific information along with the general description. However, in a depressive episode or a suicidal crisis, there are few cues to recall particularly positive events. In other words, depressed

individuals have significant difficulty being specific in their autobiographical memories, especially when they try to recall positive memories. This leads to delayed retrieval and overgeneral memories (Williams & Scott, 1988). The phenomenon of excessive generalized memory is associated with a number of psychological conditions, such as depression, anorexia nervosa, schizophrenia spectrum disorders, and post-traumatic stress disorder (Berna et al., 2015; Huber et al., 2015; Williams et al., 2007). However, anxiety has been the subject of very few studies, and the findings are inconsistent. Related to this, research shows that acute stress disorder and post-traumatic stress disorder, two conditions previously categorized as "anxiety disorders," have been associated with a lacking in specificity in autobiographical memory in patients (Dalgleish et al., 2007; Harvey et al., 1998; McNally et al., 1995). Studies of individuals with trauma experience have revealed that individuals who have been exposed to or witnessed traumatic events performing poorly on the memory recall, lacking details about the event (Loftus & Burns, 1982; Schaefer & Philippot, 2005). According to the current DSM-V (APA, 2013), these disorders are classified as Trauma and Stressor-Related Disorders.

In a study on anxiety and specificity of memories, a significant difference was observed between the anxiety and neutral groups, and it was found that the anxiety group recalled fewer specific memories compared to the neutral group (Hallford et al., 2019). Similarly, it is noteworthy that there is no consensus here. Studies on anxiety and specificity of memory also show findings to the contrary (Wessel et al., 2001; Wenzel et al., 2002). Whereas the overgeneral memory phenomenon in the disorders mentioned above is demonstrable, it is uncertain whether it exists or not in anxiety disorders (Burke & Mathews, 1992; Hallford et al., 2019; Wenzel et al., 2002). In conclusion, the question of whether there is overgeneral memory or negative recall in individuals with anxiety disorder remains unclear.

1.3.4. Depression and autobiographical memory

Depression, a serious disorder associated with suicide that has become more widespread in every nation in recent years (Bozkurt, 2003). Within the cognitive approach, depression is associated with cognitive structures (cognitive distortions involving negative perceptions of oneself, one's future, and the world) and information processing (e.g., overgeneralization, negative assumption) (Beck, 1976). These cognitive alterations associated with depression also impact autobiographical memory. The evident consequence of impaired cognitive functions on autobiographical memory is biases in the encoding and retrieval process of autobiographical memories. This bias, which consistent the mood, appears to be associated to the maintenance of depression (Bradley & Mathews, 1983; Teasdale et al., 1980). Patients with depression have

more detail memories of events that correspond to their present mood. An significant research on the subject found that memories related to their mood are better to recall than other memories. In this study, Velten's emotion induction procedure (strategies that artificially change the mood momentarily) was used to induce a depressed mood in one group and an elated mood in the other. As a consequence, it was found that participants in a happy mood recalled more pleasant memories, whereas the depressed group remembered more negative memories (Teasdale & Fogarty, 1979; Teasdale & Taylor,1981). Consistent with this, studies on depression and autobiographical memory, individuals with depression mostly recall negative autobiographical memories that include negative adjectives (Broadley & Mathew, 1983; Clark & Teasdale, 1982; Williams & Broadbent, 1986b). In summary, depressed people tend to perceive negativity even if positive and negative situations are equal (Coyne & Gotlib, 1983).

In addition, other studies on autobiographical memory and depression have focused on the specificity of memories. These studies show that autobiographical memories are overgeneral, less detailed, and less specific in depression. It often lacks specific place and time information and appears to be categorical, like a summary of a repeated event (Decker et al., 2003; King et al., 2010). According to the Dalgleish and colleagues (2007) people with emotional problems have difficulties reaching specific personal memories. In an experiment on overgeneral memory in depression conducted by Williams and Boradbent (1986), one of the first studies on this subject, a test consisting of five positive and five negative clue words was applied to the participants. Participants were asked to recall a specific memory related to these words. According to the results, there was a difference in the rate of recalling positive and negative clue words in patients with depression who attempted suicide. The delayed retrieval of positive memories rather than the speedy retrieval of negative memories has been observed in patients with depression. In addition, participants with major depression recalled more general memories of the given words.

A meta-analysis consisting of 14 studies of the recollection of a particular autobiographical memory similarly found an association between overgenerality and depression (Vreeswijk & Wilde 2004). Additionally, the self-reported depressed mood was similarly associated with overgeneralization. In other words, overgeneralization of autobiographical memory may be associated not only with clinical samples but also with depressed mood (Dalgleish et al., 2007). In addition, studies conducted with people who have never been diagnosed with depression and recovered individuals show that overgeneral memory is still persistent in individuals who have recovered (Brittlebank et al., 1993; Mackinger et al., 2000). Therefore, overgeneralization, which is decreased specificity, seems to be a permanent marker in depression.

1.4. Importance of the Research

There are many studies considering autobiographical memory in depression (e.g., Dalgleish et al., 2007; Mackinger et al., 2000; Williams & Broadbent, 1996) and, few studies investigating autobiographical memory with anxiety (e.g., Hallford et al., 2019; MacLeod & McLaughlin, 1995; Richards & Whitaker, 1990). Depression and autobiographical memory have been the subject of numerous studies, and a general consensus has been reached. However, the relationship between autobiographical memory and anxiety remains unclear. Therefore, the current study's objectives were to shed more light on the relation between anxiety and autobiographical memory. Also, there are some studies on depression and anxiety, although there is a lack of studies comparing the autobiographical memory traits of anxious and comorbid depressed people in the same study. For this reason, the current study aims to assess the impact of the co-existence of two disorders with such high comorbidity. Therefore, the current study will cover anxiety, comorbid (high depression and high anxiety), and comparison groups in a single study.

As it is well known, memories are one of the fundamental components of psychotherapy, and when receiving treatment, some patients are able to recall their former experiences with ease while others struggle. Memories may be categorical and deficient in originality and emotion. In conclusion, these influence how therapy advances. It is crucial to understand the roots of this human differentiation for this reason. This study's discussion of autobiographical memory processes in anxiety and comorbid depression serves this objective.

1.5. Purpose and Hypotheses of the Study

This study aims to assess the autobiographical memory of participants with anxiety and comorbid depression in a non-clinical sample using self-report measures.

The hypotheses determined in line with the objectives of the research are listed as follows:

1.The groups will differ in terms of specific AMs recall. The HAHD group will differ from other groups with a lower number of specific AMs.

- 1.1. The comparison group will differ from other groups with a higher number of specific AMs as a response to positive cue words.
- 1.2. The HAHD group will differ from other groups with a higher number of specific AMs as a response to negative cue words.

2. The groups will differ in terms of overgeneral AMs recall. The HAHD group will differ from other groups with a higher number of overgeneral AMs.

2.1. The comparison group will differ from other groups with a lower number of overgeneral AMs as a response to positive cue words.

2.2. The HAHD group will differ from other groups with a lower number of overgeneral AMs as a response to negative cue words

3. The groups will differ in terms of latency on AMs recall. The HAHD group will differ from other groups with a longer reaction time for AMs.

3.1. The HAHD group will differ from other groups with a longer reaction time for AMs as a response to positive cue words.

3.2. The comparison group will differ from other groups with a longer reaction time for AMs as a response to negative cue words.

2. METHOD

2.1. Participants

Individuals aged between 18 and 25 form the sample of the present study (Arnett, J. J., 2000). In order to estimate the minimum sample size to obtain meaningful maps, it is used G-Power Software [3.1] to run an a-priori power analysis with the following inputs: Global effect MANOVA as a statistical test, the effect size of 0.06, power of 0.80, with .05 α error probability. According to the calculations made by the G-Power Software, the total sample size is 99. Within the scope of the research, it is aimed to collect data from participants, with an equal number of each group. There were 349 participants who voluntarily agreed to participate in the first phase of the study. 81 participants who quit halfway through the survey, 27 participants who were using medication and/or had a psychiatric or neurological diagnosis were excluded from the data set. Also, 10 participants were excluded due to direct exposure to the February 2023 earthquake. In addition, 1 participant who completed the study more than once and 2 other participants who did not meet the age criteria were excluded. Of the remaining 227 participants, those who met the criteria were invited to the second phase of the study. Totally 99 subjects participated in the second phase according to depression and anxiety scores**.** Three groups were formed: 33 people were placed in the comparison, 33 in high anxiety (HA), and 33 in the high anxiety and high depression group (HAHD).

2.2. Measures

2.2.1. Informed consent form

Due to the two phases of the study, two separate consent forms were given to the participants. In the content of the forms, the purpose of the study is explained. It is stated that the confidentiality of personal information and volunteering are essential for participation in the research. It has been mentioned that the questions won't cause discomfort; however, participants would have the option of quitting the study at any time. The form also contains the researcher's email address, which participants can use to contact with any questions about the study. In addition, it was stated that audio recording would be taken for the study. Finally, it is included in the consent form that the obtained information can be used in scientific publications (Appendices 1 and 2).

2.2.2. Demographic information form

This form includes the sociodemographic characteristics of the participants. Gender, age, and education level information are included. Additionally, the participants most frequently used email addresses were obtained in order to contact them for the study's second phase. Subsequently, questions about psychiatric diagnosis and current medication use, which are thought to be the confounding variables of the study, are included as exclusion criteria (Appendix 3).

2.2.3. Beck anxiety inventroy

The Beck Anxiety Inventory (BAI) was developed by Beck et al. (1988) to determine the frequency of anxiety symptoms experienced by an individual. The inventory can be applied to all healthy adolescents and adults. It is a self-reported Likert-type scale with 21 items and a range of 0 to 3. Option "0" represents the absence of anxiety symptoms, whereas "1", "2", and "3" indicate the severity of the anxiety (0: Not at all, 3: Severely). Participants are asked to choose the statement that best describes their current and over the last week situation, and the result is obtained by summing the scores in the items. Numbness and tingling, a feeling of fear, fainting, an inability to relax, etc. symptoms are measured (Beck at al., 1988). The score range is 0-63. The score that the individual gets from the scale indicates the level of anxiety, and an increase in the score means that the level of anxiety is high. Anxiety levels are classified as 0–7 low, 8–15 mild, 16–25 moderate, and 26–63 high. It will take approximately five minutes to complete the scale.

The scale’s standardization to Turkish is made by Ulusoy and colleagues (1993). As a result of the factor analysis applied, the scale was evaluated as "subjective anxiety" (1, 4, 5, 7, 8, 9, 10, 11, 14, 15, 16, 17, and 19 items) and "somatic symptoms" (2, 3, 6, 12, 13, 18, 20, and 21st items) (Ulusoy et al., 1993). For the Turkish version, Cronbach's alpha internal consistency coefficient was .93, item-total correlation coefficients were between .46 and .71, and test-retest reliability was .57. These findings indicate that the scale reliably measures the symptoms of anxiety (Appendix 4).

2.2.4. Beck depression inventory

The Beck Depression Inventory (BDI) was developed by Beck colleagues (1961). The purpose of the scale is to determine the risk for depression and to measure the level and severity of depressive symptoms. The scale serves to determine the severity of depression statistically

and objectively without distinguishing between different psychiatric or depression diagnoses (Beck, 1961). Both healthy and psychiatric patient groups can use it. It consists of 21 items with self-reported Likert-type that assess the physical and cognitive symptoms of depression. In each question, there are different verbal expressions in the "a", "b", "c" and "d" options. The response of each item on the scale corresponds to scores in the 0–3 range. Option "0" represent the absence of depressive symptoms, whereas "1", "2", and "3" indicate the severity of the depression (0: Not at all, 3: Severely). Participants are asked to choose the statement that best describes their current and over the last week situation, and the result is obtained by summing the scores in the items. The minimum score that can be obtained from the scale is 0, and the maximum is 63. Scores are interpreted as 0–9 minimal, 10–16 mild, 17–29 moderate, and 30-63 severe depression. It will take approximately five minutes to complete the scale (Beck et al., 1961).

The Turkish validity and reliability study of the inventory was carried out by Hisli (1989). The validity study was conducted on university students. In the study, the two half test correlation was found r=.74 and the internal consistency coefficient was .80. The depression subtest of the Minnesota Multidimensional Personality Inventory (MMPI-D) was used for criterion validity, and the Pearson correlation coefficient between the two tests was found .63 ($p<.001$) (Hisli, 1989). These findings indicate that the scale reliably measures the symptoms of depression (Appendix 5).

2.2.5. Autobiographical memory test

The Autobiographical Memory Test (AMT) was developed by William and Brodbent (1986). The test includes ten clue words, five of which are positive (happy, successful, safe, surprised, interested) and five of which are negative [hurt (emotional), angry, sorry, clumsy, lonely]. The participant is asked to remember the specific moment within 60 seconds for each clue word. Specific memories are memories of events that occurred at a specific place and time and lasted less than a day. Categorical memories, on the other hand, are memories of events that lasted longer than one day, based on categories of people, places, and activities.

The Turkish version of the test was adopted by Güzel (2004). In order to evaluate the effect of language and culture, 125 university students and a total of 100 words with emotional value were rated on an 11-point Likert type scale, and 5 positive and 5 negative clue words were found that could be applied to the Turkish population. Positive words are as follows: başarılı (successful), mutlu (happy), neşeli (cheerful), huzurlu (peaceful), and umutlu (hopeful). Negative words are: reddedilmiş (rejected), umutsuz (hopeless), mutsuz (unhappy), berbat

(awful), and çaresiz (desperate). The present study will be conducted in a similar university population with the author's permission (Appendix 6).

2.3. Procedure

Before collecting data, permission was obtained from the Social and Human Sciences Ethics Committee of Başkent University. The data collection process carried out in two stages. In the preliminary study, data was collected through online surveys via Qualtrics. At this stage, participants are given an Informed Consent Form 1 (Appendix 1), a Demographic Information Form (Appendix 3), the Beck Anxiety Inventory (Appendix 4), and the Beck Depression Inventory (Appendix 5) respectively. Based on the data collected here, three groups were formed: high anxiety, both high depression and high anxiety, and comparison (low depression and low anxiety). Before testing the hypothesis, a two-step cluster analysis was conducted to determine the low and high values of the mentioned groups. Participants were contacted for the second stage of the research, and the second stage of the research was conducted face-to-face. At this stage, an Informed Consent Form 2 (Appendix 2) given to the participants again. After this process, before the Autobiographical Memory Test (Appendix 6) was applied, a detailed instruction were given to the participants in order to understand the test, and then a trial made with three neutral words. Subsequently, 10 emotional cue words, 5 positive and 5 negative, were printed on 15x21 cards and presented to the participants in a positive and negative order. After each word, the participant was asked to recall an autobiographical memory of the given word. The participants are given 60 seconds after each word (positive and negative). The next word was used if the individual was unable to recall the memory. In case the participant could not recall a specific memory, the participant was reminded that a memory that took place in a specific place and time should be told. The analysis was based on the type and latency of the first memory. In the meantime, the voice and reaction time of the participants (the time between the presentation of the word and the participant's starting to speak) were recorded. For each word, this application was repeated. Afterward, memories associated with the words presented were coded either “specific”, “overgeneral” or “no response” based on the type of memory.

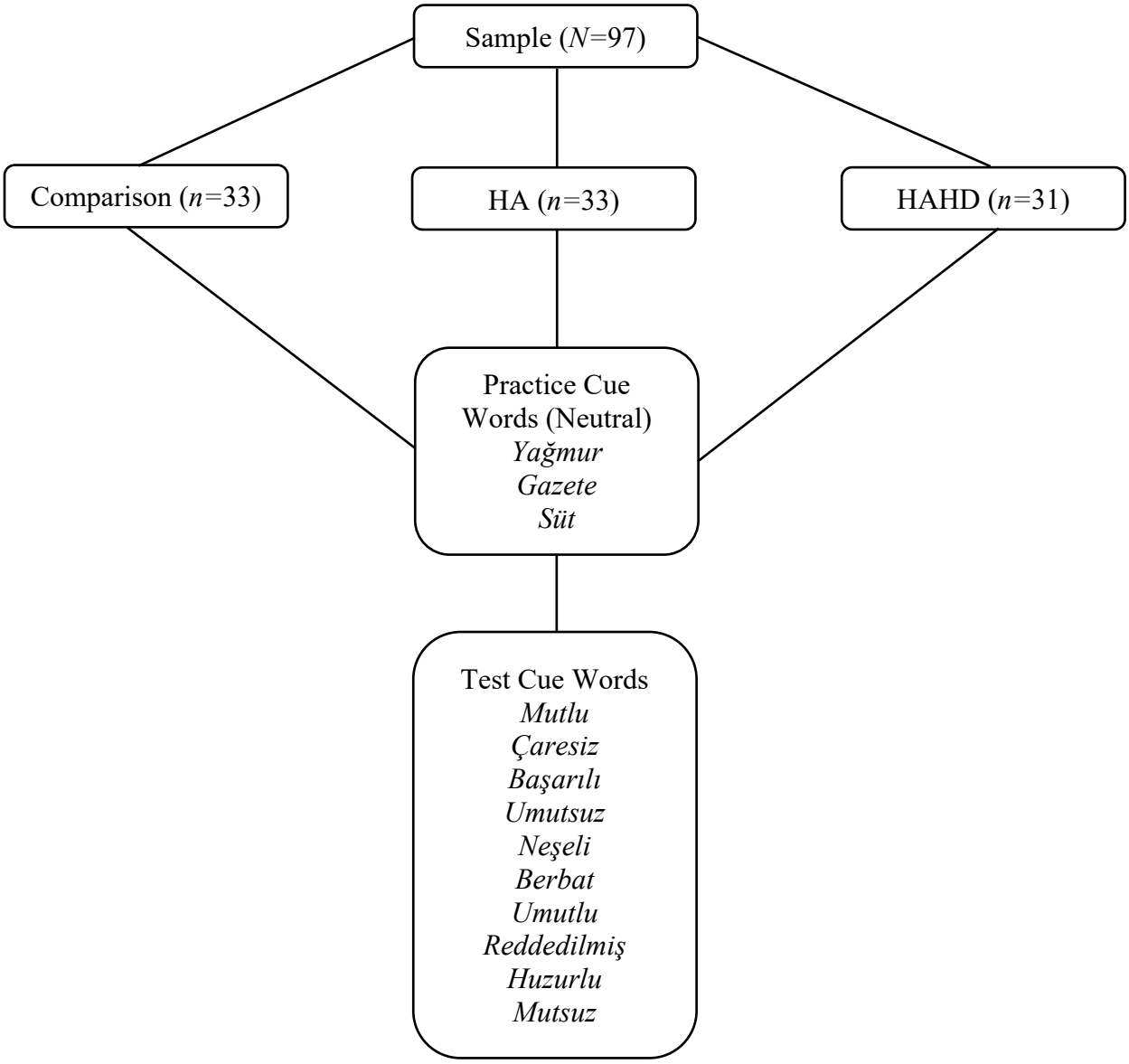
2.4. Design & Data Analysis

There are three independent variables and two dependent variables in this study. The independent variables of the research are groups (comparison, high anxiety, and high anxiety-high depression), emotion of cue words (positive and negative), and memory type (specific and overgeneral). Number of AMs, and latency are the dependent variables.

The design of the present study is a 3 groups (comparison, HA, and HAHD) x 2 emotion of cue words (positive, negative) X 2 memory type (specific and overgeneral) factorial design with the repeated measure on the last two factors. In line with the hypotheses, appropriate variance analyses were conducted. The design of the study was peresented in Figure 2.1.

Figure 2.1

Design of study.



Note. n = Sample size HA = High Anxiety, HAHD = High Anxiety-High Depression

3. RESULT

There are three independent variables and two dependent variables in this study. The independent variables of the research are groups (comparison, high anxiety, and high anxiety-high depression), emotion of cue words (positive and negative), and memory type (specific and overgeneral). Number of AMs, and latency are the dependent variables.

Before the statistical analysis, each AM recalled by the participants was coded in terms of its category (specific, overgeneral or no response). The design of the present study is 3 groups (Comparison, HA, and HAHD) x 2 emotion of cue words (positive, negative) X 2 memory type (specific and overgeneral) factorial design with the repeated measure on the last two factors for each dependent variable (number and latency of memories separately). In line with the hypotheses, appropriate variance analyses were conducted, and the Post-Hoc tests were carried out if necessary after ANOVA analysis to determine group differences.

3.1. Descriptive Statistics

In the study, data was collected from a total of 99 individuals (86 of female and 13 of male), ages ranged from 18 to 25 (M = 21,07 SD = 1.70). After an assessment of the data file's accuracy based on the outliers, normality, and linearity assumptions, two cases were defined as outliers based on the Mahalanobis distance ($p<.001$) and excluded from the study. The analysis was done with the 97 participants aged between 18-25 years (N_{women} = 85, N_{men}= 12; M_{age} = 21,04, SD = 1,66). The education level of all participants was university [1 = high school (0%), 2 = university (100%), 3 = master (0%), 4 = other (0%)]. More than half of the participants reported that their department was psychology [psychology (77,3%), law (7,2%), audiology (13,4%), physiotherapy (1%), and engineering (1%)] (Table 3.1).

Table 3.1

Descriptive Statistics of Demographic Characteristics.

		N	%
Gender	Man	12	12.4
	Women	85	87.6
Education	University	97	100
Department	Psychology	75	77.3
	Law	7	7.2
	Audiology	13	13.4
	Physiotherapy	1	1
	Engineering	1	1

Note. N = sample size

Initially descriptive statistics for the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI) were presented in this section (Table 3.2). These statistics included mean, standard deviation, minimum and maximum values, skewness, and kurtosis. Based on the skewness and kurtosis values from the table showed that there was no violation of the normality assumption (< +2 or > -2; George and Mallery, 2010) except for the BDI score of the HA group. Subsequently, descriptive statistics for the Autobiographical Memory Test (AMT) are given in Table 3.3.

Table 3.2

Descriptive Statistics for Variables.

Measures		M	SD	Skewness	Kurtosis	Min	Max
BAI	Comparison	4.60	2.09	-0.312	-0.22	0.00	8.00
	HA	30.69	6.42	1.41	1.86	24.00	51.00
	HAHD	35.62	24.00	0.19	-0.87	40.00	49.00
	Total	23.28	14.73	-0.18	-1.28	0.00	51.00
BDI	Comparison	4.93	3.04	0.15	-0.93	0.00	11.00
	HA	12.93	3.19	-1.69	3.09	3.00	16.00
	HAHD	29.51	7.07	0.48	-0.63	20.00	45.00
	Total	15.51	11.23	0.75	-0.27	0.00	45.00

Note. M = Mean, SD = Standard Deviation, BAI = Total Beck Anxiety Inventory Score, BDI = Total Beck Depression Inventory Score, HA = High Anxiety, HAHD = High Anxiety-High Depression

Table 3.3

Descriptive Statistics of the Number of AMs-and Latency of the AMT recalls According to Groups and Emotion of Cue words (cont.).

		Groups	M	SD	Skewness	Kurtosis	Min	Max
Number of Specific AMs	Positive	Comparison	4.60	.55	-1.02	0.11	3.00	5.00
		HA	2.51	1,39	-0.14	-0.25	0.00	5.00
		HAHD	1.64	0.70	-0.53	0.41	0.00	3.00
		Total	2.94	1.57	-0.09	-1.30	0.00	5.00
	Negative	Comparison	2.12	1.16	0.25	0.33	0.00	5.00
		HA	4.06	0.96	-0.79	-0.25	2.00	5.00
		HAHD	3.74	1.09	-0.58	-0.22	1.00	5.00
		Total	3.30	3.29	1.37	-0.43	0.00	5.00
	Total	Comparison	3.36	0.76	-0.23	0.39	1.50	0.50
		HA	3.28	0.78	0.08	-0.39	2.00	5.00
		HAHD	2.69	0.72	-1.01	1.29	0.50	3.50
		Total	3.12	0.80	-0.24	0.24	0.50	5.00
Number of Overgeneral AMs	Positive	Comparison	0.36	0.54	1.18	0.51	0.00	2.00
		HA	2.24	1.45	0.51	-0.40	0.00	5.00
		HAHD	2.64	1.05	0.41	0.11	1.00	5.00
		Total	1.73	1.46	0.55	0.24	0.00	5.00
	Negative	Comparison	2.21	1.19	0.03	-0.00	0.00	5.00
		HA	0.81	0.84	0.69	-0.31	0.00	3.00
		HAHD	1.16	1.09	0.78	0.04	0.00	4.00
		Total	1.40	1.20	0.60	0.24	0.00	5.00
	Total	Comparison	1.28	0.73	0.61	0.41	0.00	3.00
		HA	1.53	0.79	0.28	-0.67	0.00	3.00
		HAHD	1.90	0.87	0.94	1.13	0.00	4.00
		Total	1.56	0.83	0.66	0.24	0.00	4.5
Number of Total AMs	Positive	Comparison	2.48	0.08	-5.74	33.00	2.00	2.50
		HA	2.37	0.21	-1.26	-0.44	2.00	2.50
		HAHD	2.14	0.32	-0.34	-0.58	1.50	2.50
		Total	2.33	0.26	-1.40	1.08	1.50	2.50
	Negative	Comparison	2.16	0.40	-1.44	2.27	1.00	2.50
		HA	2.43	0.16	-2.43	4.17	2.00	2.50
		HAHD	2.45	0.15	-2.86	6.65	2.00	1.50
		Total	2.34	0.29	-2.46	7.35	1.00	2.50
	Total	Comparison	2.32	0.20	-1.37	2.21	1.75	2.50
		HA	2.40	0.13	-1.18	0.51	2.00	2.50
		HAHD	2.29	0.16	-0.21	-0.57	2.00	2.50
		Total	2.33	0.17	-1.06	1.27	1.75	2.50
Latency of Specific AMs	Positive	Comparison	4.53	1.96	0.91	0.62	1.40	9.25
		HA	8.93	3.26	1.38	2.04	4.00	17.33
		HAHD	14.70	8.42	2.05	6.86	3.50	47.00
		Total	9.15	6.67	2.52	10.66	1.40	47.00
	Negative	Comparison	11.04	4.26	2.23	7.82	5.00	28.00
		HA	5.55	2.19	0.48	-0.53	2.00	10.00
		HAHD	6.05	3.17	1.78	4.40	3.00	17.33
		Total	7.45	4.06	1.80	6.06	2.00	28.00
	Total	Comparison	7.43	2.80	1.37	3.49	3.50	17.30
		HA	7.09	2.22	0.89	0.92	3.75	13.57
		HAHD	10.00	4.69	1.83	6.23	3.00	28.00
		Total	8.13	3.58	2.17	9.02	3.00	28.00
Latency of Overgeneral AMs	Positive	Comparison	3.45	1.77	0.62	0.41	1.00	7.00
		HA	8.43	6.17	2.96	10.06	4.00	30.00
		HAHD	14.23	7.74	0.64	-0.08	3.00	31.66
		Total	10.72	7.34	1.12	0.64	1.00	31.66
	Negative	Comparison	10.70	4.50	0.71	-0.52	5.00	19.00
		HA	5.48	3.63	2.12	5.91	2.00	17.00
		HAHD	5.31	5.25	3.39	12.90	2.00	28.00
		Total	8.31	5.89	1.19	1.39	3.00	28.00
	Total	Comparison	7.07	2.74	0.55	-0.99	3.50	11.25
		HA	6.95	3.44	1.65	3.55	3.00	17.00
		HAHD	9.77	4.45	0.36	-0.87	3.25	18.33
		Total	10.21	5.59	1.19	1.39	3.00	28.00
Latency of Total AMs	Positive	Comparison	4.45	1.84	1.02	1.00	1.40	9.20

	HA	8.63	3.47	2.01	4.71	4.00	20.00
	HAHD	13.99	5.84	1.57	4.79	4.75	35.50
	Total	8.92	5.56	1.62	0.24	1.40	35.50
Negative	Comparison	11.45	4.39	1.80	5.18	5.00	28.00
	HA	5.75	2.24	0.47	-.34	2.00	11.00
	HAHD	5.61	3.46	3.05	12.00	2.60	20.80
	Total	7.65	4.40	1.62	0.24	3.00	38.00
Total	Comparison	7.95	2.69	1.32	3.14	3.50	17.30
	HA	7.19	2.47	1.29	1.88	4.10	14.90
	HAHD	9.80	3.27	1.55	4.86	5.15	21.85
	Total	8.28	3.99	1.40	0.24	3.50	21.85

Note. M = Mean, SD = Standard Deviation, HA = High Anxiety, HAHD = High Anxiety-High Depression

3.2. Inferential Statistics

Before the stage of testing the hypotheses, a two-step cluster analysis was carried out for generate two groups based on Beck Anxiety Inventory scores. As a result of the analysis, the size of the smallest cluster composed of participants with a high anxiety HA (N = 58) and the size of the largest cluster consisted of participants with low Anxiety (N = 169).

3.2.1. Analysis on number of specific AMs

According to the 1st hypothesis, AMs were analyzed for specific recall. For the analysis, a 3 (Comparison, HA, and HAHD) X 2 (positive and negative) factorial ANOVA with the repeated measure on the last factor was carried out.

Table 3.4

ANOVA Table for the Number of Specific AMs Recall.

Source	df	MS	F	Sig.	η2
Emotion of Cue Words	1	7.21	7.65	.007	.07
Emotion of Cue Words X Groups	2	101.73	107.97	<.001	.69
Error	94	.94			

Note. df = degrees of freedom, MS = mean square, η2 = eta square

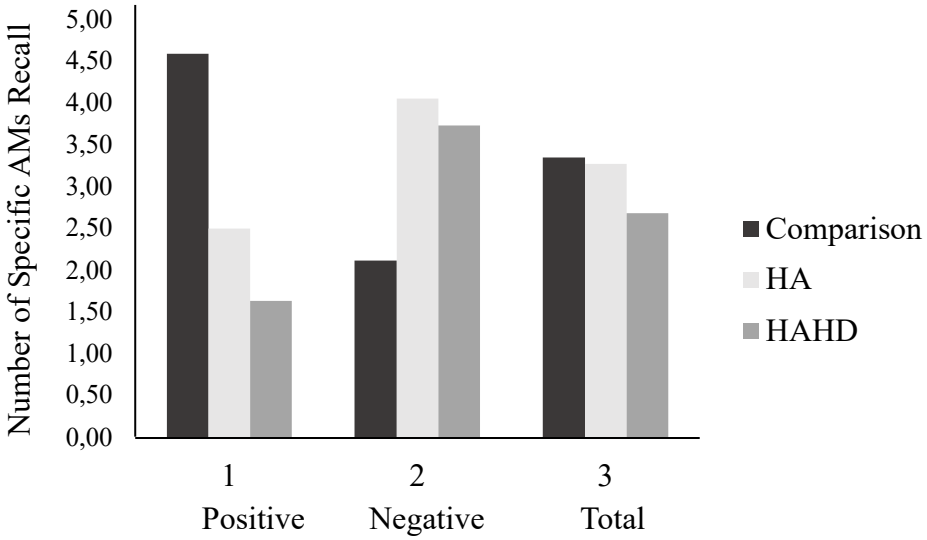
The Box's M test indicated that the assumption for equality of covariances matrices was violated. Therefore, Pillai's trace was presented (Tabachnik & Fidell, 2007). The result of the analysis revealed that there was a main effect of emotion of the cue words on the the number of specific AMs recall Λ = .07, F (1, 94) = 7.65, p< .05, partial η^2 = .07. That is, participants were more specific to negative cue words than to positive (M= 3.30, M= 2.94 respectively) as it is seen Table 3.4, and the interaction effect of the emotion of cue words and groups was also significant Λ = .69, F (2, 94) = 107.97, p<. 001, partial η^2 = .69. A Bonferroni correction post

hoc test was performed to evaluate the group differences for the specificity. Overall, Games Howell's post-hoc analysis showed that the comparison group significantly recalled more specific (*M*= 3.36) AMs than the HAHD group (*M*= 2.69), *p*< .05. However, for the comparison participants the differences were not observed compared to the HA group (*M*= 3.28). On the other hand, the HA (*M*=3.28) group recalled more specific AMs compared to the HAHD group (*M*= 2.69), *p*< .05 (See Table 3.3).

In pairwise comparisons between groups in terms of positive and negative emotional cue words, the comparison group (*M*= 4.60) significantly recalled more specific AMs as a response to positive cue words than the HA and the HAHD groups (*M*= 2.51 *M*= 1.64 respectively), p <*.001*. Moreover, the HA group (*M*= 2.51) significantly recalled more specific AMs as a response to positive cue words compared to the HAHD group (*M*= 1.64), *p*< .05. For the negative cue words, the comparison group (*M*= 2.12) compared to the HA (*M*= 4.06) and the HAHD group (*M*= 3.74) significantly recalled less specific AMs p <*.001*. However, the HA group did not significantly differ from the HAHD group (*M*= 4.06, *M*= 3.74 respectively) (See Figure 3.1).

Figure 3.1

Number of Specific AMs Recall for Groups.



3.2.2. Analysis on the number of overgeneral AMs

According to the 2nd hypothesis, AMs were analyzed for number of overgeneral recall. For the analysis, a 3 (Comparison, HA, and HAHD) X 2 (positive and negative) factorial ANOVA with the repeated measure on the last factor was carried out.

Table 3.5

ANOVA Table for Number of Overgeneral AMs Recall.

Source	df	MS	F	Sig.	η2
Emotion of Cue Words	1	6.04	6.10	.015	.06
Emotion of Cue Words X Groups	2	59.35	59.97	<.001	.56
Error	94	.99			

Note. df = degrees of freedom, MS = mean square, η2 = eta square

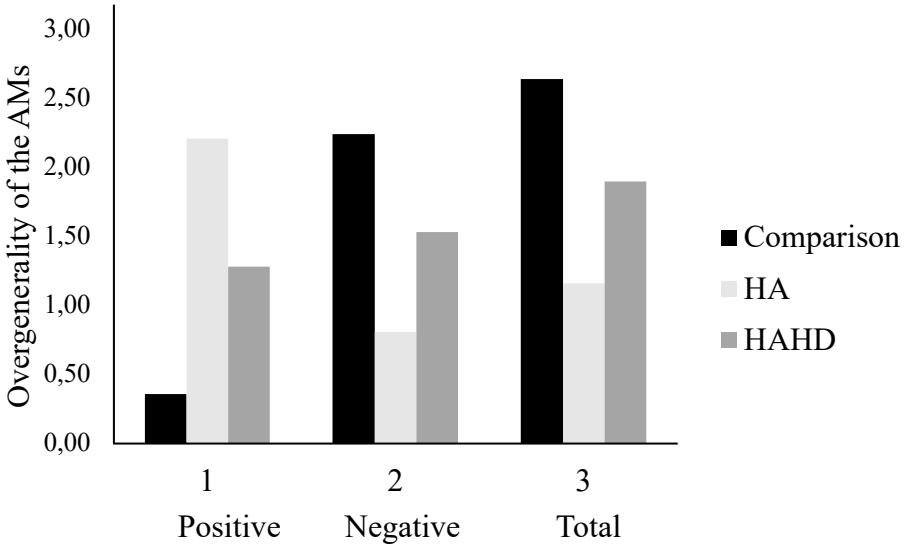
The Box's M test indicated that the assumption for equality of covariances matrices was violated. Therefore, Pillai's trace was presented (Tabachnik & Fidell, 2007). The result of the analysis showed that there was a main effect of emotion of the cue words on the number of overgeneral AMs recall Λ =.06, F (1, 94) = 6.10, $p< .05$, partial η^2 = .06. That is, participants were more overgeneral to positive cue words than to negative (M= 1.73, M= 1.40 respectively) as it is seen in Table 3.5, and the interaction effect of the emotion of cue words and groups was also significant Λ =.05, F (2, 94) = 59.97, $p<$. 001, partial η^2 = .56. A Bonferroni correction post hoc test was performed to evaluate the group differences for the overgenerality. Overall, Games-Howell post-hoc analysis showed that the comparison group (M= 1.28) recalled less overgeneral AMs compared to the HAHD group (M= 1.90), $p<$ .05. However, for the comparison participants the differences were not observed in the HA group (M= 1.53). Furthermore, the HA group did not significantly differ from the HAHD with respect to overgenerality (M= 1.53, M= 1.90 respectively) (See Table 3.3).

In pairwise comparisons of means between groups in terms of positive and negative emotional cue words demonstrated that the comparison group (M= .36) significantly recalled less overgeneral AMs as a response to positive cue words than the HA and the HAHD groups (M= 2.24, M=2.64 respectively), p <.001. However, the HA group (M= 2.24) did not significantly differ from the HAHD group (M= 2.64). For negative cue words, the comparison group (M= 2.21) compared to the HA (M= .81) and the HAHD groups (M= 1.16) significantly

recalled more overgeneral AMs p <*.001*. However, the HA group did not significantly differ from the HAHD group (*M*= .81, *M*= 1.16 respectively) (See Figure 3.2).

Figure 3.2

Number of *Overgeneral AMs Recall for Groups.*



3.2.3. Analysis on the latency of AMs

According to the 3rd hypothesis, AMs were analyzed for latency (response time). For the analysis, a 3 (Comparison, HA, and HAHD) X 2 (positive and negative) factorial ANOVA with the repeated measure on the last factor was carried out.

Table 3.6

ANOVA Table for the Latency of AMs Recall.

Source	df	MS	F	Sig.	η2
Emotion of Cue Words	1	97.59	7.91	.006	.07
Emotion of Cue Words X Groups	2	975.73	79.08	<.001	.62
Error	94	12.33			

Note. df = degrees of freedom, MS = mean square, η2 = eta square

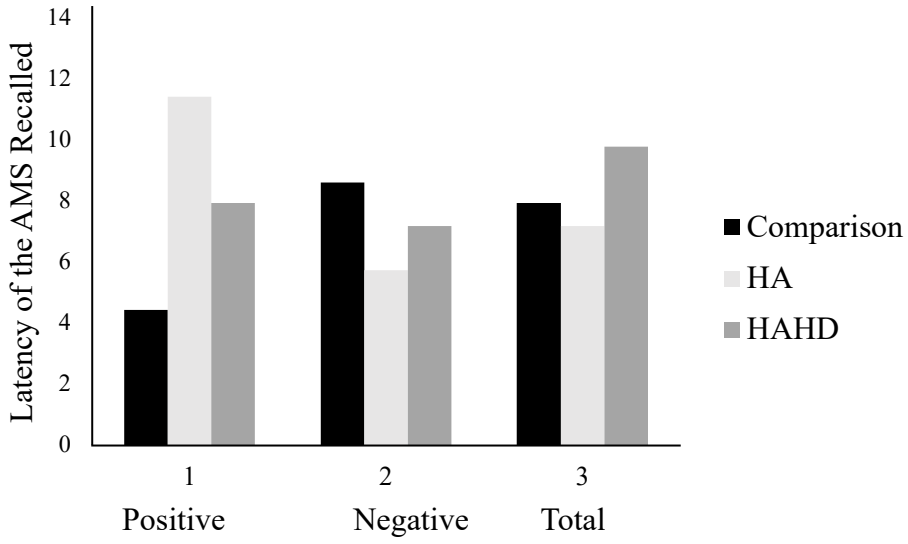
The result of the analysis showed that there was a main effect of emotion of the cue words on the latency of AMs recall Λ =.07, F (1, 94) = 7.91, p< .05, η^2 = .07. That is, participants had higher latency for recalling positive AMs compared to negative (*M*= 8.28, *M*= 7.65 respectively) as it is seen in Table 3.6, and the interaction effect of the emotion of cue

words and groups was also significant Λ = .62, F (2, 94) = 79.08, p<. 001, η^2 = .62. The Box's M test indicated that the assumption for equality of covariances matrices was violated. Therefore, Pillai's trace was reported due to a violation of equality of covariances matrices (Tabachnik & Fidell, 2007). A Bonferroni correction post hoc test was performed to evaluate the group differences for the latency. Overall, Games-Howell post-hoc analysis indicated that the comparison group (M= 7.95) had lower latency of AMs compared to the HAHD group (M= 9.80), p< .05. But for the comparison participants the differences were not observed in the HA group (M= 7.19). However, the HA group significantly lower the latency of AMs than the HAHD group (M= 7.19, M= 9.80 respectively), p< .05 (See Table 3.3).

In pairwise comparisons between groups in terms of positive and negative emotional cue words, the comparison group (M= 4.45) had lower latency of AMs as a response to positive cue words than the HA and the HAHD groups (M= 8.63, M=13.99 respectively), p <*.001.* The HA group (M= 8.63) also significantly lowered the latency of AMs in the HAHD group (M= 13.99), p <*.001.* For negative cue words, the comparison group (M= 11.45) compared to the HA (M= 5.75) and the HAHD groups (M= 5.61) had significantly higher latency of AMs, p <*.001*. However, the HA group did not significantly differ from the HAHD group (M= 5.75, M= 5.61 respectively) (See Figure 3.3).

Figure 3.3

Latency of the AMs Recall for Groups.



4. DISCUSSION

4.1. Overview of the Findings

In the present study, data were collected from 97 participants aged between 18 and 25 years (Nwomen = 85, Nmen = 12; Mage = 21.04, SD = 1.66). Initially, data was collected online via Qualtrics to identify the groups. Based on the scores of the Beck Anxiety and Beck Depression scales, three groups were formed: 33 people were placed in the comparison, 33 in high anxiety (HA), and 31 in the high anxiety and high depression group (HAHD). Subsequently, participants were then invited to the second phase of the study, which was face-to-face and aimed to examine autobiographical memory. In terms of education level, all participants were university students.

This study aims to assess the autobiographical memory of participants with anxiety and comorbid depression in a non-clinical sample. In this respect, three main hypotheses and sub-hypotheses were identified related to the number of specific, number of overgeneral and latency of AMs. Data collected in two stages: online and face-to-face and, the SPSS package program was used to analyze the collected data. The findings related to the hypotheses are discussed in the following heading.

4.2. Evaluation of the Findings

4.2.1. Findings of the number of specific AMs

In the present study, with regard to the specificity of memories, it was hypothesized that (H_1) the groups would differ in terms of specific AMs recall and that the HAHD group would differ from other groups with a lower number of specific AMs. According to the results of the analyzes conducted in line with this hypothesis, it was found in terms of the number of specific memories, the interaction effect of the emotion of cue words and groups was significant. When pairwise comparisons between groups were evaluated, the comparison group significantly recalled more specific AMs than the HAHD group. However, for the comparison participants the differences were not observed compared to the HA group. On the other hand, the HA group recalled more specific AMs compared to the HAHD group.

Specific memories refer to a memory that lasts less than a day, takes place in a specific place and time, that is, has a spatial and temporal location (Hallford et al., 2021). This phenomenon was first studied by Williams and Broadbent (1986) and it was found that patients

with suicide attempts recalled fewer specific memories compared to the control group. Subsequent studies have focused on clinical and non-clinical samples of depression. Research has indicated a growing quantity of evidence (both in clinical and non-clinical samples) between depression and impairment in specific AMs. In this regard, Vreeswijk and Wilde's (2004) meta-analysis of 14 studies on the specificity of autobiographical memory and depression emphasized that both clinical and non-clinical depression differed when compared to the control group. This variation indicates that patients with depression are less specific to autobiographical memories. In line with this information, the HAHD group was found to be significantly less specific than the control group in the present study. Here, it appears possible to discuss the effect of depression on reducing the specificity of autobiographical memory. In line with the findings, it is noteworthy that the HA group and the comparison group did not differ and, HA was significantly more specific than HAHD. At this point, including a high-depression group would have made the comparison more clearly, but studies consistently show that reduced specificity is a marker for depression. In contrast to depression, studies on the specificity of anxiety and autobiographical memory in the literature have inconsistent results. The reason for this may be related to the subtypes of anxiety. Related research demonstrates that specific phobias and social anxiety disorder are not associated with a decline in specific autobiographical memories. (Heidenreich et al., 2007; Wenzel et al., 2004) However, some research indicates the contrary. For example, Burke and Mathews (1992) in their study on GAD and autobiographical memory found that the anxious group was less specific than the control group, but it is noteworthy that depression was not controlled here. Another study was on state anxiety. Here, the mood induction technique was used and the state anxiety group recalled fewer specific memories than the control group (Hallford et al.,2019). It is difficult to generalize these findings. In our study, there was no decrease in specific autobiographical memory for the group with high anxiety (low depression) compared to the control group. Consistent with this, Decker et al. (2003) found no significant difference between trait anxiety and decreased specific autobiographical memory. This supports the current results. In summary, while the HAHD group recalled significantly fewer specific memories compared to the comparison group, this difference was not observed between HA and comparison. This may suggest that, unlike depression, decreases in specific autobiographical memory may not be a predictor of anxiety.

The other focus of the study is on positive and negative cue words of specific memories. This study hypothesized that the comparison group will differ from other groups with a higher number of specific AMs as a response to positive cue words ($H_{1.1}$) and the HAHD group will differ from other groups with a higher number of specific AMs as a response to negative cue

words ($H_{1.2}$). When the relevant findings in line with the hypotheses are examined, in terms of positive cue words, the comparison group significantly recalled more specific AMs as a response to positive cue words than the HA and the HAHD groups. Moreover, the HA group significantly recalled more specific AMs as a response to positive cue words compared to the HAHD group. For the negative cue words, the comparison group compared to the HA and the HAHD group significantly recalled less specific AMs. However, the HA group did not significantly differ from the HAHD group. Studies on the emotion and specificity of cue words show different findings. Studies have shown that the depression group was less specific to positive words than the control group (Vreeswijk & Wilde, 2004; Williams & Scott, 1988), while there are also studies that do not differentiate between positive and negative cue words (Vreeswijk & Wilde, 2004). This discrepancy may be due to the differences among the participants. In our study, consistent with the majority of the findings, the HAHD group was less specific to positive cue words compared to both the control group and the HA group. The difference here can be explained by mood-congruent memory. Mood congruent memory referred that individuals in a negative mood are more vulnerable to recalling information that has a negative emotional value compared to information that has a positive emotional value. (Fiedler et al., 2001). That is, healthy individuals are more specific about positive memories than negative ones, whereas individuals with negative moods have difficulty being specific in general, and this is most pronounced in positive memories. (Williams & Scott, 1988; Köhler et al., 2015). Here, we may speculate that the co-occurrence of the two disorders may have more distinct effects.

In terms of negative cue words, the comparison group was more specific than HA and HAHD, but HA and HAHD did not differ. Anxiety and depression are known to have high comorbidity rates (Hirschfeld, 2001). According to Watson (2005), these two disorders involve negative affect, and there is a cognitive processing error common to both disorders (Garber & Weersing, 2010). In depression, there is a recall bias that prefers negative experiences, and this causes the disorder to be maintained. Depressed people are therefore more likely to remember negative information due to negative memory bias (Köhler et al., 2015). Similarly, individuals with anxiety disorders tend to selectively recall information from the past in a way that confirms negative interpretations in line with their current situation and expectations (Clark, 1999). This negatively affects retrieval skills in long-term memory (Eysenck et al., 2007). That is, selective attention to negative memories facilitates the encoding and retrieval of these memories (Köhler et al., 2015). In other words, mood-congruent recall is a common condition in both disorders.

At this point, we can mention that both groups have selective attention to negative memories, but there was no significant effect of appearance together.

4.2.2. Findings of the number of overgeneral AMs

In the present study, with regard to overgenerality of memories, it was hypothesized that the groups will differ in terms of overgeneral AMs recall. The HAHD group will differ from other groups with a higher number of overgeneral AMs (H_2). According to the results of the analyzes conducted in line with this hypothesis, it was found in terms of the number of overgeneral memories, the interaction effect of the emotion of cue words and groups was significant. When pairwise comparisons between groups were evaluated, the comparison group recalled less overgeneral AMs compared to the HAHD group. However, for the comparison participants the differences were not observed in the HA group. Furthermore, the HA group did not significantly differ from the HAHD with respect to overgenerality.

Overgeneral memory refers to a lack of specificity in the retrieval of past events, meaning that these memories last longer than a day based on categories of people, places, and activities, as opposed to specific memories. Overgeneral memory encoding states cause a number of problems during recall. In a normal process, overgeneral descriptions appear initially during recollection. The mnemonic cues then generate more specific information along with the general description. This phenomenon has been the subject of many studies on depression, with consistent findings. Overgeneral memory seems to be a marker for both clinical (Brittlebank et al., 1993; Champagne et al., 2016) and non-clinical (Gibbs & Rude, 2004; Gutenbrunner et al., 2018) depression, even in recovering groups (Mackinger et al., 2000; Matsumato et al., 2023). In our study, consistent with these findings, the HAHD group recalled a higher number of overgeneral memories compared to the comparison group. This differentiation was not seen in the high-anxiety group. There are few studies on anxiety and overgeneral memory, and findings are inconsistent for clinical and non-clinical samples (Burke & Mathews, 1992; Hallford et al., 2019; Wessel et al., 2001; Wenzel et al, 2004). However, consistent with the current study, the vast majority of studies suggest that the phenomenon of overgeneral memory does not exist for anxiety disorders. (Burke & Mathews, 1992; Richards & Whittaker, 1990; Wessel et al., 2001; Wessel et al., 2003). At this point, it is a consistent finding that the anxiety group did not differ from the comparison group in terms of both specificity and overgenerality of memories. On the other hand, there was no significant difference between the HA and HAHD groups. While high-anxiety did not differ from the comparison group in terms of overgeneral memory, its co-occurrence may have a significant effect. However, overgeneral memory in depression is an

accepted phenomenon. For this reason, it is difficult to explain the differentiation of HAHD from the comparison group only with the effect of depression or comorbidity in line with the current findings. At this point, the presence of a high-depression group would have allowed us to make the distinction more clearly. As a result, this may suggest that, unlike depression, the overgerenal memory phenomenon for autobiographical memory may not be a marker for only anxiety.

The other focus of the study is on positive and negative cue words for overgeneral memories. This study hypothesized that the comparison group will differ from other groups with a lower number of overgeneral AMs as a response to positive cue words ($H_{2.1}$) and the HAHD group will differ from other groups with a lower number of overgeneral AMs as a response to negative cue words ($H_{2.2}$). When the relevant findings in line with the hypotheses are examined, in terms of positive cue words, the comparison group significantly recalled less overgeneral AMs as a response to positive cue words than the HA and the HAHD groups. However, the HA group did not significantly differ from the HAHD group. For negative cue words, the comparison group compared to the HA and the HAHD groups significantly recalled more overgeneral AMs. However, the HA group did not significantly differ from the HAHD group. It is consistent with the literature that the comparison group recalled less overgeneral memory for positive cue words than the other groups (Vreeswijk & Wilde, 2004) and also that they recalled more specific memories than the other groups in the present study. As mentioned, the phenomenon of overgeneral memory for depression has been demonstrated in many previous research studies, and a consensus has been reached, but when it comes to the emotion of the cue words, different findings stand out. Williams and Scott (1988) conducted a study with clinical depression and a control group and found that, similar to the present study, the depression group recalled significantly more positive than negative overgeneral AMs compared to the control group. However, there are also studies that did not find such a difference in terms of overgenerality for positive and negative words (Vreeswijk & Wilde, 2004). The majority of studies suggest that the depressive group is more generalized, especially in the face of positive cue words (Williams et al., 2007). For anxiety, the phenomenon of overgeneral memory is currently a controversial issue, and there is no result about the emotion of the cue words in the studies conducted (Hallford et al., 2019). However, in our study, the fact that the high anxiety group was more overgeneralized for positive words and less overgeneralized for negative words compared to the control group can be explained by mood-congruent memory. Mood congruent memory referred that individuals who are negative mood are more vulnerable to recalling

information that has a negative emotional value compared to information that has a positive emotional value. (Fiedler et al., 2001). In other words, while this decreases the recall of positive material, it increases the recall of negative material. In this study, in support of this, the HA and HAHD groups were more generalized to the positive cue word and less generalized to the negative cue word compared to the comparison group. However, for both cue emotions, the HA and HAHD groups differed significantly from the comparison group, but this difference was not observed among themselves. Although there seems to be no significant effect of comorbidity between the two groups in terms of overgeneral recall, it is difficult to make a definite assumption without including the high-depression group.

4.2.3. Findings of the latency of AMs

In the present study, with regard to latency of AMS, it was hypothesized that the groups will differ in terms of latency on AMs recall and the HAHD group will differ from other groups with a longer reaction time for AMs (H_3). According to the results of the analyzes conducted in line with this hypothesis, it was found in terms of the latency, the interaction effect of the emotion of cue words and groups was significant. The comparison group had lower latency of AMs compared to the HAHD group. But for the comparison participants the differences were not observed in the HA group. However, the HA group significantly lower the latency of AMs than the HAHD group.

In mood disorders, studies show that current mood creates a recall bias in autobiographical memory (Williams et al., 2007). That is, memories of negative valence are more easily recalled, whereas access to memories of positive valence is slowed down (Dalgleish et al. 2014). The studies in the literature are mostly related to the level of specificity or overgenerality of memory and depression, and there are very few and controversial findings on reaction time. However, when the findings are evaluated in the light of existing studies, Hendereich et al. (2007) used cue words similar to our study in their study conducted with depressed and control groups and found no difference between the groups in terms of reaction time, while William and Scott (1998) and Kavaini et al. (2005), in their study comparing depressed and non-depressed groups, emphasized that the latency of the depressed group was longer than control and also in terms of emotion of the cue word, the latency of the memory to positive-valance cue words was slower than the negative. Similarly, in our study, while the HAHD group differed from the control group with a significantly longer latency (reaction time), the difference also appeared in terms of the emotion of the words; the latency of the memory to positive cue words was longer and slower for the negative compared to control group.

For anxiety, Richards and Whitaker (1990) found that the anxiety group responded faster to anxiety-evoking words than the neutral words compared to the control group. In our study, although there was no significant difference between the HA group and the control group in terms of total latency, when the words were examined in terms of the emotion of cue words, the HA group showed a longer latency to positive cue words and a shorter latency to negative words compared to the comparison group. This is a finding consistent with the findings of studies in the literature on memory bias. However, in terms of the emotional value of the cue words, it was observed that comorbidity had a significant effect on positive emotional words, while the HA and HAHD groups did not differ for negative stimuli. Although it seems that the co-occurrence of depression and anxiety has no significant effect on reaction time to positive stimuli, it is difficult to make a clear assumption.

In summary, the HAHD group differs from the control group in terms of latency in general, and this difference is specifically longer for positive cue words and shorter for negative ones. Although there is no difference in total latency for HA compared to the control, when the emotion of the cue words were examined, high anxiety groups had a longer reaction time to positive emotional words and a shorter reaction time to negative emotional words. Finally, for positive cue words, HA had longer reaction times compared to the other groups, whereas for negative words, no difference was found between HA and comorbidity. While it is known that both groups have a predisposition to negativity (Köhler et al., 2015; Watson, 2005), it is important to include the high-depression group for a broader understanding of the findings here and to make a clear assumption.

4.3. Contributions, Limitations, and Directions for Future Research

This study confirmed the information in the literature and also revealed new findings. The study consisted of three groups: comparison, HA, and HAHD, and aimed to evaluate the autobiographical memory process in terms of specificity, overnegerality, and latency. There are many studies on depression and autobiographical memory in the literature, and a consensus has been reached in terms of findings. Decreased specificity and overgeneral autobiographical memory seem to be markers of depression, but there are very few studies on anxiety, and these results are inconsistent. While some studies have found decreased specificity for anxiety or overgeneral memory, there are also studies showing the opposite. Thus, it is difficult to generalize these findings. In this study, we first aimed to clarify this. In addition, there are few studies examining the effect of the co-occurrence of the two disorders. In addition to confirming

the phenomenon of overgeneral memory for depression, this study also found that reduced specificity and overgeneral memory was not observed in non-clinical HA. Besides demonstrating that overgeneral memory does not seem to be a marker for anxiety, another contribution of this study was the differentiation according to the emotion of the cue word. That is, in non-clinical anxiety, specificity decreased and overgenerality increased in response to positive cue words. This is a consistent result in terms of the phenomenon of mood-congruent memory. The co-occurrence of depression and anxiety had different effects. The HAHD group differed from the HA group in terms of specificity level for positive cue words. This may be interpreted as a more pronounced effect of comorbidity. It is important to include the high-depression group to make this assumption more accurate. On the other hand, in terms of negative cues, the difference was not observed. Also, there are a limited number of studies in the literature in terms of latency, and to the best of our knowledge, this is the first study on the effect of co-occurrence. Although no difference was observed for HA in terms of total latency, the emotion of the cue words again revealed different results. The HA group differed from the control with a longer reaction time to positive cue words and a shorter reaction time to negative cue words, consistent with the level of specificity and overgenerality. The HAHD group differed in longer latency for positive cue words compared to the HA, but the difference was not observed for negative cue words. This seems to be a consistent finding within the study because there was no significant effect of negative cue words on three measures (number of specific AMs, number of overgeneral AMs, and latency) between the two groups. The present findings seem to be consistent with the negative affect that are common to both disorders.

The current study has some limitations. First, this study consists of a non-clinical sample and only university students. For this reason, it is not possible to generalize the results to the clinical population and psychopathology, but it could be considered a representative sample since high scores were taken as the basis for the scales. In order to obtain more precise findings, the current study should be conducted with a larger population and diagnosed groups. In addition, the depression and anxiety measurements of the participants were taken before the second phase of the study. A simultaneous measurement may be more valuable. Only the author coded autobiographical memories in this study. To get more accurate findings, blind-rating and measuring inter-rater reliability can be used in future studies. The study included only positive and negative cue words. For future studies, a more controlled measurement can be obtained by including neutral words and expecting that the groups do not differ in terms of these words. In addition, there are three groups in the current study: high-anxiety, high anxiety-high depression and comparison. For future studies, the high-depression group can be included and the

differentiation between the groups can be observed more clearly. In the present study, autobiographical memories were coded as "overgeneral "or "specific". In future studies, in order to develop a more comprehensive understanding, the content of the memories brought by the participants can also be analyzed by examining the transcripts of voice records so that it can be examined whether the groups brought memories of a certain emotional valence. In summary, considering the limitations of the current study, future researchers can work with a larger population and clinical sample. It is also recommended that the content of the memories be examined and the depression group be added to obtain more broader and generalizable measurements.

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APPENDIX 1: INFORMED CONSENT FORM 1

..../..../2023

Bu çalışma, Başkent Üniversitesi Psikoloji Bölümü Klinik Psikoloji Yüksek Lisans öğrencisi Psk. Rabia Akbulut tarafından, Doç. Dr. Elvin Doğutepe danışmanlığında yüksek lisans tezi kapsamında yürütülmektedir ve bir ön çalışma niteliğindedir.

Araştırma iki aşamadan oluşmaktadır. Bu aşamada bireylerin genel duygu durumlarının belirlenmesi hedeflenmektedir. Ölçekler tamamlandıktan sonra e-posta adresiniz üzerinden sizinle iletişime geçilecektir. Çalışmanın ikinci aşaması Başkent Üniversitesi'nde yüz yüze gerçekleştirilecektir. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir. Çalışma sırasında doldurulması talep edilecek ölçekler, genel olarak kişisel rahatsızlık verecek herhangi bir ayrıntı içermemektedir ve araştırmaya katılım gönüllülüğe dayanmaktadır. Bu yüzden katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakmakta serbestsiniz. Katılmaya karar verdikten sonra tüm maddeleri eksiksiz bir şekilde doldurmanız araştırmanın sonuçlarının benzer deneyimleri yaşayan kişilere yarar sağlaması açısından önemlidir. Anketleri doldurmak için ortalama 10 dakika süre yeterli olacaktır.

Çalışmaya yönelik sorularınızı Psk. Rabia Akbulut'a iletebilirsiniz.

İletişim için:

Katılım ve katkınız için teşekkür ederiz.

Danışman:
Doç. Dr. Elvin DOĞUTEPE

Araştırmacı:
Psk. Rabia Akbulut

Katılımcının beyanı

Bu çalışmaya tamamen gönüllü olarak katılıyorum. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum. ☐

APPENDIX 2: INFORMED CONSENT FORM 2

..../..../2023

Bu çalışma, Başkent Üniversitesi Psikoloji Bölümü Klinik Psikoloji Yüksek Lisans öğrencisi Psk. Rabia Akbulut tarafından, Doç. Dr. Elvin Doğutepe danışmanlığında yüksek lisans tezi kapsamında yürütülmektedir ve öncesinde katılmış olduğunuz ön araştırmanın devamı niteliğindedir.

Bu aşamada katılımcıların bilişsel süreçlerinin değerlendirilmesi amaçlanmaktadır. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir. Çalışma sırasında doldurulması talep edilecek ölçekler, genel olarak kişisel rahatsızlık verecek herhangi bir ayrıntı içermemektedir. Bu araştırmaya gönüllülük temelinde katıldığınız için söz konusu araştırmadan istediğiniz zaman ayrılma, verilerinizi geri çekme hakkına sahipsiniz. Katılmaya karar verdiğiniz taktirde sizden yaklaşık 15 dakika boyunca birtakım sorulara cevap vermeniz istenecektir. Uygulama boyunca ses ve süre kaydı alınacaktır. Söz konusu formlarda yer alan bilgiler hiçbir şekilde başka kişiler ile paylaşılmayacak ve vermiş olduğunuz bilgiler yalnızca bilimsel amaçlar doğrultusunda kullanılacaktır.

Çalışmaya yönelik sorularınızı Psk. Rabia Akbulut'a iletebilirsiniz.

İletişim için:

Katılım ve katkınız için teşekkür ederiz.

Danışman:
Doç. Dr. Elvin DOĞUTEPE

Araştırmacı:
Psk. Rabia Akbulut

Katılımcının beyanı

Bu çalışmaya tamamen gönüllü olarak katılıyorum. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum. ☐

APPENDIX 3: DEMOGRAPHIC INFORMATION FORM

1. **<u>En sık kullandığınız</u>** e-posta adresiniz? _____

2. Biyolojik cinsiyetiniz?

Kadın ☐ Erkek ☐

3. Yaşınız? _____

4. Eğitim durumunuz?

Lise ( )

Lisans ( )

Lisansüstü ( )

Başka bir öğrenim duruma sahipseniz belirtiniz: _____

5. Herhangi bir ilaç kullanıyor musunuz?

Evet ( ) Hayır ( )

Evet ise belirtiniz: _____

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

Evet ( ) Hayır ( )

Evet ise belirtiniz: _____

APPENDIX 4: BECK ANXIETY INVENTORY

Aşağıda insanların kaygılı ya da endişeli oldukları zamanlarda yaşadıkları bazı belirtiler verilmiştir. Lütfen her maddeyi dikkatle okuyunuz. Daha sonra, her maddedeki belirtinin bugün dahil son bir haftadır sizi ne kadar rahatsız ettiğiniyandakine uygun yere (x) işareti koyarak belirleyiniz.

	Hiç	**Hafif Düzeyde**	**Orta Düzeyde**	**Ciddi Düzeyde**
1. Bedeninizin herhangi bir yerinde uyuşma veya karıncalanma				
2. Sıcak / ateş basmaları				
3. Bacaklarda halsizlik, titreme				
4. Gevşeyememe				
5. Çok kötü şeyler olacak korkusu				
6. Baş dönmesi veya sersemlik				
7. Kalp çarpıntısı				
8. Dengeyi kaybetme duygusu				
9. Dehşete kapılma				
10. Sinirlilik				
11. Boğuluyormuş gibi olma duygusu				
12. Ellerde titreme				
13. Titreklik				
14. Kontrolü kaybetme korkusu				
15. Nefes almada güçlük				
16. Ölüm korkusu				
17. Korkuya kapılma				
18. Midede hazımsızlık ya da rahatsızlık hissi				
19. Baygınlık				
20. Yüzün kızarması				
21. Terleme (sıcaklığa bağlı olmayan)				

APPENDIX 5: BECK DEPRESSION INVENTORY

AÇIKLAMA:

Sayın katılımcı, aşağıda gruplar halinde cümleler yer almaktadır. Her grupta yer alan cümleleri dikkatle okuyarak, **bugün dahil son bir hafta içinde** kendinizi nasıl hissettiğinizi en iyi anlatan cümleyi daire içine alarak işaretleyiniz.

Soruları vereceğiniz samimi ve dürüst cevaplar araştırmanın bilimsel niteliği açısından son derece önemlidir.

Katkı ve yardımlarınız için teşekkürler.

1. (0) Üzgün ve sıkıntılı değilim
   (1) Kendimi üzüntülü ve sıkıntılı hissediyorum.
   (2) Hep üzüntülü ve sıkıntılıyım. Bundan kurtulamıyorum.
   (3) O kadar üzgün ve sıkıntılıyım ki, artık dayanamıyorum.

2. (0) Gelecek hakkında umutsuz ve karamsar değilim.
   (1) Gelecek için karamsarım.
   (2) Gelecekten beklediğim hiçbir şey yok.
   (3) Gelecek hakkında umutsuzum ve sanki hiçbir şey düzelmeyecekmiş gibi geliyor.

3. (0) Kendimi başarısız biri olarak görmüyorum.
   (1) Başkalarından daha başarısız olduğumu hissediyorum.
   (2) Geçmişe baktığımda başarısızlıklarla dolu olduğunu görüyorum.
   (3) Kendimi tümüyle başarısız bir insan olarak görüyorum.

4. (0) Her şeyden eskisi kadar zevk alıyorum.
   (1) Birçok şeyden eskisinden olduğu gibi zevk almıyorum.
   (2) Artık hiçbir şey bana tam anlamıyla zevk vermiyor.
   (3) Her şeyden sıkılıyorum

5. (0) Kendimi herhangi bir şekilde suçlu hissetmiyorum.
   (1) Kendimi zaman zaman suçlu hissediyorum.
   (2) Çoğu zaman kendimi suçlu hissediyorum.
   (3) Kendimi her zaman suçlu hissediyorum.

6. (0) Kendimden memnunum.

(1) Kendimden pek memnun değilim.

(2) Kendime kızgınım.

(3) Kendimden nefret ediyorum.

7. (0) Başkalarından daha kötü olduğumu sanmıyorum.

(1) Hatalarım ve zayıf taraflarım olduğunu düşünmüyorum.

(2) Hatalarımdan dolayı kendimden utanırım

(3) Her şeyi yanlış yapıyormuşum gibi geliyor ve hep kendimde kabahat bulurum.

8. (0) Kendimi öldürmek gibi düşüncelerim yok.

(1) Kimi zaman kendimi öldürmeyi düşündüğüm oluyor ama yapmıyorum.

(2) Kendimi öldürmek isterdim.

(3) Fırsat bulsam kendimi öldürürüm.

9. (0) İçimden ağlamak geldiği pek olmuyor.

(1) Zaman zaman içimden ağlamak geliyor.

(2) Çoğu zaman ağlıyorum.

(3) Eskiden ağlayabilirdim ama şimdi istesem de ağlayamıyorum.

10. (0) her zaman olduğumdan daha canı sıkkın ve sinirli değilim.

(1) Eskisine oranla daha kolay canım sıkılıyor ve kızıyorum.

(2) Her şey canımı sıkıyor ve kendimi hep sinirli hissediyorum.

(3) Canımı sıkan şeylere bile artık kızamıyorum.

11. (0) Başkalarıyla görüşme, konuşma isteğimi kaybetmedim.

(1) Eskisi kadar insanlarla birlikte olmak istemiyorum.

(2) Birileriyle görüşüp konuşmak içimden gelmiyor.

(3) Artık çevremde kimseyi istemiyorum.

12. (0) Karar verirken eskisinden daha fazla güçlük çekmiyorum.

(1) Eskiden olduğu kadar kolay karar veremiyorum.

(2) Eskiye kıyasla karar vermekte güçlük çekiyorum.

(3) Artık hiçbir konuda karar veremiyorum.

13. (0) Her zamankinden farklı göründüğümü sanmıyorum.

(1) Aynada kendime her zamankinden kötü görünüyorum.

(2) Aynaya baktığımda kendimi yaşlanmış ve çirkinleşmiş buluyorum.

(3) Kendimi çok çirkin buluyorum.

14. (0) Eskisi kadar iyi iş güç yapabiliyorum.

(1) Her zaman yaptığım işler şimdi gözümde büyüyor.

(2) Ufacık bir işi bile kendimi çok zorlayarak yapabiliyorum.

(3) Artık hiçbir iş yapamıyorum.

15. (0) Uykum her zamanki gibi.

(1) Eskisi gibi uyuyamıyorum.

(2) Her zamankinden 1-2 saat önce uyanıyorum ve kolay kolay tekrar uyuyamıyorum.

(3) Sabahları çok erken uyanıyorum ve bir daha uyuyamıyorum.

16. (0) Kendimi her zamankinden yorgun hissetmiyorum.

(1) Eskiye oranla daha çabuk yoruluyorum.

(2) Her şey beni yoruyor.

(3) Kendimi hiçbir şey yapamayacak kadar yorgun ve bitkin hissediyorum.

17. (0) İştahım her zamanki gibi.

(1) Eskisinden daha iştahsızım.

(2) İştahım çok azaldı.

(3) Hiçbir şey yiyemiyorum.

18. (0) Son zamanlarda zayıflamadım.

(1) Zayıflamaya çalışmadığım halde en az 2 kg verdim.

(2) Zayıflamaya çalışmadığım halde en az 4 kg verdim.

(3) Zayıflamaya çalışmadığım halde en az 6 kg verdim.

19. (0) Sağlığımla ilgili kaygılarım yok.

(1) Ağrılar, mide sancıları, kabızlık gibi şikayetlerim oluyor ve kafamı başka şeylere vermekte zorlanıyorum.

(2) Sağlığımın bozulmasından çok kaygılanıyorum ve kafamı başka şeylere vermekte zorlanıyorum.

(3) Sağlık durumum kafama o kadar takılıyor ki, başka hiçbir şey düşünemiyorum.

20. (0) Sekse karşı ilgimde herhangi bir değişiklik yok.

(1) Eskisine oranla sekse ilgim az.

(2) Cinsel isteğim çok azaldı.

(3) Hiç cinsel istek duymuyorum.

21. (0) cezalandırılması gereken şeyleri yaptığımı sanmıyorum.

(1) Yaptıklarımdan dolayı cezalandırılabileceğimi düşüyorum.

(2) Cezamı çekmeyi bekliyorum.

(3) Sanki cezamı bulmuşum gibi geliyor.

APPENDIX 6: AUTOBIOGRAPHICAL MEMORY TEST

OTOBİYOGRAFİK BELLEK TESTİ YÖNERGESİ

Bu çalışmada yaşadığınız olaylarla ilgili olarak belleğinizde yer alan bilgilerle ilgilenmekteyim. Size bazı kelimeler okuyacağım. **Sizden, her bir kelime için, bu kelimenin size hatırlattığı ve sizin başınızdan geçen bir olayı düşünmenizi istiyorum.** Bu aktaracağınız olay, yaşamınızın herhangi bir döneminde yer alan bir olay olabilir. Bu olay, küçüklüğünüzde yaşadığınız bir olay olabileceği gibi geçen haftaya kadar olmuş olabilir. Ancak lütfen, geçen hafta içinde yaşadığınız bir olay olmamasına özen gösteriniz. Yine bu hatırlamanızı istediğim anı, sizin için çok önemli ya da önemsiz bir olay olabilir.

Sizden bir ricam daha olacak. Sizden hatırlamanızı istediğim anı, spesifik bir anı olmalı. **Yani, bu olay bir günden kısa sürmüş olmalı, ve belirli bir yer ve zamanda gerçekleşen bir olay olmalı.**

Bu nedenle, örneğin ben size "iyi" kelimesini söylersem, "İyi geçen bir doğum günü partisinden hep çok hoşlanmışımdır" gibi bir cevap uygun değildir. Ama, "Ayşe'nin doğum gününde çok iyi vakit geçirmiştim" gibi bir yanıt uygun olacaktır. Çünkü; bu özel, bir günden kısa süren ve belirli bir yerde ve zamanda geçmiş olan bir olaydır. Ayrıca, sizden söyleyeceğim her bir kelime için "farklı" bir anınızı (ya da olayı) anlatmanızı rica ediyorum.

Şimdi örnek olarak bazı kelimeleri deneyelim:

Yağmur

Gazete

Süt

OTOBİYOGRAFİK BELLEK TESTİ

1. **MUTLU** Anının Niteliği:

   Tepki Anı:

2. **ÇARESİZ** Anının Niteliği:

   Tepki Anı:

3. **BAŞARILI** Anının Niteliği:

   Tepki Anı:

4. **UMUTSUZ** Anının Niteliği:

   Tepki Anı:

5. **NEŞELİ** Anının Niteliği:

   Tepki Anı:

6. **BERBAT** Anının Niteliği:

   Tepki Anı:

7. **UMUTLU** Anının Niteliği:

   Tepki Anı:

8. **REDDEDİLMİŞ** Anının Niteliği:

   Tepki Anı:

9. **HUZURLU** Anının Niteliği:

   Tepki Anı:

10. **MUTSUZ** Anının Niteliği:

    Tepki Anı:

APPENDIX 7: ETHICS COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 24.03.2023-217751

1993
BAŞKENT ÜNİVERSİTESİ
Akademik Değerlendirme Koordinatörlüğü

Sayı : E-62310886-605.99-217751
Konu : Rabia Akbulut'un Etik Onay Başvurusu Hk. 24.03.2023

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 09.03.2023 tarih ve 212786 sayılı yazınız.

Enstitünüz Klinik Psikoloji Tezli Yüksek Lisans Programı öğrencisi Rabia Akbulut'un, Doç. Dr. Elvin Doğutepe'nin danışmanlığında yürüteceği "Autobiographical Memory Process in Non-Clinical Anxiety and Comorbid Depression" başlıklı tez çalışması değerlendirilmiş ve bilgilerinize ekte sunulmuştur.

Prof. Dr. M. Abdülkadir VAROĞLU
Kurul Başkanı

Ek: Değerlendirme Formu

Sayı : 17162298.600-76
Konu : Tez Çalışması

21 MART 2023

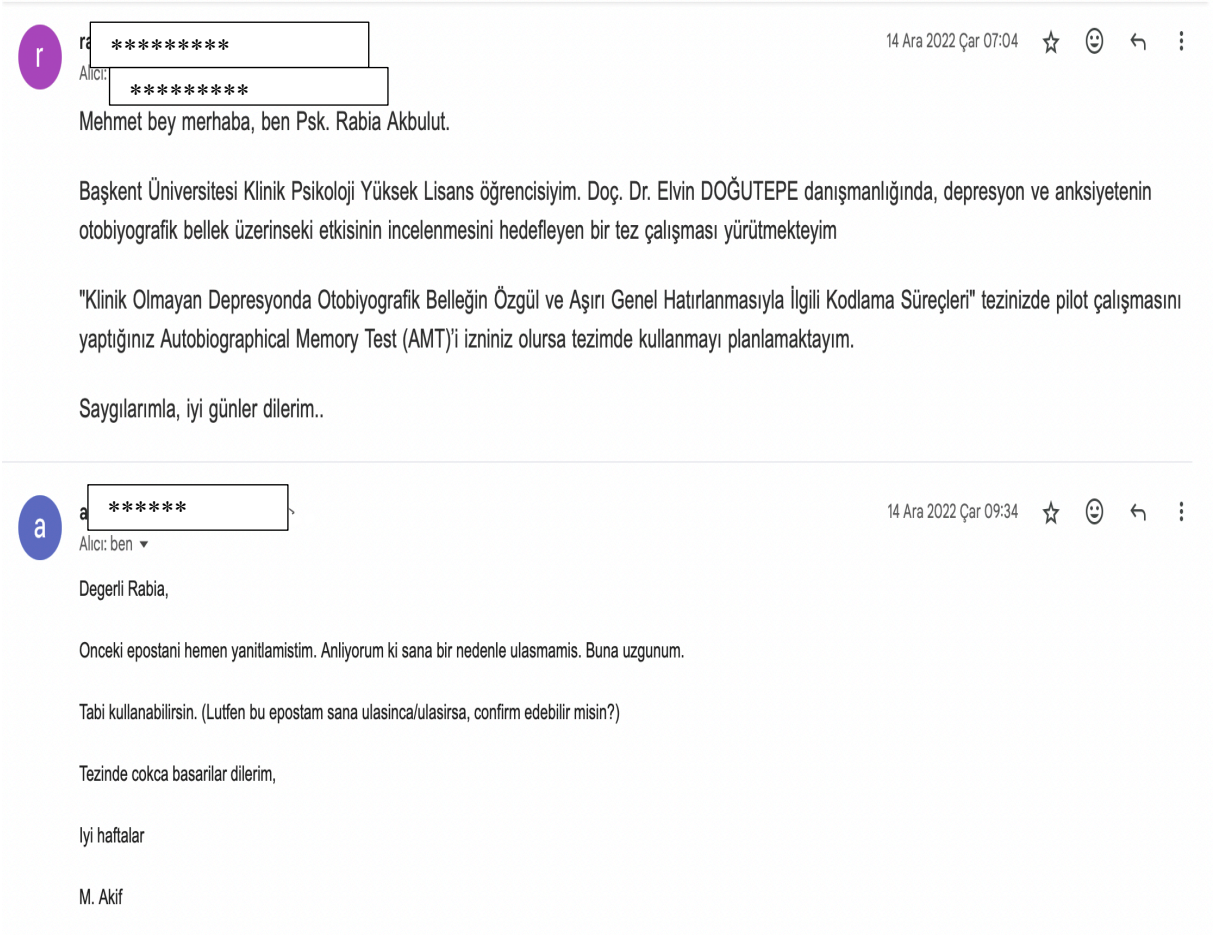
İlgili Makama

Üniversitemiz Sosyal Bilimler Enstitüsü Klinik Psikoloji Tezli Yüksek Lisans Programı öğrencisi Rabia Akbulut'un, Doç. Dr. Elvin Doğutepe'nin danışmanlığında yürüteceği "Autobiographical Memory Process in Non-Clinical Anxiety and Comorbid Depression" başlıklı tez çalışması değerlendirilmiş ve yapılmasında bir sakınca olmadığı tespit edilmiştir.
Bilgilerinize saygılarımızla sunarız.

Başkent Üniversitesi Sosyal ve Beşeri Bilimler ve Sanat Araştırma Kurulu

Ad, Soyad	Değerlendirme	İmza
Prof. Dr. M. Abdülkadir Varoğlu	Olumlu/~~Olumsuz~~	
Prof. Dr. Gözen Güner Aktaş	Olumlu/Olumsuz	
Prof. Dr. Sadegül Akbaba Altun	Olumlu/~~Olumsuz~~	
Prof. Dr. Hasan Tahsin Fendoğlu	Olumlu/Olumsuz	
Prof. Dr. Filiz Kalelioğlu	Olumlu/~~Olumsuz~~	
Prof. Dr. Hidayet Hale Künüçen	Olumlu/Olumsuz	
Prof. Dr. Özcan Yağcı	Olumlu/~~Olumsuz~~	

APPENDIX 8: PERMISSION OF THE AUTOBIOGRAPHICAL MEMORY TEST



r ********* 14 Ara 2022 Çar 07:04

Alıcı: *********

Mehmet bey merhaba, ben Psk. Rabia Akbulut.

Başkent Üniversitesi Klinik Psikoloji Yüksek Lisans öğrencisiyim. Doç. Dr. Elvin DOĞUTEPE danışmanlığında, depresyon ve anksiyetenin otobiyografik bellek üzerinseki etkisinin incelenmesini hedefleyen bir tez çalışması yürütmekteyim

"Klinik Olmayan Depresyonda Otobiyografik Belleğin Özgül ve Aşırı Genel Hatırlanmasıyla İlgili Kodlama Süreçleri" tezinizde pilot çalışmasını yaptığınız Autobiographical Memory Test (AMT)'i izniniz olursa tezimde kullanmayı planlamaktayım.

Saygılarımla, iyi günler dilerim..

a ****** 14 Ara 2022 Çar 09:34

Alıcı: ben

Degerli Rabia,

Onceki epostani hemen yanitlamistim. Anliyorum ki sana bir nedenle ulasmamis. Buna uzgunum.

Tabi kullanabilirsin. (Lutfen bu epostam sana ulasinca/ulasirsa, confirm edebilir misin?)

Tezinde cokca basarilar dilerim,

Iyi haftalar

M. Akif