

**IBN HALDUN UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PSYCHOLOGY**

MASTER THESIS

**HEARING VOICE EXPERIENCE AND ITS
DIFFERENTIAL DIAGNOSIS**

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**THESIS SUPERVISOR
PROF. MEDAİM YANIK**

İSTANBUL, 2021

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MASTER THESIS

**HEARING VOICE EXPERIENCE AND ITS
DIFFERENTIAL DIAGNOSIS**

by

MEHMED SEYDA TEPEDELEN

**A thesis submitted to the School of Graduate Studies in partial
fulfillment of the requirements for the degree of Master of Arts in
Clinical Psychology**

**THESIS SUPERVISOR
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İSTANBUL, 2021

APPROVAL PAGE

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts in Clinical Psychology.

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This is to confirm that this thesis complies with all the standards set by the School of Graduate Studies of Ibn Haldun University.

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

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ÖZ

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Genel kanının aksine, ses duyma fenomeni genel popülasyonda nadir değildir. Klinik olmayan popülasyonlarda olduğu kadar çeşitli psikiyatrik durumlarda da yaşandığı için ayrıştırılması önemlidir. Örneğin, literatürde dissosiyatif kimlik bozukluğu (DKB), anksiyete, obsesif kompulsif bozukluk (OKB) ve psikozda ses duymanın yaşandığı bildirilmektedir. Bu çalışma; dissosiyasyon, çocukluk çağı travması, uyumsuz hayal kurma ve dikkat eksikliği düzeylerini ölçerek DKB'ye dayalı ses işitme deneyiminin ayırıcı tanısını araştırmaktadır. Nihai örneklem 692 katılımcıdan oluşmuştur. Katılımcılara altı bozukluğa özgü senaryo ile Disosiyatif Yaşantılar Ölçeği, Çocukluk Travması Anketi, Uyumsuz Hayal Kurma Ölçeği ve Erişkin DEB/DEHB DSM IV Temelli Tanısal Tarama ve Derecelendirme Ölçeği uygulanmıştır. Bozukluğa özgü senaryolar ile sosyo-demografik özellikler arasındaki ilişkileri incelemek için Ki-Kare testleri uygulanmıştır. Bozukluğa özgü senaryolar ve ölçekler arasındaki istatistiksel farkı belirlemek için Bağımsız Örneklem t testleri kullanılmıştır. Komorbid olmayan bozukluğa özgü senaryolar ve ölçekler arasındaki farklılıkları araştırmak için Varyans Analizi (ANOVA) yapılmıştır. Ölçekler ve bozukluğa özgü senaryoları yaşama olasılığı arasındaki ilişkileri incelemek için lojistik regresyon kullanılmıştır. Sonuçlar komorbiditeye sahip bozukluğa özgü senaryolar yaşayan katılımcılar ile yaşamayan katılımcılar arasında istatistiksel farklılıklar olduğunu ortaya koymuştur. Ek olarak, komorbid olmayan bozukluğa özgü senaryoların uyumsuz hayal kurma ve dikkat eksikliği ölçekleri açısından farklılaştığı

belirlenmiştir. Muhakeme temelli senaryo ile ruminasyon temelli senaryo deneyimlemek dikkat eksikliği açısından farklılaşmaktadır. Muhakeme temelli senaryo ile OKB temelli senaryo uyumsuz hayal kurma açısından farklılaşmaktadır. DKB temelli senaryo ile muhakeme temelli ses duyma arasında ise uyumsuz hayal kurma açısından sınırda anlamlı (marginally significant) bir fark bulunmuştur. Sonuçlar ayrıca disosiyasyon, çocukluk çağı travması, uyumsuz hayal kurmanın yalnızca DKB temelli ses duyma olasılığını artıran risk faktörleri olduğunu göstermiştir. Sonuç olarak, bu çalışma klinik olmayan popülasyonda komorbid olmayan ses duyma deneyimlerinin bir kısmının ayrıştığını ve komorbid durumların birbirinden ayırt edilmesinin metodolojik olarak birtakım zorlukları beraberinde getirdiğini tespit etmiştir. Gelecekteki araştırmalar, DKB temelli ses duymanın diğer bozukluğa özgü durumlarla komorbidite açısından nasıl geliştirileceğine odaklanmalıdır.

Anahtar Kelimeler: Çocukluk çağı travmaları, dikkat eksikliği, dissosiyatif kimlik bozukluğu, ses duyma, uyumsuz hayal kurma.

ABSTRACT

HEARING VOICE EXPERIENCE AND ITS DIFFERENTIAL DIAGNOSIS

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Contrary to general belief, voice hearing phenomena is not rare in the general population. Differentiation is essential, as it is experienced in a variety of psychiatric conditions as well as in non-clinical populations. For instance, literature report that voice hearing is experienced in dissociative identity disorder (DID), anxiety, obsessive compulsive disorder (OCD), and psychosis. The present thesis aims to distinguish specific DID-related voice-hearers from other disorder-specific voice hearers. This study investigated the differential diagnosis of DID based voice hearing experience through measuring dissociation, childhood trauma, maladaptive daydreaming, and attention deficit levels. The final sample consisted out of 697 participants. Sample contained 18-65 years old general population. Convenience sampling method was used. Participants received six disorder-specific scenarios which are rumination-based, obsessive compulsive disorder (OCD)-based, anxiety-based, reasoning-based, psychotic-based and dissociative identity disorder (DID)-based. Dissociative Experiences Scale, Childhood Trauma Questionnaire, Maladaptive Daydreaming Scale, and the Adult ADD/ADHD DSM IV- Based Diagnostic Screening and Rating Scale were applied to participants. Chi-Square tests were performed to examine relationships between disorder-specific scenarios and socio-demographic characteristics. Results showed that statistical differences were found between participants who experience comorbid disorder-specific scenarios and those without regarding beforementioned scales. There were no statistical differences observed in

non-comorbid disorder-specific scenarios in terms of scale scores. Results also indicated that dissociation, childhood trauma, maladaptive daydreaming are the risk factors to increase the probability of experiencing only DID-based voice hearing. In conclusion, this study found that some of the non-comorbid voice hearing experiences differentiated in the non-clinical population, and it is identified that distinguishing comorbid conditions from each other have some methodological difficulties. Future research should focus on how to advance the model of DID-based voice hearing in terms of comorbidity with other conditions.

Keywords: Attention deficit, childhood trauma, dissociation, dissociative identity disorder, maladaptive daydreaming, voice hearing,



DEDICATION

To the memory of my mother...

*You're gone but I will always feel your support,
just as feel now.*



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Mehmed Seyda Tepedelen

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LIST OF SYMBOLS AND ABBREVIATIONS

ANOVA	Analysis of Variance
ADD/ADHD Disorder	Attention Deficit Disorder/Attention Deficit and Hyperactivity Disorder
CTQ	Childhood Trauma Questionnaire
DES	Dissociative Experience Scale
DID	Dissociative Identity Disorder
MDS	Maladaptive Daydreaming Scale
OCD	Obsessive Compulsive Disorder
<i>S.D.</i>	Standard Deviation
<i>S.E</i>	Standard Error
<i>n</i>	Number of participant
<i>p</i>	Significance level
<i>t</i>	t value
\bar{x}	Mean

CHAPTER I

INTRODUCTION

1.1. Hearing Voices Phenomena

The hearing voices experience has been defined as an experience of voice hearing when there is no external stimulus (Stanghellini & Cutting, 2003). Nonetheless, controversies about the phenomenological dimension of this experience have been argued in both academic and clinical area (Pilton et al., 2015). According to a literature review study (Beavan et al., 2011), prevalence rates of the hearing voice experience are found to range from 0.6% to 84% and the mean was found as 19.3%. This huge range difference is explained by definition of voice hearing, methodological issues, gender and ethnicity according to Beaven et al. (2011). Another study carried out with 2,533 participants demonstrated that the life-time prevalence of voice hearing is 7.3% (Kråkvik et al., 2015).

1.2. Dissociative Identity Disorder

"Lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory" was referred to by Bernstein and Putnam as dissociation. (1986). Dissociative Disorders are indicated as a discontinuation of memory, identity, perception, emotion, behavior, and motor control in a person. People who have dissociative disorders are affected in terms of their psychological functioning. Also, dissociative disorders are mostly derived from consequences of trauma (American Psychiatric Association, 2013). Dissociative identity disorder (DID), according to the DSM-V, is characterized by five diagnostic criteria, one of the criteria is disrupted identity that is characterized by two or more distinct personality states and it involves discontinuity in the sense of self along with associated alterations in memory, perception, cognition, affect, sensory-motor functioning and/or affect and intrusive

symptoms in the sense of self such as voices, impulses, emotions (American Psychiatric Association, 2013). We know that DID and dissociative experiences are, mainly, based on trauma history and attachment-related childhood trauma, neglect or childhood sexual abuse (e.g., Akyüz et al., 1999; Chu, & Dill, 1990; Parry et al., 2018; Ross et al., 1990; Tutkun et al., 1998; Vanderlinden et al., 1993; Zeligman et al., 2017).

1.3. Statement of the Problem

Misdiagnosis of DID was observed in the literature albeit prevalence of DID is not rare in psychiatric population (Akyüz et al., 1999; Sar, et al., 2014). Beyond, psychiatric misdiagnosis affects the patient's quality of life negatively (Awad et al., 2007) and increase the cost of medical treatment (Salvador-Carulla et al., 1995). According to literature, true case management and proper diagnosis decrease the cost of treatment in psychiatric practice (Horn, 2003; Salvador-Carulla et al., 1995). Therefore, the present thesis aims to distinguish specific DID-related voice-hearers from other disorder-specific voice hearers and to contribute to the literature and clinical practice in terms of recognition of DID-based voice hearing. Pilton et al. (2015) reviewed many studies related to dissociation but the findings did not show a distinguishing criterion for DID-related voice-hearing and disorder-specific voice-hearing. In addition, there are some research (Akyüz et al., 1999; Şar et al., 2007) carried out in Turkey that studied DID in the general population. However, there is no research focusing on DID-specific voice-hearing phenomena in the literature. Therefore, the aim of this study is to give a clear-cut understanding of specific voice-hearing phenomena through questioning how to make DID-based hearing voices more distinct and how to differentiate it from other disorder-specific voice hearing. As we will be mentioned in the method section in detail, four scales and various scenarios will be administered to general population. These scales will be related to dissociation, childhood trauma, daydreaming, and attention deficit.

To make DID- specific voice-hearing clearer, more explicit, and more distinct from other disorder-specific voices, we will use daydreaming and attention deficit scales. According to the literature, alter personalities are one of the fundamental elements of DID. Furthermore, imaginary companions in childhood can provide a basis for developing alter personalities in adulthood as well as proneness to fantasy, imaginary

companions and daydreaming are related to each other in the literature (Altıntaş, 2008; Butler, 2006; Somer, 2002; Mc Lewin, & Muller, 2006). Also, several studies showed that there is a negative relationship between reduced attention and DID and dissociation (Dorahy et al., 2014; Kaplow et al., 2008; McKinnon et al., 2016). In this respect, measuring daydreaming, attention deficit, childhood trauma will be making our general aim more reachable.

1.4. Significance Of the Study

Main reason for choosing this topic is the reality of the existence of the voice-hearing phenomena in the general population, the existence of voice-hearing in nature of DID. As I said earlier, misdiagnosis is the reality for DID and cost of misdiagnosis influences both patients' life and psychiatric medical treatments, negatively. Hence, differential diagnosis of voice hearing is needed to determine structured treatment strategies and preventing the confusion in clinical practice (Pierre, 2010). Drawing a perspective for making differential diagnosis to clinicians will contribute to the clinical practice, considerably. This study is important as an attempt to the issue of how to make differential diagnosis of voice hearing. Especially in the case of Turkey, such a study is not available. One study (Mortan et al., 2010) conducted a group intervention program (CBT-based) to cope with auditory verbal hallucinations in schizophrenic and schizoaffective patients. Apart from this study, there are two studies (Mortan and Sütçü, 2011; Sevi et al., 2016) that focus on auditory verbal hallucinations but both of these studies were carried out with schizophrenia patients who have auditory verbal hallucinations. So, it can be seen that none of these studies were carried out with a non-clinical sample nor did these studies inquire about DID-based hearing voices. Accordingly, there is no study in the literature that has carried out research on DID-specific voice hearing in the general population.

The important issue of this study is to investigate how the DID- specific hearing voice phenomena can be differentiated from other disorder-specific voices hearing which are rumination-based, OCD-based, anxiety-based, reasoning-based, psychotic-based and DID-based and to provide a specific way of recognition of DID-based voice-hearing. Also, what makes this research unique is the use of specific scenarios (question-based)

for excluding the various other types of voice-hearing phenomena that encapsulate specific disorder-based voice-hearing. The outcomes of collected data is expected to make the DID- based specific hearing voices clearer and more understandable both to help mental health professionals in clinical practice and future-planned intervention programs.



CHAPTER II

LITERATURE REVIEW

2.1. The Nature of Voice Hearing

There are a set of studies that are about hearing voices in the general population. Lawrence et al. (2010) suggested that in the non-psychiatric population hearing voices, when no one is around them, is a lifespan experience among adults who have different employments and relationships and also these people are not distressed by this experience. When compared with a clinical population, the non-psychiatric population perceive voices as more gentle and more interested in them. Another study (Beavan, et al., 2011) claimed that the experience of hearing voices cannot be considered as negative experiences or directly be attributed to psychopathology. Voice hearing might be the distress that derived from interpreting these experiences negatively.

Iudici et al. (2019) suggested three categories to understand the phenomena of hearing voices as follows: socio-cultural, language, and sense-making process context; all these categories are connected to each other. Beavan (2011) suggested five factors related to hearing voices phenomena as follows:

1. Persons (voice-hearers) find meaningful themes of voices
2. Voices have a specific identity
3. Voices and persons have relationships with each other
4. The life of the voice-hearer is significantly influenced by hearing voice experience.
5. Voice hearers have a coercive sense of reality due to hearing voice experience

Beaven (2011) explained the abovementioned factors in detail and proposed several intervention methods for helping voice-hearers to cope with their strange experiences. Below is an explanation of these five factors:

Content of the voice: Voice content and a person's background are related to each other. More clearly, voice-hearer's worlds such as thoughts, feelings, cultural beliefs are placed in the content of the voice.

Specified identity: The identity of voice is explained by people that voice-hearers knew and some voice-hearer reported common characters such as demons, a spiritual thing, or God.

Relationships: Most participants reported having relationships with the voices that are almost similar to real-life relationships. However, some participants stated their voices, initially, began with abusive content then turned into warm and kind relationships.

Emotional influence: Participants are influenced by stigmatizing because of being voice-hearers. Thus, participants avoided sharing their experiences with other people.

The reality of voices: Participants reported that voices are free and at some point, they are uncontrollable but different from mental images and memories in terms of direct control.

In this study, the relationship between voice-hearers and voices and their aftermath are discussed. Thus, this study sheds light on understanding the phenomena of hearing voices.

In addition, a community called Maastricht approach helps people with hearing voices to cope with their voices, to make sense of their voices, and to deal with their voices (Corstens et al., 2008).

2.2. Voice Hearing in Psychopathological Conditions

2.2.1 Trauma and Voice Hearing

Andrew et al. (2008) discussed the relationships of experiencing trauma and beliefs about hearing voices. In this study (Andrew et al., 2008), psychiatric voice-hearers and non-psychiatric voice-hearers were compared in terms of beliefs about voices and also the study evidenced that both voice-hearers groups showed trauma history; among participants who experience trauma, belief related to voices could be explained partly

by trauma and associated factors such as the meaning of trauma for the person or the nature of the trauma. Sexual and emotional abuse history in childhood is reported for both non-psychotic individuals who hear voices (AVH) and psychotic individuals with AVH compared to healthy control groups (Daalman et al., 2012). Another study suggested that a history of childhood sexual abuse was found in individuals who hear voices (Offen et al., 2003).

2.2.2 Voice Hearing and Disorder-specific Symptoms

Another dimension of the hearing voices phenomena is other disorder-specific symptoms that can be related to voice-hearing. One study that tested a hallucination proneness model suggested that relationship of rumination and proneness to hallucinations (hearing voices) is mediated by intrusive thoughts (Jones, & Fernyhough, 2009); and also, Escher et al. (2003) showed that developing depression is associated with hearing voices, as a positive symptom of psychosis, in terms of coping mechanism in adolescents. Another phenomenological study, Woods et al., (2015) showed that 23% of participants who had not been clinically diagnosed experienced anxiety-related voices (23%) and, participants who had been clinically diagnosed and had not been clinically diagnosed reported that their voices thought-like (9%) and mixed auditory or thought-like (37%). In addition, Allen et al. (2005), in a college sample, showed that higher levels of anxiety are associated with proneness to hallucination including auditory hallucination. Another study (Paulik et al., 2006) carried out in first year psychology students claimed that depression and anxiety are correlated with total score of hallucination scale and anxiety is significantly associated with three components of hallucination scale including hearing voices. Lochner et al. (2004) suggested that obsessive compulsive disorder (OCD) patients showed high dissociative symptoms and high trauma scores from CTQ. Additionally, García-Montes et al. (2006) claimed that the interpretation of thoughts of patients who have OCD symptoms and patients who have auditory hallucinations are similar. Furthermore, anxiety patients who have ruminations may interpret the content of their thoughts as voice hearing (Coulter et al., 2019). Also, Pierre (2010) suggested that hearing voices phenomena should be clearly explained in terms of different experiences such as ruminations and obsessions, related to its spectrum essence.

Therefore, obsessive-like, anxiety-like, and rumination-like voice-hearing should be differentiated from DID-based voice hearing.

Further, several phenomenological studies that were carried out with both clinical and non-clinical sample suggested that participants reported their hearing voice experiences are like their thoughts that come to their mind and sometimes cannot be differentiated from each other (Fenekou & Georgaca, 2010; Knudson & Coyle, 2002; Luhrmann et al., 2015; Mawson et al., 2011). In addition, Bentall and Slade (1985) found that the experience of hearing thoughts aloud is reported as 17.6% in non-clinical student sample.

In sum, a series of symptoms which are related to voice hearing experience should be differentiated from DID-based voice hearing according to literature as mentioned above. These symptoms could be categorized as rumination-based, OCD-based, anxiety-based and psychotic-based. In addition, reasoning-based condition is added because reasoning is a mental progress for human which is used to reach a conclusion from series of facts in daily life (APA Dictionary of Psychology, n.d.)

2.3. DID and Its Relations to Various Factors

2.3.1. DID, Voice Hearing and Associated Factors

According to literature, most patients with DID or other dissociative disorders are misdiagnosed or underdiagnosed with various disorders such as personality disorder, psychotic disorder, affective disorders, and their actual diagnosis is unrecognized (Bliss, & Jepps, 1985; Bliss et al., 1983; Boon, & Draijer, 1991; Moskowitz et al., 2009; Nijenhuis et al., 1997; Şar et al., 2000). Further to that, initially, Schneiderian first-rank symptoms were merely attributed to schizophrenia however various studies showed that Schneiderian symptoms (especially auditory hallucinations) are not unique only (pathognomonic) for schizophrenia and occur in other disorders. Especially, in DID, where these symptoms are more frequent than schizophrenia (Kluft, 1987; Mellor, 1982; Bliss et al., 1983; Moskowitz, & Corstens, 2008; Ross et al., 1989; Ross et al., 1990). In one study (Dorahy, et al., 2009) suggested the

pervasiveness of voices in individuals with DID more than in individuals with schizophrenia and individuals with DID have more than 2 voices that are children as well as having adult voices (schizophrenia sample have only adult voices and less than three).

A systematic study of the literature and meta-analysis (Pilton, et al., 2015) that discussed thirty-one articles showed a potent and vigorous relationship between voice-hearing and dissociation in both clinical and non-clinical samples. The study proposed, in the Future Research section, that to understand how voice-hearing experience differs in various disorders, a systematic assessment for possible comorbidity should be carried out (Pilton et al., 2015). Another study (Alderson-Day et al., 2018) found that dissociation is a mediator between particular features of inner speech (one of them “other people”) and auditory hallucinations but this study, as well, highlighted the importance of investigating relationships of other dimensions of dissociation and auditory hallucinations for future research.

In Turkey, several studies have focused on auditory verbal hallucinations; however, non-clinical samples were not included and only patients with schizophrenia spectrum disorders were selected for these studies. One of the studies, carried out by Mortan et al. (2010) focused on auditory verbal hallucinations, but this study used a clinical-based group intervention program for patients with schizophrenia and schizoaffective disorder. Mortan and Sütçü (2011) stated in their article that techniques of Cognitive-Behavior Therapy are effective accompanied with the drug for schizophrenia patients suffering from auditory verbal hallucinations to follow the symptoms, normalize symptoms, and cope with them. Another study that is worth mentioning was related to scale adaptation. The Auditory Hallucinations Scales of Psychotic Symptom Rating Scales (PSYRATS) was adapted to a Turkish context, and participants were selected from patients with schizophrenia (Sevi et al., 2016).

Although there are several studies related to dissociation and hearing voices, the literature has not distinguished DID-related hearing voices phenomena from other

disorder-based symptoms such as obsession, anxiety, rumination. In this respect, we can say that hearing voices phenomena has a multidimensional aspect in terms of clinical and non-clinical context and needs to be clearly investigated in terms of differential diagnosis.

In addition, as mentioned before, despite the overlapping of DID and schizophrenia in terms of Schneiderian first ranks symptoms, DID encapsulates those symptoms, especially (voice hearing) auditory verbal hallucinations. However, there needs to be more investigation in the general population regarding a differential diagnosis of DID-based voice hearing and, if necessary, people should be formally assessed in the context of a possible risk of developing DID in the future. In sum, especially in Turkey, drawing a clear-cut perspective is important and necessary for both mental health professionals and the general population to recognize the DID-related voice hearing.

2.4. Theoretical Framework

In 1887, the term dissociation was mentioned in works of Gilles de la Tourette, Jean Charcot, Frederic Myers, and Pierre Janet but the trauma model of dissociation was built on Janet's significant clinical observations (case of Lucie) which exhibited strong effect of dissociation on coping with traumatic experiences, and his works widened the definition of dissociation which contributes to an understanding of traumatic experiences (Janet, 1889, as cited in Van der Hart, & Horst, 1989). Janet described nine concepts that are fundamental for his theory as follows: psychological automatism, consciousness, subconsciousness, dissociation, amnesia, suggestibility narrowed the field of consciousness, emotion, and fixed idea (Van der Hart, & Horst, 1989). Thus, Janet has shed light for modern studies to understand DID and to develop treatments related to DID (Van der Hart, & Horst, 1989).

The trauma model of dissociation was cross-culturally tested by Ross et al. (2008) and they showed that the findings support the prediction of the trauma model that pathological dissociation can be seen in any culture and derived from childhood trauma

and occurs as a reaction to trauma. A literature review study showed that the trauma model predicts the positive relationships of trauma and dissociation and predicts the relationship of trauma can be seen with well-established instruments related to trauma (Dalenberg et al., 2012).

As I said earlier, DID was fundamentally based on the childhood traumatic experiences and childhood trauma has an effect on experiencing voice hearing. Therefore, we look through the window of trauma model of dissociation, childhood trauma and dissociation could be the risk factor for DID-based voice hearing.

The present study is built on the trauma model of dissociation rather than fantasy model of dissociation which says dissociation is not a trauma-based phenomenon but it is based on proneness to fantasy and false memories (Giesbrecht et al., 2008; Merckelbach et al., 2002) hence the scales are determined within this context.

2.5. Research Questions

1. Is there a significant difference between disorder-specific scenarios (both for comorbid and non-comorbid conditions) in terms of dissociation level, childhood trauma level, maladaptive daydreaming level and attention deficit?
2. Does scoring high on dissociation scale, trauma scale, daydreaming scale, attention scale increase the probability of experiencing DID-based voice hearing?

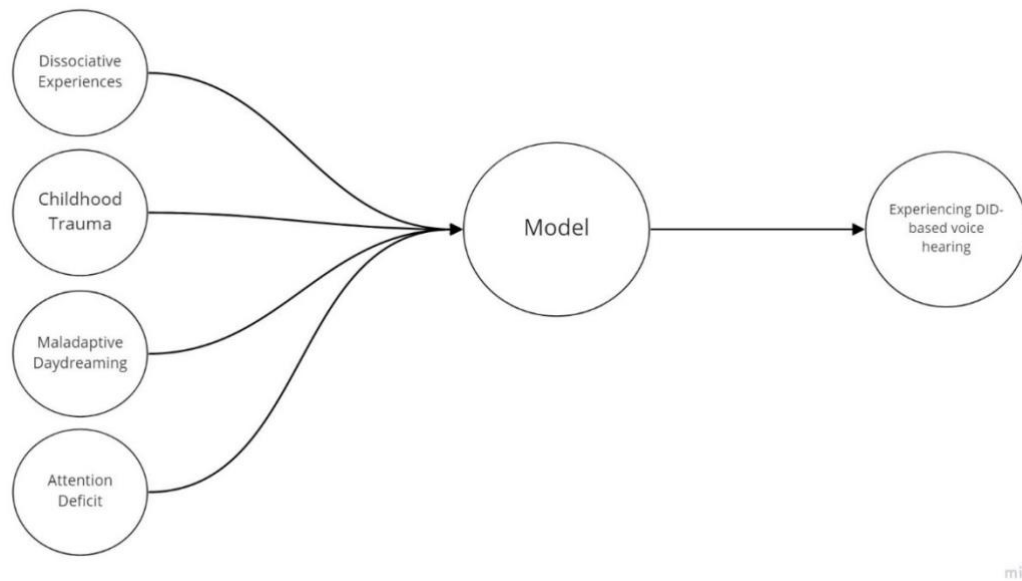


Figure 2.1. Conceptual Framework of DID-based Voice Hearing

2.5. Hypotheses

This study hypothesized that:

1. There is a significant difference between experiencing comorbid DID-based scenario and not experiencing it in terms of trauma, daydreaming, dissociation scale and attention deficit scale.
2. Participants who will select the non-comorbid DID-based scenario will have higher mean scores from the dissociation scale, trauma scale, daydreaming scale, attention scale compared to participants who will select the other non-comorbid disorder-specific scenarios and reasoning-based scenario.
3. Participants who will select the non-comorbid disorder-specific scenarios will take higher scores from the beforementioned scales compared to non-comorbid reasoning-based scenario.

CHAPTER III

METHODS AND PROCEDURES

In this part, we will explain parts of the methods as follows: Research design, population, and sample, data collection and instruments, interpretation of data. The book of Research Design: Qualitative, quantitative, and mixed methods approaches (Creswell & Creswell, 2018) is used for building the structure of the method section.

3.1. Research Design

We used the correlational design because the experimental design is not suitable for our study in terms of, to collect data in the field, to choose to study with a large sample, to use scales. The present study carried out as cross-sectional research. The administration method was performed online (Google Surveys) due to the pandemic conditions.

3.2. Population and Sample

The population consisted of 18–65-year-olds living in Turkey. The sampling design was single-stage because sampling the people directly is suitable for this study. The type of sampling was convenience sampling because of the suitability of the conditions. In this study, included 718 participants between July 1- August 16. However, the total number of final participants decreased to 692 due to the duplicate data, extreme outlier data. In Table 1., you can see the frequency and percentages of participants characteristics regarding age and gender. However, two missing variables for age data were identified.

Table 3.1. Participants' Distribution by Age and Gender

Variables	Frequency (f)	Percentages (%)
Age		
18-24	218	31.5
25-30	134	19.4
31-35	84	12.1
36-40	84	12.1
41-45	68	9.8
46-50	45	6.5
51-55	26	3.7
56-60	22	3.2
61-65	10	1.4
Total	690	99.7
Gender		
Male	231	33.4
Female	461	66.6
Total	692	100

3.3 Data Collection and Instruments

In this study, information regarding dissociation level, childhood trauma, daydreaming, attention deficit, and having heard voices was collected from general population. The instruments consist of four scales and six scenarios.

3.3.1 Socio-demographic Form.

The socio-demographic form consists of sex, age, year of birth, education levels, psychiatric/psychological problem, history of psychiatric/psychological help, history of psychiatric medication, history of psychotherapy and number of sessions, and loss of family members.

3.3.2. Disorder-Specific Scenarios.

The scenarios used consist of six disorder specific conditions referring to SCID-D, the APA dictionary and Ruminative Thinking Scale.

- OCD-based scenario: “Bazı insanların istemedikleri halde zihinlerine tekrar tekrar gelen düşünceleri olur. Örneğin İstemediğiniz halde birine zarar vermek düşüncesi, ellerinizin kirli olduğu, kapının, musluğun açık kaldığı düşüncesi gibi. Bu durum size uyuyor mu?” (Some people have thoughts that come to their minds over and over again, even though they don't want to. For example, the thought of hurting someone you don't want, the thought that your hands are dirty, the door and the tap are left open. Does this situation suitable for your experiences?)
 - Yes
 - No
- Rumination-based scenario: “Bazı insanlar, kendileri ya da çevreleri ile ilgili yaşadıkları olumsuz veya stresli olaylar üzerine sürekli ve tekrarlayıcı bir biçimde kafaya takarak düşünürler. Bu durum size uyuyor mu?” (Some people think constantly and repetitively about negative or stressful events they have experienced about themselves or their environment. Does this situation suitable for your experiences?)
 - Yes
 - No
- Anxiety-based scenario: “Bazı insanlar kendilerinin veya ailesinin başına kötü şeyler gelebileceği konusunda (kaza, bela, sağlık ve ekonomik sorun vb.) aşırı şekilde endişelenirler. Bu durum size uyuyor mu?” (Some people worry that bad things may happen to them or their family (accident, trouble, health and economic trouble, etc.), excessively. Does this situation suitable for your experiences?)
 - Yes
 - No

- Reasoning-based scenario: “Bazı insanlar, kendileri için önemli bir konuda karar verirken meselenin artı ve eksilerini veya muhtemel seçeneklerini senaryo haline getirerek zihinlerinde muhakeme ederler. Bu durum size uyuyor mu?” (Some people reason about the pros and cons or possible options by building scenarios in their minds, when deciding on an issue that is important to them. Does this situation suitable for your experiences?)
 - Yes
 - No
- Psychotic-based scenario: “Bazı insanların kulaklarına başkalarının duymadığı sesler gelir; bu sesler gürültü, fısıldaşma ya da konuşan insanlar olarak kendini gösterir. Bu durum size uyuyor mu?” (Some people hear voices that others do not hear; these voices manifest themselves as noise, whispering, or people talking. Does this situation suitable for your experiences?)
 - Yes
 - No
- DID-based scenario: “Bazı insanlar, çocukluklarından beri kafalarının içerisinde kendisiyle diyalog şeklinde iç konuşmalar yaparlar veya sesler duyarlar. Bu durum size uyuyor mu?” (Some people establish inner dialogues with themselves or hear voices in their minds, since childhood. Does this situation suitable for your experiences?)
 - Yes
 - No

3.3.3. Dissociative Experience Scale

DES consists of 28 items and was developed by Bernstein and Putnam (1986) for screening people who have dissociative symptoms. They claimed that developing this scale could be effective for understanding the place of dissociation in the symptoms of other psychiatric disorders. This scale’s development study was carried out with N=183 participants, and characteristics of these participants were as follows: college

students, normal adults, alcoholics, agoraphobics, post-traumatic stress disorder patients, multiple personality disorder patients. The reliability coefficient score of DES was counted as 0.84 and discriminant analyses of validity were examined accompanied with Spearman rank-order correlation was used between age and DES score (.19), socio-economic status and DES score (.15).

In Turkey, the adaptation of Dissociative Experience Scale (DES) was introduced by Yargic et al. (1995). This study was carried out with 671 non-psychiatric participants and 95 psychiatric participants. The Turkish version of DES showed good reliability and validity. According to results of the above study, the reliability coefficient was found to be 0.78 and Spearman rank-order correlation coefficient was performed for criterion validity (Kruskal-Wallis test was used to understand the relationship between DES score and different groups: $n = 768$ $d f = 4$ $p < 0.0001$) and Cronbach alpha was performed and found as 0.91.

3.3.4. Childhood Trauma Questionnaire

CTQ was developed by Bernstein et al. (1994). This scale is a self-report method that uses 28 items and is used for assessing retrospective traumatic experiences. The study was carried out with 320 patients with a history of drug and alcohol dependency. According to the results, CTQ had four rotated factors (varimax rotation) as follows: sexual abuse, emotional neglect, physical neglect, emotional abuse, and physical abuse. These four factors presented high internal consistency, face validity, and test-retest reliability (Bernstein et al., 1994).

Reliability and validity of CTQ, in Turkey, was performed by Sar et al. (2012). Participants of this study consisted of DID patients, first-degree relatives of these patients, and non-clinical persons. Statistical analyses showed that Cronbach alpha was found as 0.93 and construct validity of this Turkish version scale showed a high significance level. Finally, Sar, Ozturk, and Ikikardes (2012) provided evidenced that CTQ is a valid and reliable scale for the Turkish population.

3.3.5. Maladaptive Daydreaming Scale (MDS)

Daydreaming and proneness to fantasy are positively related to dissociation as we mentioned previously (Altıntaş, 2008; Butler, 2006; Mc Lewin, & Muller, 2006; Merckelbach, Rassin, & Muris, 2000; Somer, 2002). The scale developed by Somer et al. (2016) to measure the level of pathological fantasizing and dimensions of the scale consist of Yearning, Kinesthesia and Impairment. MDS showed good internal consistency with .95. In addition, MDS scores found associated with obsessive compulsive thoughts, dissociative experiences and attention deficit in terms of convergent validity (Somer et al., 2016). Turkish translation of MDS were performed by Prof. Vedat Şar in 2017. Soffer-Dudek et al. (2020) implemented a study investigating MDS cross-culturally in different countries including Turkey. The study showed that there was high internal consistency, for 16 items in Turkish sample (N=259) found .96 (Soffer-Dudek et al., 2020). However, validity of the scale for the Turkish sample was not performed.

3.3.6. Adult ADD/ADHD DSM-IV Based Diagnostic Screening and Rating Scale

The scale developed by Prof. Dr. Atilla Turgay in 1995. The 5 point likert type scale consists of three part and items based on DSM-IV ADHD criteria. The first part investigates attention deficit, the second part investigates hyperactivity and the third part investigates ADHD-related symptoms that are not included in DSM. Validity and reliability analyses of the Turkish version was performed by Günay et al. (2006). According to statistical analyses, the Turkish version of the scale's Cronbach alfa was found to be .95 and Spearman Brown found .90 which means the scale can be used for the Turkish population. We will use the first part to investigate attention deficit in our sample.

3.4 Procedure

To carry out this research, ethical consent was obtained from the ethical committee of Ibn Haldun University. The data collection procedure was conducted as convenience

sampling with online sharing in social media and WhatsApp. The data collection process was performed via Google Forms, after having participants' consents. Participants consisted of people from around the Turkey. After participants completed the socio-demographic part of the study, participants were asked to choose one or more conditions from the six conditions they experience in their daily routine. Then, dissociation, childhood trauma, maladaptive daydreaming and attention deficit scales were administered, respectively.

3.5. Statistical Analyses

In this study, descriptive statistics, independent samples t test, Analysis of Variance and regression analysis were performed via IBM SPSS Statistics (Version 25). Extreme outliers (from DES and CTQ), missing variables and data which do not meet the criteria were excluded. Normality test was ignored by reason of the central limit theorem which says more than 30 samples have a tendency to be distributed normally (Field, 2018). Hence, it was determined that parametric tests could be used in this study.

The relationship of socio-demographic characteristics and disorder-specific scenarios were analyzed with the Chi-Square test due to having two categorical variables. To examine statistical difference between scales and socio-demographic characteristics, Independent Sample t test were used. Also, to perform statistical differences between scales and disorder-specific scenarios, Independent Samples t test were performed. To separate each disorder-specific scenarios, established a syntax in SPSS. For example, to separate experienced anxiety-based scenario from other experienced scenarios, we wrote a syntax like “Kaygı ≈ 2 & (Rumi = 2 & Psikotik = 2 & OKB = 2 & DKB = 2)” (1 = Yes, 2 = No). Then, another syntax was written to filter only experienced scenarios. Analysis of Variance (ANOVA) was used to investigate statistical differences between non-comorbid disorder-specific scenarios in scales. After these processes, descriptive statistics were performed to determine frequency of non-comorbid disorder-specific scenarios among participants. Lastly, to investigate the probability of experiencing a comorbid disorder-specific scenario regarding

dissociation level, childhood trauma level, maladaptive daydreaming level and attention deficit level, logistic regression was used.



CHAPTER IV

RESULTS

In this section, findings related to socio-demographic characteristics of the participants who have experienced the voice hearing phenomena, their psychological states (trauma, dissociation, maladaptive daydreaming and attention deficit scores), and voice hearing experiences are included. Results were performed over the 692 participants. Of the 692 participants, 242 participants experienced merely one disorder-specific condition.

4.1. Distribution of Comorbid Disorder-Specific Conditions by Sample

In table 2., frequency of participants regarding comorbid disorder-specific scenarios were shown.

Table 4.1. Participants' Distribution by Comorbid Disorder-Specific Scenarios

	Rumination		OCD		Anxiety		Reasoning		Psychotic		DID	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Participants	473	68.4	234	40.8	295	42.6	511	84.5	40	5.8	241	34.8

n= Number of participants, %= Percentages

4.2. Distribution of non-Comorbid Disorder-Specific Conditions by Sample

Table 3. shows the frequency of each non-comorbid disorder-specific condition regarding total number ($N = 242$) of non-comorbid disorder-specific condition.

Table 4.2. Participants' Distribution by non-Comorbid Disorder-Specific Scenarios

	Rumination		OCD		Anxiety		Reasoning		Psychotic		DID	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Participants	87	12.5	17	2.4	26	3.7	89	12.8	2	0.2	21	3

n = Number of participants, % = Percentages

Table 4.3. Means and Standard Deviations of Disorder-specific Scenarios Regarding Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit Scores

	Dissociative Experiences (DES ≥ 30) (N = 692)				Childhood Trauma (CTQ ≥ 35) (N = 692)				Maladaptive Daydreaming (MAD ≥ 40) (N = 692)				Attention Deficit (ADD ≥ 3) (N = 692)			
	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>
Rumination*																
Yes	473	68.4	13.66	11.12	473	68.4	41.40	12.02	473	68.4	25.91	17.99	473	68.4	8.50	4.96
No	219	31.6	8.93	8.46	219	31.6	37.20	10.23	219	31.6	18.71	13.57	219	31.6	5.83	3.96
OCD*																
Yes	282	40.8	16.00	11.78	282	40.8	41.78	11.38	282	40.8	28.86	18.31	282	40.8	8.99	5.05
No	410	59.2	9.52	8.75	410	59.2	38.90	11.15	410	59.2	20.04	15.12	410	59.2	6.74	4.45
Anxiety*																
Yes	295	42.6	14.65	11.70	295	42.6	41.20	12.16	295	42.6	26.71	18.43	295	42.6	8.56	4.92
No	397	57.4	10.32	9.25	397	57.4	39.24	11.18	397	57.4	21.35	15.56	397	57.4	6.98	4.65
Reasoning																
Yes	585	84.5	12.59	10.81	585	84.5	40.37	11.76	585	84.5	24.10	16.94	585	84.5	7.78	4.87
No	107	15.5	9.85	8.93	107	15.5	38.46	10.85	107	15.5	21.10	17.45	107	15.5	7.00	4.57
Psychotic*																
Yes	40	5.8	25.02	13.99	40	5.8	46.13	12.88	40	5.8	33.46	18.75	40	5.8	9.68	4.46
No	652	94.2	11.37	9.81	652	94.2	39.70	11.47	652	94.2	23.03	16.76	652	94.2	7.53	4.82
DID*																
Yes	241	34.8	16.78	11.99	241	34.8	43.01	13.02	241	34.8	30.67	18.32	241	34.8	9.06	4.91
No	451	65.2	9.69	8.81	451	65.2	38.50	10.52	451	65.2	19.87	15.04	451	65.2	6.90	4.62

4.3. Analyses of Disorder-Specific Scenarios Regarding Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit

According to results, as shown in the Table 5., it was found that DID-based scenarios' conditions (Yes/No) showed statistical difference related to dissociation scores, $t(690) = 8.07, p = 0.00$; childhood trauma scores, $t(607) = 4.63, p = 0.00$; maladaptive daydreaming scores, $t(690) = 7.84, p = 0.00$; attention deficit scores, $t(690) = 5.72, p = 0.00$. Secondly, OCD-based scenarios regarding dissociation scores, $t(690) = 6.84, p = 0.00$; childhood trauma scores, $t(690) = 3.08, p = 0.00$; maladaptive daydreaming scores, $t(690) = 6.43, p = 0.00$; attention deficit scores, $t(690) = 5.09, p = 0.00$ are statistically significant from each other. Thirdly, anxiety based scenarios regarding dissociation scores, $t(690) = 5.25, p = 0.00$; childhood trauma scores, $t(690) = 2.19, p = 0.02$; maladaptive daydreaming scores, $t(690) = 4.03, p = 0.00$; attention deficit scores, $t(690) = 4.30, p = 0.00$ showed statistical difference. Lastly, rumination-based scenarios regarding dissociation scores, $t(690) = 6.16, p = 0.00$; childhood trauma scores, $t(690) = 4.74, p = 0.00$; maladaptive daydreaming scores, $t(690) = 5.83, p = 0.00$; attention deficit scores $t(690) = 7.58, p = 0.00$ are statistically significantly different from each other.

The mean score of dissociation level ($M=25.02$), childhood trauma level ($M=46.13$), maladaptive daydreaming level ($M=33.46$) and attention deficit level ($M=9.68$) are the highest in psychotic-based. However, due to methodological challenges, mean differences of disorder-specific scenarios were not investigated for comorbid scenarios.

Table 4.4. Means and Standard Deviations of non-Comorbid Disorder-specific Scenarios Regarding Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit Scales

	Dissociative Experiences (DES \geq 30) (N = 240)				Childhood Trauma (CTQ \geq 35) (N = 240)				Maladaptive Daydreaming (MAD \geq 40) (N = 240)				Attention Deficit (ADD \geq 3) (N = 240)			
	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>
Rumination	87	36.2	7.72	7.25	87	36.2	37.60	7.89	87	36.2	18.96	15.59	87	36.2	7.18	4.63
OCD	17	7	9.47	8.79	17	7	39.71	9.86	17	7	25.22	12.31	17	7	5.76	4.43
Anxiety	26	18.7	8.26	7.09	26	18.7	38.08	10.45	26	18.7	17.66	13.96	26	18.7	5.77	3.89
Reasoning	89	37	6.52	5.85	89	37	36.04	9.76	89	37	14.70	10.15	89	37	5.17	3.42
DID	21	8.7	8.92	6.78	21	8.7	38.67	11.87	21	8.7	23.21	12.39	21	8.7	6.76	4.5
Total	240	100	7.57	6.83	240	100	37.32	9.40	240	100	18.06	13.3	240	100	6.15	4.17

n = Number of participants, % = Percentages, \bar{x} = Mean, *SD* = Standard Deviation

4.4. Means on the Measure of Dissociative Experiences, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit by Disorder-Specific Scenarios

As shown in the table 5., the mean scores of dissociation ($M=9.47$), childhood trauma ($M = 39.71$) and maladaptive daydreaming ($M = 25.22$) were performed highest for OCD-based scenario; attention deficit ($M=7.26$) mean score was found highest for rumination-based condition. However, these means' differences are not found significant (see Table 6.).

4.5. Analyses of Scales by non-Comorbid Disorder-Specific Scenarios

Table 4.5. One-Way Analyses of Variance of Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit by non-Comorbid Disorder Specific Conditions

DES	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	4	211.84	52.96	1.13	.34
Within Groups	235	10947.90	46.58		
Total	239	11159.74			
CTQ					
Between Groups	4	301.15	75.28	.84	.49
Within Groups	235	20852.78	88.73		
Total	239	21153.93			
MAD**					
Between Groups	4	2507.16	626.79	3.70	.00
Within Groups	235	39771.75	169.24		
Total	239	42278.92			
ADD*					
Between Groups	4	192.88	48.22	2.84	.02
Within Groups	235	3981.01	16.94		
Total	239	4173.89			

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

As shown in Table 6., analyses of variance (ANOVA) were performed to determine if there is a difference in the dissociative experiences of non-comorbid rumination-based

scenario, OCD-based scenario, anxiety-based scenario, reasoning-based scenario and DID-based scenario. Same ANOVA tests were performed for childhood trauma scores, maladaptive daydreaming scores and attention deficit scores for non-comorbid disorder-specific scenarios. The analysis resulted a statistically significant difference between groups (scenarios) for maladaptive daydreaming scales as determined by the One-way ANOVA [$F(4,235) = 3.7, p < .01$]. A Tukey post hoc revealed that maladaptive daydreaming level was statistically significant only between OCD-based scenario and reasoning-based scenario, [$10.51, 95\% CI (1.04, 10.98), p < .05$]. Also, difference of DID-based scenario and reasoning-based scenario in maladaptive daydreaming level was marginally significant [$-8.5, 95\% CI (-17.18, .16), p = .05$]. Another One-way ANOVA resulted a statistically significant difference between groups for attention deficit level, [$F(4, 235) = 2.84, p < .05$]. A Tukey post hoc showed that attention deficit level was statistically significant only between rumination-based scenario and reasoning-based scenario, [$2.01, 95\% CI (.31, 3.72), p < .05$].

4.6. Socio-demographic Characteristics of Comorbid Disorder-specific Scenarios

Sociodemographic characteristics of comorbid disorder-specific conditions are shown in the Table 2.

Table 4.6. Socio-demographic Characteristics of Comorbid Disorder-specific Scenarios

	Rumination		OCD		Anxiety		Reasoning		Psychotic		DID	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender												
Male	147	63.6	99	42.9	95	41.1	206	89.2	10	4.3	84	36.4
Female	326	70.9	183	39.7	200	43.4	379	82.2	30	6.9	157	34.1
Total	473	68.4	234	40.8	295	42.6	511	84.5	40	5.8	241	34.8
Income												
Low	123	26.0	84	29.8	75	25.4	141	24.1	12	30.0	67	27.8
Middle	297	62.8	163	57.8	182	61.7	357	61.0	24	60.0	147	61.0
High	53	11.2	35	12.4	38	12.9	87	14.9	4	10.0	27	11.2
Education Level												
Elementary school	2	0.4	1	0.4	1	0.3	3	0.5	0	0	1	0.4
Middle school	6	1.3	3	1.1	4	1.4	8	1.4	0	0	4	1.7
High school	57	12.1	36	12.8	37	12.5	67	11.5	6	15.0	24	10.0
Undergraduate degree	317	67.0	196	69.5	196	66.4	387	66.2	28	70.0	167	69.3

Table 4.6. Cont.

Master degree	65	13.7	32	11.3	41	13.9	88	15.0	4	10.0	31	12.9
Doctorate	26	5.5	14	5.0	16	5.4	32	5.5	2	5.0	14	5.8
Therapy history	112	23.7	64	22.7	75	25.4	123	21.0	12	30.0	60	24.9

n = Number of participants, % = Percentages

According to the socio-demographic findings, of the 692 participants 68.4% have experienced the rumination-based scenario; 40.8% have experienced the OCD-based scenario; 42.6% have experienced the anxiety-based scenario; 84.5% have experienced the reasoning-based scenario; 5.8% have experienced the psychotic-based scenario and 34.8% have experienced DID-based scenario. These rates are calculated considering comorbid situations based on specific disorders. For example, a participant who experiences rumination-based scenario might experience the DID-based scenario. According to Table 7., participants with a higher percentages of therapy history within the disorder-specific conditions examined reported 30%, 25.4%, 24.9%, 23.7%, 22.7% and 21% for psychotic-based scenario, anxiety-based scenario, DID-based scenario, rumination-based scenario, OCD-based scenario and reasoning-based scenario, respectively. Female participants reported the highest number of experiences of all the comorbid disorder-specific scenarios. The frequency of participants in middle income level is the highest and the frequency of participants with undergraduate degree have highest number for each scenario.

According to Chi-square test analyses, there are no associations between gender and comorbid disorder-specific scenarios as follows: for gender and rumination-based scenario, $\chi^2 (1, N = 692) = 3.56, p = .05$; for OCD-based and gender, $\chi^2 (1, N = 692) = .63, p = .42$; for anxiety-based scenario, $\chi^2 (1, N = 692) = .32, p = .57$; for psychotic-based scenario and gender, $\chi^2 (1, N = 692) = 1.34, p = .24$ and for DID-based scenario and gender, $\chi^2 (1, N = 692) = .36, p = .54$. The differences between income levels and rumination-based scenario $\chi^2 (2, N = 692) = 22.49, p = .00$; income levels and OCD-based scenario $\chi^2 (2, N = 692) = 11.99, p = .00$ and income levels and DID-based scenario, $\chi^2 (2, N = 692) = 7.38, p = .02$ are significant. However, difference between

income levels and anxiety-based scenario $\chi^2 (2, N = 692) = 3.13, p = .20$ and income levels and psychotic-based scenario $\chi^2 (2, N = 692) = 1.61, p = .44$ are not significant. There are no differences between therapy history and disorder specific scenarios as follows: for rumination-based scenario $\chi^2 (1, N = 692) = 3.02, p = .08$; for OCD-based scenario $\chi^2 (1, N = 692) = .21, p = .64$; for reasoning-based scenario $\chi^2 (1, N = 692) = 1.40, p = .23$; for psychotic-based scenario $\chi^2 (1, N = 692) = 1.66, p = .19$ and for DID-based scenario $\chi^2 (1, N = 692) = 2.05, p = .15$ are calculated. However, therapy history and anxiety-based scenario are differed from each other, $\chi^2 (1, N = 692) = 3.91, p = .48$.

4.7. Sociodemographic Characteristics of Each Disorder-Specific Scenarios

In the Table 3., socio-demographic characteristics of each disorder-specific scenario one-by-one are shown.

Table 4.7. Sociodemographic Characteristics of non-Comorbid Disorder Specific Scenarios

	Rumination		OCD		Anxiety		Reasoning		Psychotic		DID	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender												
Male	23	10.0	9	3.9	5	2.2	36	16.7	0	0	11	4.8
Female	64	13.9	8	1.7	21	4.6	53	12.5	2	0.4	10	2.2
Total	87	12.6	17	2.5	26	3.8	89	14	2	0.3	21	3
Income												
Low	16	11.3	4	2.8	5	3.5	14	9.9	1	0.7	3	2.1
Middle	54	14.5	10	2.7	17	4.6	48	12.9	1	0.3	9	2.4
High	8	8.6	3	3.2	4	4.3	23	24.7	3	0	6	6.5

Table 4.7. Cont.

Education												
Level												
Elementary school	0	0	0	0	0	0	1	33.3	0	0	0	0
Middle school	2	25	0	0	1	12.5	0	0	0	0	1	12.5
High school	9	14.1	0	0	3	4.7	8	12.5	0	0	1	1.6
Undergraduate degree	47	11.5	17	4.2	16	3.9	52	12.7	1	0.2	12	2.9
Master's degree	15	16.7	0	0	5	5.6	17	18.9	1	1.1	2	2.2
Doctorate	5	15.2	0	0	1	3	7	21.2	0	0	2	6.1
Therapy history	12	15.4	2	11.1	5	19.2	10	11.8	0	0	2	11.1

n = Number of participants, % = Percentages

As shown in the Table 3., frequency of disorder-specific scenarios found 12.6%, 2.5%, 3.8%, 0.3% and 3% for rumination-based scenario, OCD-based scenario anxiety-based scenario, psychotic-based scenario and DID-based scenario, respectively. Lowest frequency counted as 2 for psychotic-based scenario and highest frequency counted as 87 for rumination-based scenario. In addition, history of therapy for each disorder-specific scenario rates performed as 15.4%, 11.1%, 19.2%, 0% and 11.1% for rumination-based scenario, OCD-based scenario anxiety-based scenario, psychotic-based scenario and DID-based scenario, respectively. According to Table 3., lowest number of participants is recorded in elementary school level as 1 while highest numbers of participant is recorded as 145. Participants who have middle income level highest number for experiencing disorder-specific scenarios.

According to Chi-square test analyses, it was found that no significant difference between rumination-based scenario and gender, $\chi^2 (1, N = 692) = 2.15, p = .14$; no significant relationship was found between OCD-based scenario and gender, $\chi^2 (1, N = 692) = 2.99, p = .08$; no significant relationship was found between anxiety-based scenario and gender, $\chi^2 (1, N = 692) = 2.43, p = .11$ and no significant relationship was

found between DID-based scenario and gender $\chi^2(1, N = 692) = 3.51, p = .06$. Analyses of income levels and education levels are not performed in terms of associations with disorder-specific scenarios due to low numbers of participants.



Table 4.8. Socio-demographic Characteristics of Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit Scores

	Dissociative Experiences (DES \geq 30) (N = 692)				Childhood Trauma (CTQ \geq 35) (N = 692)				Maladaptive Daydreaming (MAD \geq 40) (N = 692)				Attention Deficit (ADD \geq) (N = 692)			
	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>	<i>n</i>	%	\bar{x}	<i>SD</i>
Gender																
Male	231	33.4	11.87	10.48	231	33.4	38.87	10.47	231	33.4	24.93	17.16	231	33.4	7.08	4.67
Female	461	66.6	12.31	10.64	461	66.6	40.67	12.15	461	66.6	22.98	16.96	461	66.6	7.94	4.89
Total	692	100	12.16	10.58	692	100	40.07	11.64	692	100	23.63	17.04	692	100	7.66	4.83
Income																
Low	162	23.4	13.75	11.79	162	23.4	44.70	12.87	162	23.4	27.66	17.41	162	23.4	8.44	4.45
Middle	423	61.1	12.13	11.18	423	61.1	39.60	10.84	423	61.1	22.87	17.25	423	61.1	7.54	4.67
High	107	15.5	9.89	7.35	107	15.5	34.93	7.42	107	15.5	20.57	13.96	107	15.5	6.94	3.78
Education Level																
Elementary school	3	0.5	11.54	5.37	3	0.5	43.33	16.25	3	0.5	10	2.72	3	0.5	7	6.24
Middle school	8	1.3	8.66	10.19	8	1.3	38.63	16.96	8	1.3	22.11	11.64	8	1.3	6.63	4.77
High school	64	10.5	15.01	15.43	64	10.5	40.17	10.96	64	10.5	24.69	20.67	64	10.5	7.3	4.68
Undergraduate degree	409	67.4	12.39	10.45	409	67.4	40.19	11.14	409	67.4	24.60	17.33	409	67.4	7.43	4.66
Master's degree	90	14.9	10.76	9.81	90	14.9	39.69	12.52	90	14.9	21.45	13.91	90	14.9	7.81	4.11
Doctorate	33	5.4	8.58	8.54	33	5.4	35.06	8.13	33	5.4	15.60	10.91	33	5.4	5.73	2.79
Therapy History																
Yes	93	15.3	13.46	11.96	93	15.3	41.56	13.32	93	15.3	24.22	18.46	93	15.3	8.28	5.34
No	516	84.7	11.9	10.73	516	84.7	39.52	10.9	516	84.7	23.43	16.73	516	84.7	7.20	4.33

4.8. Sociodemographic Characteristics of Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit

In Table 3., socio-demographic characteristics based on scales and scales' cut-off scores are shown. According to the results, it is found that there are no differences between dissociation scores and being male ($M=11.87$, $SD= 10.48$) or female ($M=12.31$, $SD= 10.64$) scenarios; $t(690) = .18$, $p = 0.60$; females ($M= 40.67$, $SD= 12.15$) have high mean scores compared to men ($M= 38.87$, $SD= 10.47$), there was a statistical difference, $t(690) = -1.19$, $p = 0.04$, in terms of childhood trauma scores; men ($M= 24.93$, $SD= 17.16$) took high mean scores compared to women ($M= 22.98$, $SD= 16.96$) however no statistical difference was found, $t(690) = 1.42$, $p = 0.15$, in terms of maladaptive daydreaming scores and lastly, gender types and attention deficit scores analysis showed that the mean score of women ($M= 7.94$, $SD= 4.89$) are higher compared to men's ($M= 7.08$, $SD= 4.67$) score and statistically significantly difference was examined, $t(690) = -2.21$, $p = 0.02$.

Results showed that income levels had a significant effect on dissociation scores, $F(2, 689) = 4.34$, $p = .01$; on childhood trauma scores $F(2, 689) = 25.22$, $p = .00$; on maladaptive daydreaming scores $F(2, 689) = 6.78$, $p = .00$ and on attention deficit scores $F(2, 689) = 3.43$, $p = .03$. As reported by post hoc tests, statistical difference was found between low-income level and high-income level ($p = .00$) related to dissociation scores. Secondly, statistical difference was found between three income level scenarios and childhood trauma scores at $p = .00$. Thirdly, low-income level statistically significantly different from high income level ($p = .00$) and middle-income level ($p = .02$) in maladaptive daydreaming scores. Lastly, statistical difference was only found between low-income level and high-income level ($p = .03$) in attention deficit scores.

Statistical analyses proved that there is a marginally significant difference between therapy history and dissociation scores, $t(690) = 2.05$, $p = 0.5$; childhood trauma scores, $t(690) = 1.66$, $p = 0.09$; maladaptive daydreaming scores, $t(690) = .45$, $p = 0.64$.

However, it was found that there is a statistical difference between therapy history and attention deficit scores $t(690) = 43.52, p = 0.00$.

Effect of education levels were not observed on scales. There is no statistical difference for dissociation scores, $F(5, 686) = 1.89, p = .09$; for childhood trauma scores, $F(5, 686) = 0.4, p = .82$; for maladaptive daydreaming scores, $F(5, 686) = .08$ for attention deficit scores, $F(5, 686) = .76, p = .57$.

4.9. Regression Analyses of Disorder-Specific Conditions

4.9.1. Regression Analyses and Model of Rumination-Based Scenario

Table 4.9. Logistic Regression Regarding Experiencing Rumination-based Scenario (Model 1)

Variables	<i>B</i>	<i>S.D.</i>	<i>p</i>	OR	%95 CI
Dissociation level	-0.01	0.01	0.16	0.98	0.95, 1.00
Childhood Trauma level	-0.01	0.00	0.03*	0.98	0.96, 0.99
Maladaptive Dreaming level	-0.01	0.00	0.10	0.98	0.97, 1.00
Attention Deficit level	-0.09	0.02	0.00**	0.90	0.86, 0.94

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

A logistic regression was performed to investigate the effects of dissociation level, childhood trauma, maladaptive daydreaming and attention deficit on the likelihood that experiencing rumination-based scenario (see Table 10.).

According to Table 6., the analysis indicated that regression model was statistically significant, $\chi^2(2) = 68.77, p < .001$. The regression model explained 13.3% (Nagelkerke R^2) of the variance in experiencing rumination-based scenario and correctly classified 69.2% of the participants. Increased attention deficit childhood trauma levels were associated with the likelihood of experiencing rumination-based

scenario accompanied with 0.90 ratio (CI = 0.86 - 0.94, $p < 0.01$) for attention deficit and 0.98 ratio (CI = 0.96 – 0.99, $p < 0.05$) for childhood trauma.

4.9.2. Regression Analyses and Model of OCD-based Scenario

Table 4.10. Logistic Regression Regarding Experiencing OCD-based Scenario (Model 2)

Variables	<i>B</i>	<i>S.D.</i>	<i>p</i>	OR	%95 CI
Dissociation level	-0.03	0.01	0.00*	0.96	0.94, 0.98
Childhood Trauma level	-0.00	0.00	0.75	0.99	0.98, 1.01
Maladaptive Dreaming level	-0.01	0.00	0.04*	0.98	0.97, 1.00
Attention Deficit level	-0.50	0.01	0.00**	0.95	0.91, 0.98

* $p < 0.05$ ** $p < 0.01$

As shown in Table 11., second binary regression analysis was examined to ascertain the effect of dissociation level, childhood trauma level, maladaptive daydreaming level and attention deficit level on the likelihood of experiencing OCD-based scenario.

According to Table 11., regression model was statistically significant according to results, $\chi^2(3) = 77.89$, $p < .001$. This model explained the variance as 14.4% for experiencing OCD-based scenario and correctly classified 66.5% of the participants. Increased dissociation level (CI = 0.94 - 0.98, $p < 0.01$) and maladaptive daydreaming level (CI = 0.97 - 1.00, $p < 0.05$) and attention deficit level (CI = 0.91 – 0.98, $p < 0.01$) effect the likelihood of experiencing OCD-based scenario with 0.96 ratio, 0.99 ratio and 0.95 ratio, respectively.

4.9.3. Regression Analyses and Model of Anxiety-based Scenario

Table 4.11. Logistic Regression Regarding Experiencing Anxiety-based Scenario

Variables	<i>B</i>	<i>S.E.</i>	<i>p</i>	OR	%95 CI
Dissociation level	-0.02	0.01	0.00**	0.97	0.95, 0.99
Childhood Trauma level	-0.00	0.00	0.78	0.99	0.98, 1.01
Maladaptive Dreaming level	-0.00	0.00	0.45	0.99	0.98, 1.00
Attention Deficit level	-0.03	0.01	0.04*	0.96	0.92, 0.99

* $p < 0.05$ ** $p < 0.01$

Our third regression analysis was performed to perform effect of dissociation level, childhood trauma level, maladaptive daydreaming level and attention deficit level on the likelihood of experiencing anxiety-based scenario (see Table 8.).

Results of table 8.1. showed that the regression model was significant, $\chi^2(2) = 34.37$, $p < .001$. Given model explained 6.5% of the variance for experiencing anxiety-based scenario and correctly classified 61.8% of the participants. Increased dissociation level and attention deficit effect the experiencing likelihood of anxiety-based scenario with 0.97 ratio (CI = 0.95 - 0.99, $p = 0.00$) and 0.96 ratio (CI = 0.92 – 0.99), respectively.

4.9.4. Regression Analyses and Model of DID-based Scenario

Table 4.12. Logistic Regression Regarding Experiencing DID-based Scenario (Model 4)

Variables	<i>B</i>	<i>S.E.</i>	<i>p</i>	OR	%95 CI
Dissociation level	-0.03	0.01	0.00**	0.96	0.94, 0.98
Table 4.12. Cont.					
Childhood Trauma level	-0.01	0.00	0.04*	0.98	0.97, 1.00
Maladaptive Dreaming level	-0.02	0.00	0.00**	0.98	0.96, 0.99
Attention Deficit level	-0.03	0.02	0.12	0.97	0.93, 1.00

* $p < 0.05$ ** $p < 0.01$

Last regression analysis and model was implemented to explore effect of dissociation level, childhood trauma level, maladaptive daydreaming level and attention deficit level (see Table 13.).

In Table 13., our model was statistically significant, $\chi^2(3) = 91.23, p < .001$. The regression model explained 17% of the variance and correctly classified 69.2% of the participants. According to results, increased dissociation level (CI = 0.94 - 0.98, $p < 0.01$), childhood trauma level (CI = 0.97 - 1.00, $p < 0.05$) and maladaptive daydreaming level (CI = 0.96 - 0.99, $p < 0.01$) were associated with experiencing DID-based scenario with the 0.96 ratio, 0.98 ratio and 0.97 ratio respectively.



CHAPTER V

DISCUSSION

Prior studies that have noted that the voice hearing phenomena is not rare in the general population (Beavan et al., 2011; Kråkvik et al., 2015). The present study investigated the voice-hearing phenomena, in the general population, based on dissociative identity disorder type voice hearing and has examined whether it is possible to differentiate this type voice hearing from disorder-specific conditions (i.e., rumination-based, obsessive compulsive-based, anxiety-based, reasoning-based and psychotic-based) that are related to voice hearing experiences in terms of dissociation scores, childhood trauma scores, maladaptive daydreaming scores and attention deficit scores. In this part, findings will be discussed in accordance with the aims, hypotheses and research questions of the present study.

Distributions of participants by age and gender are shown in Table 1. Participants' distribution for comorbid disorder-specific scenarios was shown in Table 2 and Participants' distribution for non-comorbid disorder-specific scenarios was shown in Table 3. Means and standard deviations of disorder-specific scenarios regarding dissociation, childhood trauma, maladaptive daydreaming and attention deficit scores was shown in Table 4. Means and standard deviations of non-comorbid disorder-specific scenarios regarding dissociation, childhood trauma, maladaptive daydreaming and attention deficit scores was shown in Table 5. One-Way Analyses of Variance of Dissociation, Childhood Trauma, Maladaptive Daydreaming and Attention Deficit by non-Comorbid Disorder Specific Conditions were shown in Table 6. Socio-demographic characteristics of comorbid disorder-specific conditions and beforementioned scales are shown table 7. and socio-demographic characteristics of non-comorbid disorder-specific conditions and beforementioned scales was shown in table 8. Socio-demographic characteristics of beforementioned scales were shown in Table 9. Lastly, in table 10., table 11., table 12., table 13., associations between

likelihood of experiencing comorbid disorder-specific scenarios and scales were performed.

5.1. Investigating the Results of Disorder-Specific Scenarios

5.1.1. Relationship of Gender and Comorbid Disorder-Specific Scenarios

In this study, it was found, contrary to previous findings, that there are no significant relationships between gender and rumination-based scenario and anxiety-based scenario. The literature has shown that although difference is small in magnitude, there is a significant difference between experiencing rumination and gender (Johnson, & Whisman, 2013), and anxiety was found significant for gender types (Armstrong, & Khawaja, 2002). In contrast to earlier findings (Labad et al., 2008), however, no association was detected between gender and OCD-based scenario, according to the current study. Lastly, results related to psychotic-based and DID-based scenario are in accordance with the literature that shows that there is no association between voice-hearing experience and gender (Kråkvik et al., 2015; Ross, & Ness, 2010; Woods et al., 2015). These contrasts might be explained by comorbid conditions for each scenario. Because no abovementioned studies reported comorbidity conditions.

5.1.2. Frequency of Disorder-Specific Scenarios

The current study, also, investigated prevalence of disorder-specific scenarios. Results indicated that prevalence for rumination-based scenario was found to be 68.4%; for OCD-based scenario was found to be 40.8%; for anxiety-based scenario was found to be 42.6%; for psychotic-based scenario was found to be 5.8% and for DID-based scenario was found to be 34.8%. Although there is a gap related to prevalence of general rumination in the literature, Ghamari Givi et al. (2014) found that prevalence of only anger rumination is 11% in Iranian students. Beyond, our result based on rumination, might be explained by the transdiagnostic nature of rumination which means it can be seen in both mood and anxiety disorders (McLaughlin, & Nolen-Hoeksema, 2011). Albeit our sample was consisted of general population, in the literature, obsessions were found to be 55.1% in OCD patients (Staley, & Wand, 1995). Besides, co-occurrence of OCD with anxiety and major depression disorders were

observed as 49% and 27%, respectively (Calamari et al., 2012). According to one study (Holaway et al., 2006), similarly in our study, anxious thoughts rate was found to be 38% in general population. Psychotic-based scenario's prevalence (5.8 %) is consistent with the literature (Stip, & Letourneau, 2009) that 5% of the general population hear psychotic based hallucination. Lastly, the literature has demonstrated that patients with DID have high comorbidity rate with mood disorders, psychotic disorders, anxiety disorders (including OCD) between changes from 49.5% to 97.2% (Ellason et al., 1996). In general population, prevalence ranges from 0.6% to 26% in various spectrums such as sleep-related or merely noises and also 90% of patients with DID hear voices (McCarthy-Jones, 2012, p. 120, 172). Therefore, it can be said that 34.8% prevalence is not a surprising finding according to literature. Another explanation might be that participants who experience DID-based scenario are above the cut-off for childhood trauma. It is known that childhood trauma (childhood sexual, emotional and physical abuse) is associated with voice hearing in general population (McCarthy-Jones, 2012, p. 287-292). All in all, this study did not investigate the psychiatric prevalence rather examined the symptoms of specific disorders assuming related to voice hearing and differentiate these disorder-specific scenarios from DID-based voice hearing.

When we point out the particular disorder-specific scenarios' prevalence, rumination-based scenario was found to be 12.6%; anxiety-based scenario was found to be 3.8%; psychotic-based scenario was found to be 0.3% and DID-based scenario was found to be 3%. These results might demonstrate that there are pure voice hearers in general population, independent from other scenarios. There are no studies related to experiencing merely one symptom based on voice hearing. However, for DID-based voice hearing, findings have shown that four or more Schneiderian first-rank symptoms are reported as 4.5% and voice commenting, voice arguing and thoughts out loud found 3.2%, 2.8% and 4.6%, respectively (Ross, & Joshi, 1992). These results are consistent with our finding of DID-based scenario's frequency (3%). In addition, prevalence of DID was found as 0.4% in general population in Turkey (Akyüz et al., 1999), while Ross (1991) found 3.1% prevalence in America which is consistent with our DID-based hearing voice in general population.

5.2. Investigating the Results of Self-Report Measures

5.2.1. Comparing the Results of Measures with the Literature

The present study shows that dissociative experiences are common in general population independent from sex. These results reflect those of Ross et al. (1991) who also found no statistical difference between sex and dissociative experiences and found these experiences common in general population. However, the finding of mean score of dissociative experiences observed in this study is above the finding by Akyüz et al. (1999) that dissociative experiences found is to be 6.7 in Turkey. One possible explanation of this contrary might be the methodology of the study that is carried out in Turkey. Because, as stated in the study (Akyüz et al., 1999), social inhibitions might play a role for this consequence. Another finding of the current study is that traumatic childhood experiences, for both male and female, are above the cut-off score which is 35. These results are contrary to previous a study (Gerdner, & Allgulander, 2009) which suggested that the mean score of men remained below the cut-off score and women's mean score is marginally above the cut-off score in non-clinical populations in Sweden. Beyond, men's mean score which is 41.2 in a clinical Swedish population is nearly equal to non-clinical men's mean score in the current study. These findings might be explained by associations of low socio-economic status and childhood trauma (Iacovino et al., 2014; Mock, & Arai, 2011). Because, Turkey's socio-economic status is lower than Sweden (Organisation for Economic Co-operation and Development, 2020). When we come to maladaptive daydreaming experience, the present study found that mean score was found 23.63 and this score remained below the cut-off score which is 40. In addition, this finding is contrary to previous study (Soffer-Dudek et al., 2020) that found mean score as 37.97 for Turkish sample. This difference may be explained by number of participants who have a psychiatric diagnosis in this study. Soffer-Dudek et al. (2020) claimed that of the 50% participants reported that they do not sure whether having a diagnosis or not. Therefore, number of participants who have a diagnosis in beforementioned study might be more than our study's participants with a diagnosis. Because, the literature indicated that maladaptive daydreaming is a comorbid problem with psychiatric and psychological problems (Somer et al., 2017; Zsila et al., 2018; Zsila et al., 2019). Although there are limited studies, according to one study (Gökçen et al., 2013) that is carried out in Turkey, attention deficit level was

observed middle level (7.83) in non-clinical population which is consistent with our finding (7.66).

5.3. Comorbid and non-Comorbid Disorder-Specific Scenarios and Self-Report Measures

5.3.1 Comorbid Disorder-Specific Scenarios and Self-Report Measures

The present study has hypothesized that “There is a significant difference between experiencing comorbid DID-based scenario and not experiencing of it in terms of trauma, daydreaming, dissociation scale and attention deficit scale.” The results of the present study demonstrate that experiencing disorder-specific scenarios (rumination, OCD, anxiety, psychotic and DID) is different from not experiencing of these in terms of dissociation, childhood trauma, maladaptive daydreaming and attention deficit. Hence, this hypothesis is accepted. Firstly, the literature has shown that individuals who have repetitive rumination accompanied with intrusive thoughts stated more dissociative symptoms (Vannikov-Lugassi, & Soffer-Dudek, 2018) and also it was found that dissociation and rumination are the risk factors for developing (PTSD) posttraumatic stress disorder (Slater et al., 2005). Therefore, there are similarities between these results and our result. One study (Kim et al., 2017) indicated that rumination is an effective mediated factor between developing mood problems and childhood trauma pathway in non-clinical population. This finding agrees with our results. A possible explanation of these results is association of rumination with an increased risk to PTSD (Nolen-Hoeksema, 2012). It was found that there is a difference between ruminators and non-ruminators in terms of maladaptive daydreaming. One possible explanation of this result is that maladaptive daydreaming symptoms are related to emotion dysregulation which may be explained by consequences of ruminative thinking (Greene et al., 2020; Miranda et al., 2013). The current study suggests that ruminators have high level of attention deficit compared to non-ruminators. This might be explained by cognitive inflexibility (including inattention) of the nature of the rumination in itself (Davis, & Nolen-Hoeksema, 2000). Secondly, experiencing OCD-based scenario differed from not experiencing of it regarding dissociation level. Our finding is consistent with the literature (Watson et

al., 2004) that obsessive intrusions are related to dissociation levels in general population. These differences between experiencing and not experiencing the OCD-based scenario based on dissociation level can be explained in part by the association of negative intrusive thoughts and high level of dissociation (Batey et al., 2010). Another finding related to the OCD-based scenario is experiencing this scenario is different from not experiencing of it based on childhood trauma. Studies have shown that obsessive compulsive symptoms and childhood trauma are related in the general population (Destrée et al., 2021). This can be explained by using obsessive compulsive symptoms as a way of coping strategy against the burden of traumatic experiences (Barzilay et al., 2019). It was found that OCD-based condition is differentiated significantly when it comes to experiencing and not experiencing regarding maladaptive daydreaming levels. This finding could be attributed to relationship of maladaptive daydreaming and obsessions and mediator factor of dissociation (Salomon-Small et al., 2021). Participants who experience the OCD-based scenario had higher scores than those who did not experience the OCD-based scenario in terms of attention deficit scores. This expected result could be explained partly by the co-occurrence of attention deficit disorder and obsessive-compulsive disorder symptoms (Abramovitch et al., 2015). Thirdly, the current study demonstrated that there is a difference between experiencing the anxiety-based scenario or not in terms of dissociation levels. This might be partly explained by the relationship of depersonalization and anxiety-related situations (Warshaw et al., 1993) and direct association of anxiety symptoms and dissociation (Belli et al., 2017). It was found that experiencing the anxiety-based scenario is differentiated from non-experiencers regarding childhood trauma. This result consistent with the literature that shows that childhood interpersonal trauma could be the antecedent for anxiety due to the high behavioral inhibition system (Miu et al., 2017). In this respect, for the current study, participants who choose anxiety-based scenario might be consisted of individuals with interpersonal trauma. Consistent with the literature, differentiation of experiencing anxiety-based scenario from not experiencing might be partly interpreted with the comorbidity of maladaptive daydreaming with anxiety related problems (Somer et al., 2017). In addition, association of generalized anxiety disorder and maladaptive daydreaming are found in university students (Alenizi et al., 2020). Another study found that individuals reported experiencing more anxiety in the days of experiencing intense maladaptive daydreaming (Soffer-Dudek, & Somer, 2018). Attention deficit

score are differentiated for two anxiety-based scenarios which are yes or no. This finding is consistent with the literature that shows attention deficit without hyperactivity is associated with anxiety problems in children (Pauc, 2005). To the best of our knowledge, continuity of ADHD into adulthood is not rare (ranges from %4 to 80%, depend on the methodology of the study) according to the literature (Faraone et al., 2000). Fourthly, the present study demonstrated that dissociative experiences are higher in individuals who experience psychotic-based scenario than those without. This finding is consistent with the literature that individuals with (auditory) hallucinated experience more dissociative experiences than control groups (Varese et al., 2011). Consistent with the literature (Sheffield et al., 2013), childhood trauma level observed high in the group with psychotic-based scenario than non-experiencers. There is a gap in the literature related to psychotic based voice hearing and maladaptive daydreaming. Our result might partly be explained with seeing and hearing things in the daydream process as if real, according to daydreamers (Somer et al., 2016). Another finding is that individuals with experiencing psychotic-based scenario showed higher attention deficit scores compared to non-experiencers. One possible explanation of this finding is that attention deficit and hyperactivity disorder history could be the risk factor for psychotic disorder (Nourredine et al., 2021). Lastly, the present study has reached the unique results by examining the DID-based hearing voice in terms of dissociation, childhood trauma, maladaptive daydreaming and attention deficit levels for two conditions. Expectedly, it was found that there is a difference between DID-based hearing voice hearers and non-voice based on the dissociation level. Although there is a gap related to DID-based hearing voice, our result is consistent with the literature that there is a vigorous relationship between voice hearing and dissociation level (Pilton et al., 2015). Another finding related to DID-based voice hearing is observing a significant difference in childhood trauma levels for voice hearers and non- voice hearers. In accordance with the current result, previous studies have demonstrated that individuals who hear voices reported traumatic experiences in childhood (Daalman et al., 2012; Offen et al., 2003). Maladaptive daydreaming scores are differentiated significantly for both conditions in DID-based hearing voice. Albeit there are no studies considering DID-based hearing voice and maladaptive daydreaming, one study found that participants with dissociative identity disorder reported high levels of maladaptive daydreaming experiences (Ross et al., 2020). Another unique result has shown that DID-based voice

hearers are significantly differentiated from non-voice hearers in attention deficit scores. This result might be partly explained by tendency to dissociative symptoms (including voice hearing) of individuals with childhood attention deficit symptoms (Matsumoto, & Imamura, 2007). Another explanation of this result can be relationship of reduced attention in individuals with DID (Dorahy et al., 2014; Kaplow et al., 2008; McKinnon et al., 2016). In conclusion, all comorbid disorder-specific scenarios are differentiated for both conditions (experiencing or not experiencing) in terms of dissociation, childhood trauma, maladaptive daydreaming and attention deficit.

Albeit comorbid conditions for psychiatric problems are inevitable in general population (Kessler et al., 2005), some methodological circumstances did not allow us to compare each comorbid situation of disorder-specific scenarios.

5.3.2. Non-Comorbid Disorder-Specific Conditions and Self-Report Measures

Another hypothesis states that “Participants who will select the non-comorbid DID-based scenario will have higher mean scores from the dissociation scale, trauma scale, daydreaming scale, attention scale compared to participants who will select the other non-comorbid disorder-specific scenarios and reasoning-based scenarios.” We anticipated that experiencing non-comorbid DID-based condition is different from other scenarios in terms of dissociation, childhood trauma, maladaptive daydreaming and attention deficit. What is surprising is that only marginally significant difference is found between DID-based scenario and reasoning-based scenario for maladaptive daydreaming. Therefore, this hypothesis is not accepted. It is encouraging to compare this result with the results found by Ross et al. (2020) who found that patients with dissociative identity disorder had higher mean score compared to participants with non-dissociative disorder and this might be explained by strong association between dissociation and maladaptive daydreaming.

Our third hypothesis was “Participants who will select the non-comorbid disorder-specific scenarios will take higher scores from the beforementioned scales compared to non-comorbid reasoning-based scenario.” The results showed that significant difference found only between reasoning-based scenario and rumination for attention

deficit. Secondly, significant difference is found only between reasoning-based scenario and OCD-based scenario for maladaptive daydreaming. Thus, this hypothesis is not accepted. It was found in non-clinical population that rumination and attention deficit are related (Vaidya, & Adhikari, 2014). Ross and colleagues (2020) indicated that obsessive compulsive symptoms are higher in individuals with maladaptive daydreaming disorder than in individuals without. Thus, these results support our findings at some level.

One possible explanation of non-significant results can be small sample size and high number of women participants for each disorder-specific condition. Because as sample smaller, error variance increased (Guadagnoli, & Velicer, 1988). High rate of women participants might be explained by high comorbidity (56% for Epidemiologic Catchment Area and 60% for National Comorbidity Survey) of psychiatric disorders and high comorbidity rate observed in women (Kessler et al., 1994; Lépine et al., 2005). Another important explanation of nonsignificant results of the current study could be the pathoplastic relationship which means differentiation of demonstrating symptoms of a disorder due to the personality traits and this relationship is bidirectional (Widiger, & Smith, 2008). Therefore, pathoplastic relationship leads to heterogeneity to demonstration of a certain disorder (Widiger, & Smith, 2008). For instance, individuals with obsessive compulsive symptoms showed higher neuroticism than healthy controls (Fullana et al., 2008). Another study indicated that manifestation of generalized anxiety symptoms is affected by interpersonal pathoplasticity (Przeworski et al., 2011).

5.4. Probability of Experiencing Disorder-Specific Scenarios

The current study has confirmed that high childhood trauma experience is the risk factor for experiencing rumination-based scenario. This result is consistent with the literature that showed that high rumination is predicted by experienced childhood abuse in participants who have no cognitive disorder (Szabo et al., 2020). In addition, literature has demonstrated that rumination is a mediator for the pathway of childhood trauma and mood and anxiety disorders (Kim et al., 2017). Another finding is that attention deficit is the risk factor for experiencing likelihood of rumination-based scenario. This finding could be partly explained by the slow attentional activity in

depressed individuals with ruminative thinking (Wilkinson, & Goodyer, 2006). Another study showed that work-related rumination is associated with executive functioning (cognitive flexibility, attention and planning) and rumination is related to poor attention and reduced cognitive flexibility. One more study suggested that ruminative thinking styles observed in individuals with attention deficit and dysphoric mood problems (Jonkman et al., 2017). Secondly, our second model showed that individuals who have high dissociation levels, maladaptive daydreaming levels and attention deficit levels are at risk for experiencing likelihood of OCD-based scenario. These findings coherent with the literature demonstrating that patients with OCD reported dissociative symptoms Lochner et al. (2004). Another study (Boysan, 2014) observed that there is a relationship between tendency to dissociation and obsessive-compulsive symptoms in non-clinical population in Turkey and also our OCD-based scenario's mean score of dissociation (16.0) is also found in the reported study and labeled as average score (16.19). A strong explanation of relationship between OCD-based scenario and maladaptive daydreaming could be the association of maladaptive daydreaming with obsessions and compulsions (Salomon-Small et al., 2021) due to the reports of daydreamers about their daydreaming activity as compulsory and having uncontrollable thoughts related to this phenomenon (Bigelsen, & Schupak, 2011; Somer et al., 2016). Relationship of attention deficit and OCD-based scenario might partly be explained by association of obsessive-compulsive symptoms with dissociation and their relationship with the narrowed attention (Soffer-Dudek, 2014). Thirdly, it was found that the greater dissociation level is a risk factor for likelihood of experiencing anxiety-based scenario. This result mirrors the previous study (Boysan et al., 2009) that have investigated anxiety and dissociation relationship in abused and non-abused individuals and found that high correlation is observed between dissociation levels and anxiety symptoms. Besides, attention deficit is the risk factor for probability of experiencing anxiety-based scenario. This result coherent with the literature that inattention is the risk factor for likelihood of experiencing anxiety symptoms (Das et al., 2012).

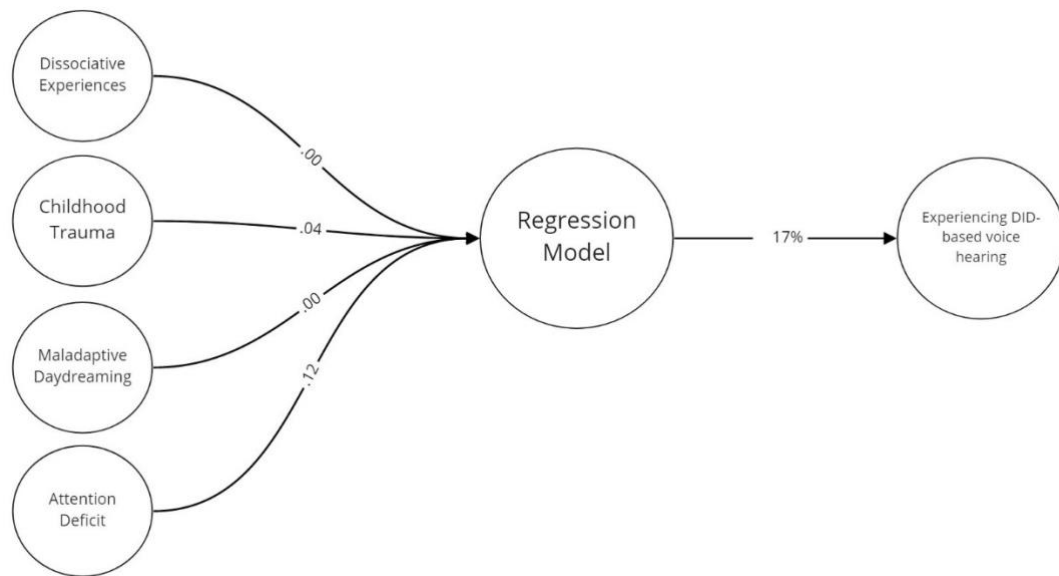


Figure 5.1. Regression Model of DID-Based Voice Hearing

The present study has questioned that “Does scoring high on dissociation scale, trauma scale, daydreaming scale, attention scale increase the probability of experiencing DID-based voice hearing?” The answer to this question is yes but only in part. The most obvious and expected finding to emerge from the current study is that high dissociation, childhood trauma and maladaptive daydreaming levels are the strongest risk factors for likelihood of experiencing DID-based voice hearing by reason of observed higher explanation variance in this model (see Figure 1.). However, attention deficit was not found as a risk factor probability of experiencing DID-based voice hearing. Thus, this hypothesis was rejected. To the best of our knowledge, the literature has shown that voice hearing and dissociation are related (Longden et al., 2012; Pilton, et al., 2015). Beyond, a series of studies indicated that the hearing voices experience, as a one of the first rank Schneiderian symptoms associated with DID (e.g., Bliss et al., 1983; Dorahy, et al., 2009; Kluft, 1987; Mellor, 1982; Moskowitz, & Corstens, 2008; Ross et al., 1989; Ross et al., 1990). In this respect, likelihood of experiencing DID-based hearing voice is explained by high dissociation. Another unique finding is that the risk factor of childhood traumas for likelihood of experiencing DID-based voice hearing. In the literature, it was found by a series of studies that DID is fundamentally based on trauma and attachment related childhood trauma including neglect and abuse (e.g., Akyüz et al., 1999; Chu, & Dill, 1990; Parry et al., 2018; Ross et al., 1990; Tutkun et. al, 1998; Vanderlinden et al., 1993; Zeligman et al., 2017).

Another significant dimension is childhood traumas and voice hearing relationship. In this respect, literature has confirmed that individuals with childhood traumas reported voice hearing experiences (Daalman et al., 2012; Offen et al., 2003; Pierre, 2010). These results might explain our result related to risk of childhood trauma and DID-based voice hearing. Maladaptive daydreaming is another risk factor for likelihood of experiencing DID-based voice hearing. This result might be partly explained by the association of DID and maladaptive daydreaming (Ross et al., 2020). However, it is somewhat surprising that attention deficit was not found as a risk factor for likelihood of experiencing DID-based voice hearing. This discrepancy could be attributed to existence of limited studies in the literature and their different sample characteristics (Dorahy et al., 2014; Kaplow et al., 2008; McKinnon et al., 2016). As we mentioned in introduction, this study is based on the trauma model of dissociation (Ross et al., 2008) rather than the fantasy model of dissociation (Giesbrecht et al., 2008; Merckelbach et al., 2002). We can say that trauma model of dissociation has been confirmed in this study in the finding that childhood trauma and two more risk factors (maladaptive daydreaming and dissociation) have an effect on probability of experiencing DID-based voice hearing. Beyond, individuals who experience DID-based voice hearing should be assessed for developing DID, according to literature we referred to previously.

5.5. Limitations, Implications and Future Directions

Particular limitations should be addressed in this study. Firstly, our sample mostly consisted of women hence this could affect the differential diagnosis of DID-based voice hearing due to the existence of high comorbidity in women population (Kessler et al., 1994; Lépine et al., 2005). For example, we used anxiety-based and rumination based-scenario and the literature (Elliott, 2013) indicated that women are more prone to affective and anxiety disorders than men.

Secondly, the present study was used a quantitative research approach rather than mixed or qualitative research approach. A mixed approach could be more effective to identify clearly participants voice hearing experiences.

Thirdly, the Maladaptive daydreaming scale has only reliability analysis which was found $\alpha = .96$ for 16 items (Soffer-Dudek et al., 2020). In the current study, Cronbach's alpha was found as $\alpha = .91$. This finding might be explained by the sample characteristic of these two studies.

Fourthly, this study consisted of self-reported scales hence it was assumed that participants will be honest in their answers but there is no indication about this issue. For example, minimization of childhood trauma was observed in individuals with comorbid disorders in Turkey (Şar et al., 2004).

Lastly, there are few studies in the literature related to the current study's topic. Therefore, this could be a limitation for our study to discuss our results in detail. Further research is needed to better understand the mechanisms underlying this problem.

Future studies should concentrate on the examination of structure and the methodology of disorder-specific voice hearing experiences in terms of mixed method research. Secondly, more research is required to advance the DID-based voice hearing model using Structural Equation Model or path analyses, including different variables.

These findings have several implications withing the clinical practice for mental health practitioners. Firstly, a client who suffers from voice hearing should be assessed clearly in terms of DID considering existence and levels of dissociation, childhood trauma and maladaptive daydreaming backgrounds. Secondly, routine outcome of psychiatric differential diagnosis should not be attributed easily and directly to anxiety, rumination, obsessions, instead DID-based voice hearing possibility should be included in differential diagnosis.

5.6. Conclusion

In the general population, the voice hearing phenomena is not rare (Beavan et al., 2011; Kråkvik et al., 2015; Lawrence et al., 2010) and voice hearing is observed in various disorders and symptoms. These are DID, dissociation (Bliss et al., 1983; Dorahy, et al., 2009; Kluft, 1987; Longden et al., 2012), rumination (Jones, & Fernyhough, 2009), obsessions (García-Montes et al., 2006), anxiety (Allen et al., 2005) hence there was a need to examine voice hearing in the frame of DID in the general population. Hitherto, there is no study encountered related to this problem and the present study aimed to investigate differential diagnosis of DID-based voice hearing experiences in terms of related spectrums based on the literature (Pierre, 2010) in the general population. This study manifests several important findings. Firstly, in the general population, frequency of comorbid and non-comorbid DID-based voice hearing is found to be 34.8% and 3%, respectively. Secondly, non-comorbid DID-based voice hearing is relatively differentiated from reasoning-based scenarios in terms maladaptive daydreaming and attention deficit. Thirdly, having different backgrounds which are dissociation, childhood traumas and maladaptive daydreaming are the risk factors for likelihood of experiencing DID-based voice hearing compared to other disorder-specific voice hearing experiences. Fourthly, these are the valuable findings to make contributions to the literature in terms of DID-based voice hearing and its differential diagnosis. In addition, based on the literature and our findings, mental health practitioners should consider the risk of the backgrounds mentioned previously in the frame of DID-based voice hearing, and the client should be assessed comprehensively for the risk of developing DID. In conclusion, these results shed contemporary light on the nature of DID-based voice hearing and differential diagnosis of it to contribute to the literature. However, further research on the methodology and advancing the model of DID-based voice hearing is needed.

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APPENDICES

APPENDIX A

Socio-demographic Information

1. Cinsiyetiniz?

- Erkek
- Kadın

2. Doğum Yılıınız?

.....

3. Gelirinizi nasıl tanımlarsınız?

- Kötü
- Orta
- İyi

4. Eğitim Düzeyiniz?

- İlkokul
- Ortaokul
- Lise
- Üniversite

5. Bilinen herhangi bir psikiyatrik/psikolojik rahatsızlığınız var mı?

- Hayır
- Evet

Evet ise belirtiniz

.....

Bilinen herhangi bir nörolojik rahatsızlığınız var mı?

- Hayır
- Evet

Evet ise belirtiniz

.....

6. Daha önce herhangi bir psikiyatrik/psikolojik yardım aldınız mı?

- Evet
- Hayır

7. Hayatınız boyunca psikiyatrik ilaç kullandınız mı?

- Evet
- Hayır

Evet ise ilacın adı

8. Hayatınız boyunca psikoterapi aldınız mı?

- Evet
- Hayır

Evet ise yaklaşık kaç seans aldınız?

.....

9. Son 6 ay içerisinde aile üyelerinizden bir ya da birden fazla kişinin kaybını yaşadınız mı?

- Evet
- Hayır

APPENDIX B

Disorder-specific Conditions

Lütfen aşağıdaki durumları dikkatli bir şekilde inceleyiniz ve sizin için uygun olan durum/durumları seçiniz.

Durum 1

- Bazı insanların istemedikleri halde zihinlerine tekrar tekrar gelen düşünceleri olur. Örneğin İstemediğiniz halde birine zarar vermek düşüncesi, ellerinizin kirli olduğu, kapının, musluğun açık kaldığı düşüncesi gibi. Bu durum size uyuyor mu?
- Evet
- Hayır

Durum 2

- Bazı insanlar, kendileri ya da çevreleri ile ilgili yaşadıkları olumsuz veya stresli olaylar üzerine sürekli ve tekrarlayıcı bir biçimde kafaya takarak düşünürler. Bu durum size uyuyor mu?
- Evet
- Hayır

Durum 3

- Bazı insanlar kendilerinin veya ailesinin başına kötü şeyler gelebileceği konusunda (kaza, bela, sağlık ve ekonomik sorun vb.) aşırı şekilde endişelenirler. Bu durum size uyuyor mu?
- Evet
- Hayır

Durum 4

- Bazı insanlar, kendileri için önemli bir konuda karar verirken meselenin artı ve eksilerini veya muhtemel seçeneklerini senaryo haline getirerek zihinlerinde muhakeme ederler. Bu durum size uyuyor mu?
- Evet
- Hayır

Durum 5

- Bazı insanların kulaklarına başkalarının duymadığı sesler gelir; bu sesler gürültü, fısıldaşma ya da konuşan insanlar olarak kendini gösterir.
- Evet
- Hayır

Durum 6

- Bazı insanlar, çocukluklarından beri kafalarının içerisinde kendisiyle diyalog şeklinde iç konuşmalar yaparlar veya sesler duyarlar.
- Evet
- Hayır



APPENDIX C

Informed Consent

Değerli katılımcı,

Bu çalışma, Psikolog Mehmed Seyda Tepedelen tarafından Prof. Dr. Medaim Yanık danışmanlığında yürütülen İbn Haldun Üniversitesi Klinik Psikoloji Yüksek Lisans programı kapsamında tez çalışması için yapılmaktadır.

Araştırmaya katılmayı kabul ettiğiniz takdirde size yaşadığınız deneyimlerle ilgili bir dizi soruya cevap vermeniz beklenecektir. Soruları dikkatli bir şekilde okuyarak kendinize en uygun gelen cevap/cevapları vermeniz çalışmanın sağlıklı olması açısından önem arz etmektedir. Bu sebeple lütfen soruları neyin doğru neyin yanlış olduğuna göre değil yaşadığınız duruma en uygun olacak şekilde cevaplayınız.

Bu araştırmada verdiğiniz cevaplar tamamen gizli tutulacak ve yalnızca araştırmacı tarafından görülebilecektir. Yanıtlar anonim olarak toplanacak ve ad-soyad istenmeyecektir. Vereceğiniz yanıtlardan elde edilen bulgular yalnızca bilimsel amaçlı yayınlarda kullanılacaktır. Bu çalışmaya katılarak ses duyma deneyimi ve bununla ilgili psikolojik faktörlerin incelenmesine yardımcı olarak bilime katkıda bulunmuş olacaksınız. Araştırmanın öngörülen psikolojik, fiziksel ve sosyal bir riski yoktur.

Araştırmaya katılım tamamen gönüllüğe dayalıdır. Araştırmadan istediğiniz zaman çekilebilir ya da katılmayı reddedebilirsiniz. Araştırmadan çekilmeniz durumunda yanıtlarınız araştırmaya dahil edilmeyecektir.

Katkılarınız için teşekkürler.

Araştırma ile ilgili herhangi bir sorunuz olduğundan aşağıdaki iletişim bilgisi ile araştırmacıya ulaşabilirsiniz:

Mehmed Seyda Tepedelen (Araştırmacı)

e-posta: seyda.tepedelen@ibnhaldun.edu.tr

Bu araştırmaya gönüllü olarak katılmayı kabul ediyorum. Bilgilendirilmiş onamı okudum, anladım. İstedikimde araştırmadan çekilebileceğimi ve onayımı geri alabileceğimi anladım.

☐ Evet

APPENDIX D

Dissociative Experiences Scale

DİSSOSİYATİF YAŞANTILAR ÖLÇEĞİ (DES) Bernstein & Putnam,1986,1993

Türkçe'ye uyarlayanlar: Vedat Şar, L.İlhan Yargıç, Hamdi Tutkun

Bu test günlük hayatınızda başınızdan geçmiş olabilecek yaşantıları konu alan 28 sorudan meydana gelmektedir. Sizde bu yaşantıların ne sıklıkta olduğunu anlamak istiyoruz. Yanıt verirken, alkol ya da ilaç etkisi altında meydana gelen yaşantıları değerlendirmeye katmayınız. Lütfen her soruda, anlatılan durumun sizdekine ne ölçüde uyduğunu 100 üzerinden değerlendiriniz ve uygun olan rakamı daire içine alınız.

Örnek:

%0 10 20 30 40 50 60 70 80 90 %100

SORULAR

1. Bazı insanlar, yolculuk yaparken yol boyunca ya da yolun bir bölümünde neler olduğunu hatırlamadıklarını birden farkederler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

2. Bazı insanlar zaman zaman, birisini dinlerken, söylenenlerin bir kısmını ya da tamamını duymamış olduklarını birden farkederler.Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

3. Bazı insanlar kimi zaman, kendilerini nasıl geldiklerini bilmedikleri bir yerde bulurlar.Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

4. Bazı insanlar zaman zaman kendilerini, giydiklerini hatırlamadıkları elbiseler içinde bulurlar.Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

5. Bazı insanlar zaman zaman eşyaları arasında,satın aldıklarını hatırlamadıkları yeni şeyler bulurlar.Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

6. Bazı insanlar, zaman zaman, yanlarına gelerek başka bir isimle hitabeden ya da önceden tanıştıklarında ısrar eden, tanımadıkları kişilerle karşılaşır. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

7. Bazı insanlar, zaman zaman, kendilerinin yanbaşıda duruyor ya da kendilerini birşey yaparken seyrediyor ve sanki kendi kendilerine karşıdan bakıyormuş gibi bir his duyarlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

8. Bazı insanlara, arkadaşlarını ya da aile bireylerini, zaman zaman tanımadıklarının söylendiği olur. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

9. Bazı insanlar, yaşamlarındaki kimi önemli olayları (örneğin nikah ya da mezuniyet töreni) hiç hatırlamadıklarını farkederler. Yaşamınızdaki bazı önemli olayları hiç hatırlamama durumunun sizde ne oranda olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

10. Bazı insanlar zaman zaman, yalan söylemediklerini bildikleri bir konuda, başkaları tarafından, yalan söylemiş olmakla suçlanırlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

11. Bazı insanlar kimi zaman, aynaya baktıklarında kendilerini tanıyamazlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

12. Bazı insanlar kimi zaman, diğer insanların, eşyaların ve çevrelerindeki dünyanın gerçek olmadığı hissini duyarlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

13. Bazı insanlar, kimi zaman vücutlarının kendilerine ait olmadığı hissini duyarlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

14. Bazı insanlar, zaman zaman geçmişteki bir olayı o kadar canlı hatırlarlar ki, sanki o olayı yeniden yaşıyor gibi olurlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

15. Bazı insanlar kimi zaman, olduğunu hatırladıkları şeylerin, gerçekte mi yoksa rüyada mı olduğundan emin olamazlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

16. Bazı insanlar zaman zaman, bildikleri bir yerde oldukları halde orayı yabancı bulur ve tanıyamazlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

17. Bazı insanlar, televizyon ya da film seyrederken, kimi zaman kendilerini öyküye o kadar kaptırırlar ki çevrelerinde olan bitenin farkına varamazlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

18. Bazı insanlar kimi zaman kendilerini, kafalarında kurdukları bir fantazi ya da hayale o kadar kaptırırlar ki, sanki bunlar gerçekten başlarından geçiyormuş gibi hissederler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

19. Bazı insanlar, ağrı hissini duymamayı zaman zaman başarabildiklerini farkedirler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

20. Bazı insanlar kimi zaman, boşluğa bakıp hiç bir şey düşünmeden ve zamanın geçtiğini anlamaksızın oturduklarını farkedirler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

21. Bazı insanlar, yalnız olduklarında, zaman zaman sesli olarak kendi kendilerine konuştuklarını farkedirler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

22. Bazı insanlar kimi zaman iki ayrı durumda o kadar değişik davrandıklarını görürler ki, kendilerini neredeyse iki farklı insanmış gibi hissettikleri olur. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

23. Bazı insanlar, normalde güçlük çektikleri bir şeyi (örneğin spor türleri, iş, sosyal ortamlar vb.) belirli durumlarda son derece kolay ve akıcı biçimde yapabildiklerini farkedirler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

24. Bazı insanlar, zaman zaman, bir şeyi yaptıklarını mı yoksa yapmayı sadece akıllarından geçirmiş mi olduklarını (örneğin bir mektubu postaya attığını mı yoksa sadece atmayı düşündüğünü mü) hatırlayamazlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

25. Bazı insanlar kimi zaman, yaptıklarını hatırlamadıkları şeyleri yapmış olduklarını gösteren kanıtlar bulurlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

26. Bazı insanlar, zaman zaman eşyaları arasında, kendilerinin yapmış olması gereken, fakat yaptıklarını hatırlamadıkları yazılar, çizimler ve notlar bulurlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

27. Bazı insanlar, zaman zaman kafalarının içersinde, belli şeyleri yapmalarını isteyen ya da yaptıkları şeyler üzerine yorumda bulunan sesler duyarlar. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

28. Bazı insanlar, zaman zaman, dünyaya bir sis perdesi arkasından bakıyormuş gibi hissederler, öyle ki insanlar ve eşyalar çok uzakta ve belirsiz görünürler. Bu durumun sizde ne sıklıkta olduğunu yüz üzerinden değerlendirerek uygun olan yüzdeyi daire içine alınız.

%0 10 20 30 40 50 60 70 80 90 %100

APPENDIX E

Maladaptive Daydreaming Scale

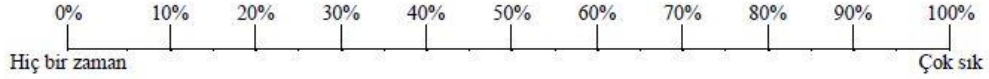
Maladaptif Gündüzdüşü Ölçeği (MDS-16)

Eli Somer, Jayne Bigelsen, Jonathan Lehrfeld & Daniela Jopp
(Türkçe çeviri: Vedat Şar, 2017)

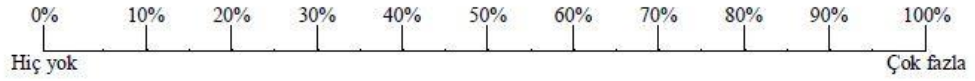
Aşağıdaki soruları yanıtlarken lütfen geçen ay içerisindeki hayal kurma (gündüzdüşü) yaşantılarını dikkate alınız. Başka zamana ait ise belirtiniz. Deneyimlerinize en uygun şıkkı seçiniz. Örneğin: Bazı insanlar kendilerini hayale o kadar çok kaptırırlar ki nerede olduklarını unuturlar. Hayal kurma sırasında nerede olduğunuzu unutmama ne sıklıkla olmaktadır? Örnekte yanıt olarak % 20 seçilmiştir.



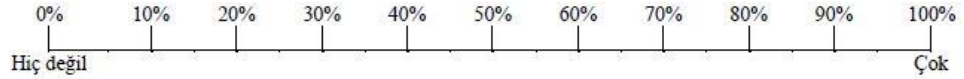
1. Bazı insanlar, belirli müziklerin hayal kurmayı başlattığını farkederler. Müzik sizin hayal kurmanızı ne ölçüde aktif hale getirmektedir?



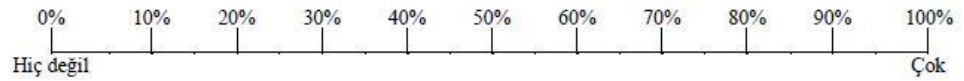
2. Bazı insanlar, dış dünyadaki bir olayın böldüğü hayal kurma durumuna devam etme gereksinimi duyarlar. Dış dünyadaki bir olay sizin hayal kurmanızı böldüğünde, sizin yarım kalan hayal kurma durumuna olabildiğince çabuk dönme gereksiniminiz ya da isteğiniz ne kadar güçlüdür?



3. Hayal kurma durumunuza ne sıklıkla ses veya yüz ifadesi değişikliği eşlik eder? (örneğin gülme, konuşma veya çene çalma)?



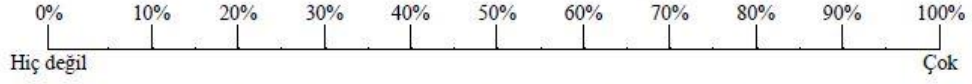
4. Belirli bir zaman diliminde gerçek dünyadaki sorumluluklarınız yüzünden hayal kuramadığınızda hayal kurmak için uygun bir zaman bulmayı ne kadar dert edersiniz?



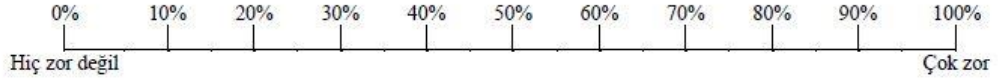
5. Bazı insanlarda hayal kurma durumu günlük iş veya görevlerine engel olur. Sizin hayal kurma durumunuz basit gündelik işleri yapma kapasitenizi ne kadar etkiler?



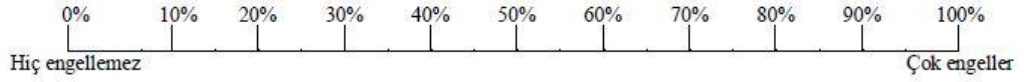
6. Bazı insanlar, hayal kurmaya harcadıkları zamanın miktarı konusunda endişeli veya sıkıntılı olurlar. Siz, halen hayal kurmaya harcadığınız zamanın miktarını ne kadar dert ediyorsunuz?



7. Önemli veya zor bir şeyle karşılaştığınızı bildiğinizde dikkatinizi vermek veya o işi bitirmek için göreve odaklanmak veya hedefe ulaşmak amacıyla hayal kurmaktan uzak durmak sizin için ne kadar zordur?



8. Bazı insanlar, kendi hayal kurma durumlarının kendileri için en önemli şeyleri engellediğini farketmişlerdir. Kendi hayal kurma durumunuzun sizin tümüyle yaşam amaçlarınızı başarmanıza engel olduğu hissini ne ölçüde duyuyorsunuz?



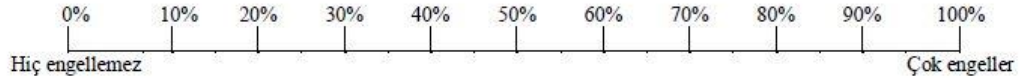
9. Bazı insanlar, kendi hayal kurma eğilimlerini kontrol altına almakta veya sınırlamakta zorlanırlar. Hayal kurma eğiliminizi kontrol altında tutmak sizin için ne ölçüde zordur?



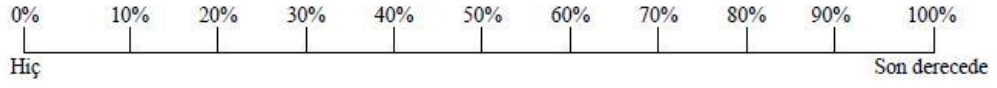
10. Bazı insanlar, dış dünyadaki bir olay hayal kurmalarını engellediğinde öfkelenirler. Dış dünya sizin hayal kurmanızı engellediğinde genellikle ne kadar öfkelenirsiniz?



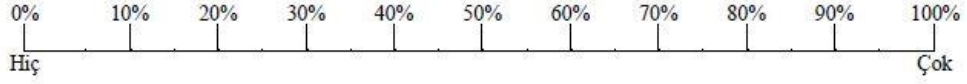
11. Bazı insanlar, kendi hayal kurma eğilimlerinin akademik/mesleki veya kişisel başarılarını engellediğini farkederler. Sizin hayal kurma eğiliminiz akademik/mesleki başarılarınızı ne ölçüde engellemektedir?



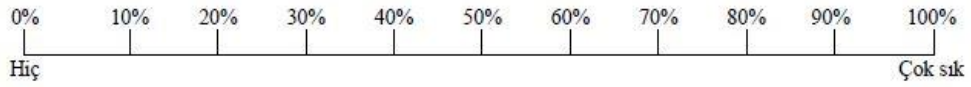
12. Bazı insanlar, hayal kurmayı başka şeylere tercih ederler. Siz diğer insanlarla yakın ilişki kurmak veya sosyal aktivitelere katılıp hobi edinmektense hayal kurmayı ne ölçüde tercih edersiniz?



13. Sabah uyandığınızda ilk olarak hayal kurmaya hemen başlamak için ne kadar güçlü bir eğilim duyarsınız?



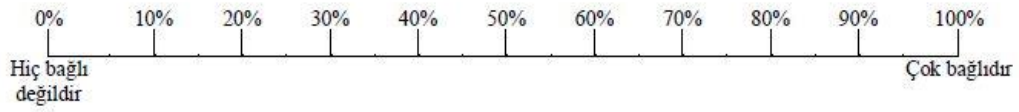
14. Sizin şimdiki hayal kurma durumunuza, yürüme, ayaklarınızı veya ellerinizi sallama gibi fiziksel aktiviteler ne sıklıkla eşlik etmektedir?



15. Bazı insanlar, hayal kurmayı severler. Siz hayal kurarken bu durumunuzu ne kadar rahatlatıcı veya zevkli bulursunuz?



16. Bazı insanlar için müzik dinlemedikleri zaman hayal kurma durumlarını sürdürmek zordur. Sizin hayal kurmanız müzik dinlemenin eşlik etmesine ne ölçüde bağlıdır?



APPENDIX F

Adult ADD/ADHD DsmIV- Based Diagnostic Screening and Rating Scale

1. BÖLÜM

Dikkat Eksikliği Bölümü

Sorun

Sorunun şiddeti ve sıklığı

	Hemen hiç	Biraz ya da bazan	Sıklıkla	Çok sık
1. Ayrıntılara dikkat etmekte zorluk ya da okul, iş ve diğer etkinliklerde dikkatsizce hatalar yapma	0	1	2	3
2. Dikkat gerektiren görevler ya da işlerde dikkati sürdürme güçlüğü	0	1	2	3
3. Birisiyle yüzyüze konuşurken dinlemede güçlük çekme	0	1	2	3
4. Okul ödevlerini ya da iş yerinde verilen görevleri bitirmekte zorlanma, verilen yönergeleri izlemekte zorluk çekme (yönergeleri anlama güçlüğüne ya da inatlaşmaya bağlı değildir)	0	1	2	3
5. Görevleri ve etkinlikleri düzenleme/ organize etme güçlüğü	0	1	2	3
6. Uzun zihinsel çaba gerektiren işlerden kaçınma, bu işlerden hoşlanmama ya da bu işlere karşı isteksizlik	0	1	2	3
7. Görev ve etkinlikler için gereken eşyaları kaybetme (örneğin: oyuncak, okul ödevleri, kalem, kitap ya da araç gereç)	0	1	2	3
8. Dikkatin kolayca dağılması	0	1	2	3
9. Günlük etkinliklerde unutkanlık	0	1	2	3

APPENDIX G

Ethical Consideration

Evrak Tarih ve Sayısı: 24.06.2021-3868



T.C.
İBN HALDUN ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Bilimsel Araştırma ve Yayın Etiği
Kurulu Başkanlığı

Sayı : E-71395021-020-3868
Konu : Mehmet Seyda TEPEDELEN-Etik
Kurul Kararı

24.06.2021

İLGİLİ MAKAMA

Kurulumuza başvuran Mehmet Seyda TEPEDELEN'in "Hearing Voice Experience and Its Differential Diagnosis" isimli projesi; amaç, araştırma türü, veri toplama araçları, süreç ve işlemler, veri analizleri dikkate alınmak suretiyle 11.06.2021 tarihinde değerlendirilerek 2021/05-4 karar numarası ile etik açıdan uygun bulunmuştur.

Bilgilerinizi arz/rica ederim.

Prof. Dr. Ali YEŞİLİRMAK
Başkan

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Publications:

Uysal, B., Gormez V., Eren, S., Morgül, E., Öcal, N. B., Karatepe, H. T., Sönmez, D., Taştekné, F., Tepedelen. M. S., Yanık, M. (2021). Living with COVID-19: Depression, Anxiety and Life Satisfaction during the New Normal in Turkey. *Journal of Cognitive-Behavioral Psychotherapy and Research*, <https://doi.org/10.5455/JCBPR.62468>

Akca, A , Tepedelen, M. S. , Yalçınkaya Alkar, Ö . (2020). Adaptation of the Lebanon Waterpipe Dependence Scale to Turkish: A Reliability and Factor Analysis Study. *Bağımlılık Dergisi* , 21 (3) , 163-180 . Retrieved from <https://dergipark.org.tr/tr/pub/bagimli/issue/54271/708984>