

THE ROLE OF COGNITIVE DEFUSION, DEPRESSION,  
MINDFULNESS AND EXPERIENTIAL AVOIDANCE  
ON INTERNET ADDICTION AMONG UNIVERSITY STUDENTS

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MINDFULNESS AND EXPERIENTIAL AVOIDANCE  
ON INTERNET ADDICTION AMONG UNIVERSITY STUDENTS**

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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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## **ABSTRACT**

### **THE ROLE OF COGNITIVE DEFUSION, DEPRESSION, MINDFULNESS AND EXPERIENTIAL AVOIDANCE ON INTERNET ADDICTION AMONG UNIVERSITY STUDENTS**

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M.S., Department of Educational Sciences

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The present study aimed to investigate the role of cognitive defusion, depression, mindfulness, and experiential avoidance on internet addiction among university students. The sample of the study comprised of 640 (441 women, 199 men) university students. The Demographic Information Form, Young Internet Addiction Test Short Form (YIAT-SF), Drexel Defusion Scale (DDS), Beck Depression Inventory (BDI), Mindful Attention Awareness Scale (MAAS), Multidimensional Experiential Avoidance Questionnaire-30 (MEAQ-30) were utilized for the data collection. The hierarchical regression analysis results indicated that while there was a significant positive relationship between internet addiction, depression, and some subscales of experiential avoidance (distress aversion, procrastination, repression/denial, and distress endurance); there was a significant negative association between internet addiction, cognitive defusion, and mindfulness. However, there was no significant relationship between internet addiction and other experiential avoidance subscales (behavioral avoidance and distraction/suppression). The hierarchical regression analysis findings revealed that the study variables explained 22% of the variance in internet addiction scores of participants.

**Keywords:** Internet addiction, cognitive defusion, depression, mindfulness, experiential avoidance.

## ÖZ

### BİLİŞSEL AYRIŞMA, DEPRESYON, BİLİNÇLİ FARKINDALIK VE DENEYİMSEL KAÇINMANIN ÜNİVERSİTE ÖĞRENCİLERİNİN İNTERNET BAĞIMLILIĞI ÜZERİNDEKİ ROLÜ

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Bu çalışmada bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınma düzeylerinin üniversite öğrencilerinin internet bağımlılığı üzerindeki rolünün araştırılması amaçlanmıştır. Çalışmanın örneklemini 640 (441 kadın, 199 erkek) öğrenci oluşturmaktadır. Çalışmanın verilerine Demografik Bilgi Formu, Young İnternet Bağımlılığı Testi Kısa Formu (YİBT-KF), Drexel Ayrışma Ölçeği (DAÖ), Beck Depresyon Ölçeği (BDÖ), Bilinçli Dikkat ve Farkındalık Ölçeği (BDFÖ) ve Çok Boyutlu Yaşantsal Kaçınma Ölçeği-30 (ÇBYKÖ-30) kullanılarak ulaşılmıştır. Hiyerarşik regresyon analizi sonuçları internet bağımlılığı ile depresyon ve deneyimsel kaçınmanın alt boyutlarından sıkıntıdan hoşlanmama, erteleme, baskılama/inkar ve sıkıntıya katlanma arasında anlamlı pozitif ilişkiyi gösterirken; internet bağımlılığı ile bilişsel ayrışma ve bilinçli farkındalık arasında ise anlamlı negatif ilişki olduğunu ortaya koymuştur. İnternet bağımlılığı ile deneyimsel kaçınma ölçeğinin davranışsal kaçınma ve dikkat dağıtma/bastırma alt boyutları arasında ise anlamlı bir ilişki bulunmamıştır. Bunun yanı sıra, sonuçlar elde edilen anlamlı



ilişkilerin internet bağımlılığı puanlarındaki deęişimin %22'sini açıkladığını göstermektedir.

**Anahtar Kelimeler:** İnternet bağımlılığı, bilişsel ayrışma, depresyon, bilinçli farkındalık, deneyimsel kaçınma.

*To my beloved family...*

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# CHAPTER 1

## INTRODUCTION

### 1.1 Background to the Study

In today's world the internet is an inseparable part of our lives. According to Internet World Stats (2020), 59.6 percent of the world population uses the internet. Internet usage brings many advantages, and use of the internet enables college students to make research in advance of time, do various kinds of assignments, broaden learning and reading opportunity, give a chance for autonomous learning, support and improve learning from peers as well as amends student's studying for exams (Apuke & Iyendo, 2018). Despite these benefits, it is not ignorable that the internet becomes a problem when it is used extremely.

The roots of the internet dated back to 1950's military technology research. Soviet Sputnik Satellite was launched in 1957, which led the first spectrum allocation of cellular telephone and direct broadcast satellites (Lukasik, 2011). Next year, the US created the Advanced Research Projects Agency (ARPA) for the needs of the US military. In time ARPA turned into ARPANET, which was a testing ground for the connection of computer systems (Abbate, 1994). The military purpose of the internet fell in the background. Since its creation, the internet has become tremendously popular. The invention of social media and mobile connectivity also opened a new era for the internet use (Naughton, 2016). The popularity of these platforms increased rapidly, especially among the youth, which led one of the most crucial mental health problems of the 21st century; internet addiction.

Previous studies shed light on the prevalence of internet addiction among university students from various countries. For instance; internet addiction rates among university students are 18.3% in England (Niemz, Griffiths, & Banyard, 2005),

34.7% in Greece (Frangos, Frangos & Sotiropoulos, 2011) and range between 12.3% (Kayri & Günüç, 2009) and 7.2% (Dalbudak et al., 2013) in Turkey.

In Turkey, although the internet is widely accessible for all age groups, internet usage rate is 90.8% among people who are in the age range of 16 to 24 (Turkish Statistical Institute, 2019). Thus, this population could be the most affected group from the benefits and hazards of the internet. University students have good facilities to access the internet and have an interest in technology, which leads them to stay online much longer (Yang & Tung, 2007). Additionally, their easy access to the internet from various places such as library, university and internet cafe (Ceyhan, Ceyhan, & Gürcan, 2007), their ability to find any information from the internet, and their chance to be anonymous on the internet (Keser, 2004) could be listed among the reasons of problematic internet use among this age group.

Addiction is described as the overwhelming use of a substance or a behavior carried compulsively into the person's daily life and inability to control that behavior (Egger & Rauterberg, 1996). When a behavior becomes the main focus of the mind and more relevant activities are neglected, that behavior is considered problematic and addiction occurs (Garcia-Oliva & Piqueras, 2016). There are various kinds of addictions described. Contrary to general belief, there are not only substance addictions but behavioral addictions also exist. Researchers believe that anything which is capable of stimulating a person can be addictive. Therefore, behaviors such as extreme shopping, gambling, working and sex can be classified as behavioral addictions. In addition, dependence on drugs, alcohol, nicotine and heroin can be given as examples of substance addictions (Brodsky, 1975; as cited in Alavi et al., 2012).

One of the behavioral addictions is the "internet addiction", which was first described by Dr. Goldberg in 1995. In those years, DSM- IV diagnostic criteria for alcohol addiction was used to diagnose internet addiction (Özcan & Buzlu, 2005). However, Internet addiction differs from other behavioral addictions in a way that it is not controlled by any law (Orsal, Orsal, Ünsal, & Özalp, 2013). Hence, there is not any means which block the internet access of the addicts rather than their free will.

Currently, the term internet addiction is described in various ways; pathological internet use, problematic internet use, internet overuse, excessive internet use, compulsive internet use etc. (Shaw & Black, 2008). Regardless of the different definitions, internet addiction has many negative effects on the daily lives of people.

These effects can be exemplified as decreased academic success and social skills, increased social isolation and hostile behavioral pattern, eating problems, sleeping problems, low concentration, attention deficit, hyperactivity, depression, suicidal thoughts, high levels of somatic symptoms, sexual dysfunction, relief of psychological distress, anxiety (Carbonell, Fuster, Chamarro & Oberst, 2012; as cited in Garcia-Oliva & Piqueras, 2016).

According to Murali and George (2007), a significant number of internet users develop internet addiction and preliminary studies provide interesting insight into factors that may be helpful to predict internet addiction. Especially mental health professionals need to have basic comprehension in order to recognize internet addiction early and help clients appropriately. For these reasons the research about internet addiction is a very important and expanding area. The relationship between internet addiction and loneliness (Whang, Lee, & Chang, 2003), anxiety (Lee, Lee, Paik, Kim & Shin, 2001), self-esteem (Fioravanti, Dettol & Casale, 2012), stress (Gholamian, Shahnazi & Hassanzadeh, 2017), personality (Ko et al., 2010), compulsivity (Whang, et al., 2003), depression (Akin & Iskender, 2011; Ceyhan & Ceyhan, 2008; Dalbudak, Evren, Aldemir, & Evren, 2014; Günay, Öztürk, Ergun Arslantaş & Sevinç, 2018; Odacı & Çıkırıkçı, 2017; Orsal, et al., 2013; Şenormancı et al., 2014; Younes, et al., 2016), mindfulness (Gamez-Guadix & Calvete, 2016; Peker, Nebioglu, & Odemis, 2019) and experiential avoidance (Chou, Yen, & Liu, 2018; Garcia-Oliva & Piqueras, 2016) were studied in the literature.

In the literature review, the relationships between cognitive defusion and various types of addictions were investigated. For instance, Hooper, Dack, Karekla, Niyazi and McHugh (2018) conducted a research to determine the function of cognitive defusion and experiential avoidance on reducing smoking. The researchers asked participants to reduce their cigarette consumption during two weeks and randomly divided participants into three groups which were named defusion condition group, experiential avoidance condition group and control group. The findings revealed that the group with cognitive defusion condition smoked significantly less than the control group and experiential avoidance condition group in both first and second weeks. Dinis, Carvalho, Gouveia and Estanqueiro (2015) also revealed that people who use more cognitive fusion are also more reluctant to contact their internal experiences and try to avoid them by increasing their experiential avoidance.

The relationship between depression and internet addiction was extensively examined. For example, Orsal et al. (2013) conducted a study with 319 (85 men, 234 women) university students. According to the results, the level of depression was significantly and positively associated with internet addiction. Similarly, Bahrainian, Alizadeh, Raeisoon, Gorji and Khazaei (2014) showed that there was a significant relationship between depression, self-esteem and internet addiction. Another study was conducted by Mayda et al. (2015). Participants of the study were 698 (376 men, 322 women) students from a dormitory. Results of the study indicated that internet addiction was more common among people who had a tendency to depression. Congruently, Demir and Kutlu's research (2016) conducted with 452 university students (241 women, 211 men) indicated a meaningful positive association between depression, loneliness and internet addiction. Furthermore, İkiz, Savcı, Asıcı and Yörük (2015) made a research with the intent of investigating the association between problematic internet use and psychological signs of college students. Participants were 853 (518 female, 335 male) college students. Significant positive relationships between problematic internet use and psychological signs (depression, anxiety, negative self-image, somatization, hostility) were found.

There have been studies that examined the relationship between mindfulness and internet addiction. For instance, study of Gamez-Goadix and Calvete (2016) analyzed the association between mindful awareness and problematic internet use. The sample of the study consisted of 901 (546 girls, 347 boys, 8 unknown) adolescents. Results showed that individuals who have high levels of mindfulness had more successful interpersonal skills and less social anxiety. Similarly, Peker et al. (2019) studied on mediating role of mindfulness in the problematic smartphone and internet use among adolescents. The findings of the study revealed moderate and negative relationships between mindfulness and problematic use of smartphones and the internet. Additionally, it was determined that there was a moderate and positive relationship between problematic smartphone and internet use.

The relationship between experiential avoidance and internet addiction was also investigated in the literature. For example, Garcia-Olivia and Piqueras (2016) found out that experiential avoidance was considerably associated with results of addictive use of the internet, mobile phones and video games among Spanish students aged between 12 and 18. Likewise, Chou et al. (2018) indicated that high experiential

avoidance and using less efficient coping strategies raised the risk of internet addiction and serious depression. Participants of the research were 500 (238 men, 262 women) students aged between 20 and 30 from 67 colleges.

In sum, the literature provides information about prevalence and importance of internet addiction during undergraduate years. There have been studies that found associations between internet addiction and various variables including loneliness, self-esteem, personality etc. The purpose of the current study was to investigate the relationship between cognitive defusion, depression, mindfulness and experiential avoidance and internet addiction.

## **1.2 Significance of the Study**

Currently, we live in an internet era which brings both problems and opportunities. Undoubtedly, internet addiction is one of the top problems of our time among young generation. Despite, its increasing importance, the studies on internet addiction among university students are still limited and the complex factors behind internet addiction have not been thoroughly understood yet (Torres, 2011). As Şenormancı, Konkan and Sungur (2010) stated, internet addiction has become an important problem in Turkey. University students are also risk group in terms of internet addiction (Günay et al., 2018) and there is a strong need for research which examines the variables related to internet addiction among this age group. Thus, the present study aims to examine the relationship between internet addiction and some variables such as cognitive defusion, mindfulness, and experiential avoidance based on Acceptance and Commitment Therapy (ACT) approach. The current study is unique in using ACT as a framework and especially investigating cognitive defusion and its relationship with internet addiction, which has not been investigated so far. In conclusion, it is expected that results of the current research will provide noteworthy data in understanding the correlates of internet addiction. The present study will also contribute the literature by investigating the relationship between cognitive defusion and internet addiction.

Determining the predictors of mental health issues is one of the first stages to create prevention programs (Chou et al., 2018). As Odacı and Çıkrıkçı (2017) assert, mental issues may be the cause of individuals' internet overuse. This overuse

sometimes turns into an addiction. Shapira, Goldsmith, Keck Jr, Khosla and McElroy (2000) revealed that 70% of individuals with problematic internet use had mood disorders (10% depression, 60% bipolar). Internet addiction was observed comorbid with many mental health problems as well. In order to plan an effective psychological intervention, there is a need for research that investigates whether internet addiction is a separate condition or there is another underlying psychological issue leads to its occurrence (Arisoy, 2009). Thus, the results of the current study may also be beneficial for practitioners in university counseling centers while designing and developing preventive (such as psychoeducation programs) and remedial services for students with internet addiction.

### **1.3 Purpose of the Study**

The purpose of the current study is to examine the predictor role of cognitive defusion, depression, mindfulness and experiential avoidance on internet addiction among undergraduate students.

### **1.4 Research Question**

The research question for the current study is, to what extent internet addiction is predicted by cognitive defusion, depression, mindfulness and experiential avoidance.

### **1.5 Definition of Terms**

*Addiction:* Addiction is defined by Egger and Rauterberg (1996) as the overwhelming use of a substance or a behavior carried compulsively into the person's daily life and inability to control that behavior.

*Internet Addiction:* Internet addiction is described as individuals' losing control over their use of the internet, though it involves negative effects in daily life. (Billieux & Van Der Linden, 2012) Currently, there is not any official diagnostic criteria released about internet addiction including DSM-V and there is no concurrence on the diagnosis of internet addiction (Spada, 2014).

*Cognitive Defusion:* Cognitive defusion is the main concept of cognitive behavior therapy and acceptance and commitment therapy, which is the ability to avoid entailing with inner components for instance thoughts and feelings (Forman et al., 2012).

*Depression:* Depression is a mental disorder that causes constant sorrow, less interest and satisfaction for the previously pleasurable activities, sleep and appetite disturbances, tiredness and lack of concentration (World Health Organization, 2020).

*Mindfulness:* Mindfulness is an attention orienting method that includes accepting the present moment and being nonjudgmental to the experiences with an open heart (Kabat-Zinn, 2015).

*Experiential Avoidance:* According to Hayes (1994), experiential avoidance is a method of self-regulation that helps control or escape from negative stimuli that evoke strong discomfort for individuals.



## CHAPTER 2

### LITERATURE REVIEW

This chapter presents literature review in accordance with the purpose of the research. Approaches and definition of the internet addiction are presented in the first part. Then, variables of the study which are cognitive defusion, depression, mindfulness and experiential avoidance are presented in the second part. Finally, related studies for each variable are presented.

#### 2.1 Definition of Internet Addiction

Internet is a novel technology that affects the world and improves people's lives; however, it has also negative impacts (Beard & Wolf, 2001). Some people use the internet effectively and gain benefits from it without getting harm. However, the internet use becomes misuse with its negative consequences for some of the users and it becomes pathological internet use (Morahan-Martin & Schumacher, 2000).

Internet addiction was first described by Dr. Goldberg in 1995. Currently, various terms such as pathological internet use, problematic internet use, internet overuse, excessive internet use, and compulsive internet use are utilizing in order to describe internet addiction (Shaw & Black, 2008). Kerr, Francis, Cross, Guide, and Games (2020) stated that the definition and diagnostic criteria of internet addiction were not included to the last (fifth) edition of American Psychiatric Association's Diagnostic and Statistical Manual of Mental Health Disorders (DSM-V). Before the publication of DSM-V, there were discussions about whether internet addiction should be categorized as a separate condition. Despite these debates, DSM-V does not include internet addiction but internet gaming disorder which is a sub-type of internet addiction (Kerr et al., 2020). On the other hand, Young (2007) draws attention that hospitals and

clinics stated having outpatient treatment services for internet addiction, rehabilitation centers provide services for people with internet addiction and college campuses found support groups.

In literature various descriptions of internet addiction can be found. For example, Young (1998), who was one of the first researchers studied about internet addiction, suggests that pathological gambling is the most similar disorder to internet addiction. Thus, internet addiction as an impulse control disorder does not contain an intoxicant but has negative symptoms. Likewise, Spada (2014) stated that problematic internet use is people's not being able to control their internet use in spite of its negative effects in daily life. Furthermore, Shapira et al. (2000) defined problematic internet use as one's not being able to control his/her internet use, feeling stressful and not functioning properly for daily responsibilities.

Furthermore, some researchers classified internet addiction to subtypes or sub-categories. For instance, Young (1999) made classification of internet addiction as cyber sexual addiction, cyber relationship addiction, internet compulsion (online gambling or shopping), information overload (compulsive database searching), and computer addiction (excessive game playing). In addition, Davis (2001) determined two subtypes of internet addiction as specific and generalized internet addiction. He defined specific internet addiction as excessive use of a specific function or application; and generalized as multidimensional overuse of the internet.

Murali and George (2007) indicated that many psychological and behavioral theories were established with the aim of explaining internet addiction. However, there are still unanswered questions about the roles of some potential predictors such as individual personality variables. It was found that internet addiction generally occurs with another psychological issue (Spada, 2014). According to the study of İ̇kiz et al. (2015), there was a meaningful positive relationship between problematic internet use and psychological problems of college students.

In brief, even though there is not any diagnostic criterion for internet addiction in DSM-V, it has gained importance in the literature over the years. Researchers made various definitions for internet addiction and established internet addiction theories to explain its diagnosis and possible related variables.

## 2.2 Theoretical Approaches for Internet Addiction

In the literature, there are different etiological and diagnostic approaches regarding internet addiction. Young (1996) studied internet addiction with more than 600 heavy internet users who had symptoms of addiction. Although the findings seemed doubtful to other researchers at first, the study showed that internet addiction problem exists and there is a necessity of doing research about it (Young & Nabuco, 2010). According to Young (1998), the most similar diagnosis to internet addiction was pathological gambling. Therefore, diagnosis criteria of internet addiction grounded on some symptoms of pathological gambling.

Young (1998, p. 238) conceptualized eight diagnosis criteria for internet addiction:

1. Overthinking about the internet, thoughts of past online sessions or dreaming about future online activities.
2. Having an urge for internet usage increased amount of time to get the same level of satisfaction with previous activities.
3. Failure of controlling, decreasing or quitting the internet use despite repeated trials.
4. Feeling moody, restless, irritable or depressed while trying to decrease or quit usage of the internet.
5. Remaining online extended period of time than it was planned to before.
6. Taking risks about losing an important relationship, employment or educational and career chance as a consequence of use of the internet.
7. Telling lies about the amount of time spending for the internet to family members, therapists or others.
8. Use of the internet as a method for ignoring issues or easing a distressed mood for instance; anxiety, depression, guilt and helplessness feelings.

Young (1998) suggested that if a person has five or more features at least for a duration of six months period, this person can be considered addicted. Some additional factors were also determined as ordinarily excessive internet use, neglecting daily tasks or responsibilities, social isolation and keeping the amount of time spending on the internet as a secret or need privacy when online.

According to Suler (2004), computer use may be both healthy and pathological or even somewhere in-between. The most critical thing is determining the line between healthy and pathological internet use. In order to draw this line, it should be understood how much internet usage affects a person's real life and hinders real life responsibilities. For instance, some people lose their jobs, quit school, or get divorced because of not being able to resist spending all of their time with online activities. These kinds of situations can be classified as pathological internet use. Suler (2004) also states that people can integrate face to face and cyberspace worlds, talk about their online activities with their loved ones, do some online activities which are similar to their real interests, call or meet the people who they know online or call, chat e-mail with the people they know in their real lives. Thus, it can be said that integration between real life and online life is necessary in order to use the internet in an appropriate way.

Suler (1999) determined eight factors to distinguish the healthy or unhealthy use of internet:

1. The Number or Types of Needs being Addressed by the Activity

The more people satisfied their needs online and the more amount of time they stay online the effect of cyberspace on them increases.

2. The Underlying Degree of Deprivation

If one's needs have been frustrated, denied or neglected; this person feels a desire for fulfilling these needs whenever it is possible. The need for fulfillment increases when the origin of the problem is this individual's own real life. Then s/he tries to find satisfaction by doing online activities for long period of time.

3. The Type of Internet Activity

There are numerous kinds of online activities that can address different needs of people. Platforms that have online activities to satisfy different kind of needs at the same time are more captivating. For instance, it is expected that a platform which involves games and socializing, chat and e-mail, visual and text communication would be more captivating than a platform focuses on only one thing.

4. The Effect of Internet Activity on In-person Level of Functioning

Existence of a deprivation on health and hygiene; work success; relationships with peers, friends and family and level of this deprivation determine the depth of pathology.

#### 5. Subjective Feelings of Distress

Stressful feelings such as depression, disappointment, disillusionment, alienation and guilt increase the level of pathological internet use.

#### 6. Conscious Awareness of Needs

People sometimes act out their repressed needs and wishes online. This causes reputation unless they gain insight.

#### 7. Experience and the Phase of Involvement

People who start using online activities feel amorous with the large amount of opportunities that cyberspace provide. After that, some of the people starts addictive phase and stay addictive. However, some of them get disappointed because of their high expectations about online life and this leads them to back to their real offline lives.

#### 8. The Balance and Integration of In-Person and Cyberspace Living

A balance is necessary between online and offline lives. If people become completely isolated from their in-person lives pathological internet use occurs.

Beard (2005) defined internet addiction as uncontrollable and detrimental use of the internet and conceptualized internet addiction with a biopsychosocial model and stated its biological, psychological and social parts. Beard and Wolf (2001) criticized Young's internet addiction criteria because of some reasons. Firstly, the researchers mentioned about self-report nature of Young's diagnosis and how objective it could be. Secondly, it was indicated that Young's theory is grounding on the pathological gambling diagnosis criteria which is an impulse-control disorder in DSM-IV and expressed that it might not be the most appropriate diagnostic criteria for internet addiction. Thirdly, it was stated that Young's excluding two of the diagnosis criteria of pathological gambling and not modifying them for internet addiction might cause a problem. Finally, the researchers determined two groups of Young's criteria for addiction and added some additional features.

Beard and Wolf (2001) model of internet addiction included eight items:

According to the model all of the items must be present:

1. Being lost in thoughts of the internet (Thoughts of past internet sessions or planning following online activities).
2. Being in need of using increased amount of the internet to get satisfaction.
3. Failing to control, decrease or quit usage of the internet.

4. Being moody, restless, irritable or depressed, while trying to decrease or quit usage of the internet.

5. Remaining online longer than it was planned to before.

According to the model at least one of the following must exist:

1. Jeopardizing or risking an important relationship, employment, educational or career chance due to the internet.

2. Telling lies to therapist, family members, or others to hide the amount of the time spent online.

3. Utilizing the internet as a method of ignoring issues or easing a distressed mood for instance anxiety, depression, helplessness and guilt feelings.

Beard and Wolf (2001) separated last three criteria from others because these criteria were related to the internet users' being able to cope and function such as their depressive issues, anxiety and escaping related problems. Besides, these criteria were also related to people's interactions with others for instance significant relationship, occupation, not being honest with people.

Davis's cognitive behavioral model of pathological internet use is an etiological model. Therefore, it includes explanations more about possible causes of pathological internet use rather than other features such as symptoms and diagnostic criteria of it. Davis (2001) defined both healthy and problematic internet use. Healthy internet use refers to being online with a purpose and during an appropriate amount of time without discomfort. Davis (2001) also suggested that it was better to use the term problematic internet use instead of internet addiction, because addiction refers to physiological dependency between a person and some stimulus such as substance.

Davis (2001) separated pathological internet use as specific and generalized pathological internet use. Specific pathological internet use means a dependency on a particular function to the internet such as sexual material/services, online auction services, online stock trading and online gambling. People who have specific pathological internet use are not interested in multiple functions of internet but highly interested in only one content. Generalized pathological internet use includes overuse of multidimensional function of the internet. People who have generalized pathological internet use generally waste their time on the internet without any specific goal (Davis, 2001). This theory can be distinguished from other theories because it focuses on the role of people's cognitions combined with behaviors that either

strengthen or maintain pathological internet use and it suggests a cause and effect relationship.

Davis (2001) determined distal contributory causes and proximal contributory causes. Distal contributory causes include previous vulnerability (diathesis) and a life event (stress). For instance, existing psychopathology is vulnerability and stressor for starting using the internet or some new technology on the internet according to the cognitive behavioral model of Davis. These distal contributory causes are necessary but not sufficient for pathological internet use. However, proximal contributory causes such as maladaptive thoughts about self and world are sufficient causes. The thoughts might be “My only friend is the internet, people treat me terribly offline”. When people exposed to a stimulus that reminds the internet, these thoughts automatically come and lead people to start doing online activity. These cause and effect chains are same for both specific and generalized pathological internet use.

Shapira et al. (2000) described problematic internet use as one’s not being able to manage his/her internet use, feeling stressful and not functioning properly for daily responsibilities. Shapira et al. (2003) also suggested that classifying problematic internet use as an impulse control disorder is the best way to identify it among symptomatic individuals. Therefore, the researchers determined some diagnostic criteria.

Shapira’s diagnostic criteria for problematic internet use were:

Dysfunctional preoccupation with the internet, as pointed out by no less than one of the items below:

1. Being preoccupied with irresistible internet use.
  2. Overusing the internet for extended period of time than it was originally intended.
- B. Internet use or excessive thinking about its usage results in serious distress or deterioration in interpersonal, occupational or other significant fields of functioning.
- C. Overuse of the internet does not happen especially throughout periods of hypomania or mania and is not better explained by other Axis I disorders.

Grohol (2020) criticized other researchers in terms of not being able to define internet addiction clearly and find cause and affect relationships; also, absence of an agreement on the definition of internet addiction, using weak research designs for their study. Grohol (1999; 2020) criticized previous behavioral addiction criteria because

according to these criteria, it could be stated that lots of behavior such as sewing or reading could be conceptualized as addiction without considering their outcome's being positive or negative. According to Grohol's approach, it can also be stated that most people used the internet because of escaping other problems such as depression, anxiety, a serious health problem or relationship problem and Grohol believed that cognitive behavioral techniques could solve these people's problems.

Grohol (2020) hypothesized a phasic model for pathological internet use with three stages:

#### Stage I: Enhancement

In this stage, a new online user starts discovering online world or an existing user finds a new platform. These online opportunities are much more different and larger than real life. Therefore, the individuals feel stuck and spend longer period of time for doing these online activities.

#### Stage II: Disillusionment

Disillusionment refers to the stage of decline in usage.

#### Stage III: Balance

Grohol (2020) suggests that although the period of time changes from person to person and some people need help, all individuals with pathological internet use will eventually achieve third stage and bring into balance on their own. However, an existing user may find a new online platform and go back to previous stages again.

The Institute of Psychology of the Chinese Academy of sciences suggested compensation theory in order to explain reasons of young people's internet usage in China. For instance, Tao (2005) states (as cited in Young, Yue, & Ying, 2011) that academic excellence makes people seek spiritual compensation by doing online activities. Additionally; self-identity, self-esteem, and social network are other variables that are looked for by people to compensate. According to Tao (as cited in Young et al., 2011), Chinese people used to use poems, the guitar and sports in order to indicate their needs; however, they have a tendency to play electronic games and use other online instruments recently.

Briefly, the literature shows that different internet addiction approaches exist and all of them make explanations for various aspects of internet addiction. For instance, while some approaches make explanations for the diagnosis criteria of internet addiction, some other approaches express opinions about possible reasons of



it. Moreover, there is still no agreement on both criteria and reasons of internet addiction and most of the research conclude with a suggestion about the necessity for new research.

## **2.3 Literature Regarding Study Variables**

### **2.3.1 Depression**

Segal and Teasdale (2018) defined depression as a mood disorder that has influences on capacity to think clearly; decreases motivation to act; changes intimate bodily functioning such as sleeping and eating; and makes a person feel stuck with mental pain and s/he feels unable to do anything about it.

It is possible to find other different definitions in the literature. However, when worldwide accepted approaches were investigated the explanations of World Health Organization and American Psychiatric Association (APA) gained importance. According to World Health Organization (WHO, 2017), depressive disorders include sorrow, loss of interest or enjoyment, feelings of guilt or low self-worth, irregularity on sleep pattern or appetite, feeling exhausted and poor concentration. The WHO divided depression into two categories as major depressive disorder/depressive episodes and dysthymia. Depressive disorders include symptoms such as depressive mood, loss of interest and enjoyment, and lack of energy; depending on the number and severity of symptoms. A depressive episode can be classified as mild, moderate, or severe and severe depressive episodes can cause suicides. Dysthymia can be defined as a persistent or chronic type of mild depression; and it has similar symptoms of depressive episode; however, they are generally less intense and last longer (WHO, 2017).

In addition, it can be stated that depression is a psychological problem that can be diagnosed by using Diagnostic and Statistical Manual of Mental Disorders V (DSM V) criteria. According to American Psychiatry Association (APA) (2013), the depressive person must be experiencing five or more symptoms of depression in 2 weeks period and s/he must feel either (1) depressed mood or (2) loss of interest or pleasure.

Major depression symptoms determined by APA (2013) are:

1. Depressed feelings nearly all the time of day, almost every day.
2. Decreased interest or gratification in all, or nearly all activities nearly all the time of the day, almost every day.
3. Noteworthy amount of weight reduction while not dieting, or gaining weight, or increase or decrease in appetite almost every day.
4. Experiencing sleep irregularities almost every day.
5. State of being agitated or decrement in psychomotor activities almost every day.
6. Feeling exhausted or losing energy almost every day.
7. Feeling worthless or excessive unwarranted guilt almost every day.
8. Decreased ability to think or concentrate, or having difficulties in making decisions almost every day.
9. Repeated thoughts about death.

The relationship between internet addiction and depression has been a popular area of research. According to Young and Rogers (1998), most of the people who were internet addicts, had depression or anxiety before they got addicted. Young and Rogers (1998) made an investigation in order to understand the relationship between internet addiction and depression. The sample of the study included 130 males and 129 females. According to the results, depression was significantly associated with problematic internet use.

Research findings in the following years suggested that internet addiction may occur comorbid with other psychological problems and mood disorders. Torres (2011) indicates that when individuals are lonely or depressed, they might try to find different ways in order to cope with and satisfy their needs. Some people may find a way such as walking their dog or being together with family or friends. However, some of them may get addicted to drinks, drugs or the internet.

Besides, Hinic, Mihajlovic and Dukic Dejanovic (2010) conducted a study with the intent of examining internet addiction in relation to cognitive and somatic symptoms of depression. Researchers hypothesized that depression could be a consequence of internet addiction. Therefore, a total of 100 internet users, who do not have depression history, were included to the research. Internet Addiction Scale, Beck Depression Inventory and an internet related questionnaire were applied to the

participants. Amount of the time participants used for online activities was two times higher in clinical group than control group and there was not any significant difference in terms of depression levels. Results revealed that internet addiction and general depression symptoms was not significantly related to each other. However, the depression level has been increasing in the clinical group and a significant association between internet addiction and somatic symptoms of depression was determined. In conclusion, researchers reported that the increment of depression levels was possibly associated with internet addiction but more research is necessary.

Torres (2011) made a research with the intent of investigating the associations among internet addiction, depression and social support. Total of 404 participants completed online surveys and 3 male and 3 female participants were included to a qualitative study. After that, a follow up survey was applied to individuals whose age ranged from 18 to 53. According to the findings, a significant relationship between internet addiction and main effects of depression and social support was found. However, interaction effects were not found significant. Thus, social support did not function as a moderator between depression and internet addiction.

Another study which was carried out by Ayas and Horzum (2013) aimed to determine the relationships between internet addiction and depression, loneliness and self-esteem. Participants were 292 (158 girls, 134 boys) twelfth grade students in Turkey. According to the results, it can be expressed that there was a mid-level positive association between internet addiction and depression; weak positive association between loneliness and internet addiction. Additionally, a weak negative significant relationship was measured between self-esteem and internet addiction.

Similarly, Reed, Vile, Osborne, Romano, and Truzoli (2015) made an investigation about the relationship of problematic internet use and depression, anxiety, social isolation, sleep problems and immune function. Participants were 505 (265 females, 240 males) individuals with a mean age of 29.73. They participated to the study by completing surveys on social networking sites, blogging and micro-blogging sites and gaming sites. Results showed that 30% of the sample had mild or worse levels of internet addiction. A strong significant relationship was found between internet addiction and all of the other psychological factors such as depression, anxiety, social isolation, sleep problems. Additionally, there was a significant relationship between internet addiction and self-report general health. Researchers suggested that

this relationship might have existed because of the stress, which was a result of excessive internet use, and subsequent sympathetic nervous activities.

Furthermore, Gordon (2016) made an investigation with the intent of revealing the relationship between internet addiction and depression by separating symptoms of depression as cognitive and somatic. General United States population, aged between 18 and 65, was included to the study by using an online platform which gave opportunity to fill surveys anonymously. Total of 25 valid surveys were included to analysis. Findings of the study revealed that a significant relationship between internet addiction and cognitive symptoms of depression was found. Nonetheless, any meaningful relationship between internet addiction and somatic symptoms of depression was not found. According to the study, cognitive symptoms of depression were guilt, low self-worth, trouble with decision making and life dissatisfaction.

In addition to the studies for general population and high school students, there were also studies that specifically investigated associations of internet addiction and depression among college students. According to Zhai et al. (2016), depression is a crucial health issue for college students because of its considerable morbidity and mortality. Goddard (2011) indicated that both depression prevalence and technology use of college students have increased in last two decades.

Ibrahim, Kelly, Adams and Glazebrook (2013) conducted a research to find out the prevalence of depression in university students and analyzed 24 studies from USA, Sweden, Canada, Ireland, Turkey, Macedonia, Hong Kong, China, South Korea and EGYPT. Results of the study showed that the prevalence of depression changes from 10% to 85% and mean prevalence was 30.6%. These rates reflect that both internet addiction and depression are common problems that university students face with and more research should be conducted to enlighten the associations between these two variables and take precautions. For example, Ceyhan and Ceyhan (2008) carried out a research to determine the predictor role of loneliness, depression and computer self-efficacy on problematic internet use. The sample of the study was 599 university students (322 female, 234 male). Results revealed that significant predictors of problematic internet use were depression, loneliness and computer self-efficacy. Furthermore, when the levels of depression and computer self-efficacy increased, level of problematic internet use increased as well.

Moreover, Dalbudak et al. (2013) studied about the association of internet addiction, severity with depression, anxiety and alexithymia, temperament and character among college students. Total of 319 university students who were studying in two different universities in Ankara volunteered for the research. According to the results, it can be stated that there was a significant positive relationship between alexithymia and severity of internet addiction and there was also a significant relationship between severity of depression and severity of internet addiction.

In another study of Dalbudak et al. (2014), the researchers carried out an investigation for the purpose of finding out the relationship of internet addiction risk with the borderline personality features, childhood traumas, dissociative experiences, depression, and anxiety symptoms among Turkish university students. Participants were 271 university students (110 male, 161 female) and 54 students were in the high risk group for internet addiction. According to the results, emotional abuse which is a type of childhood trauma was the primary predictor of internet addiction risk. Additionally, it was found that borderline personality features predicted internet addiction risk in concert with emotional abuse, depression and anxiety symptoms.

Similarly, Bahrainian et al. (2014) conducted a research to investigate the association of internet addiction with self-esteem and depression among university students. Participants of the study were 408 (36.8% female, 60.2% male) university students. Findings of the study revealed a meaningful relationship between depression, self-esteem and internet addiction in Azad University of Birijand. Besides, depression and self-esteem could predict some extent of the variance of internet addiction.

Likewise, Huang, Chen, Wang and Wang (2014) made an investigation for the purpose of finding out the association between internet addiction and depressive state and depressive traits. Participants were 157 students (99 male, 58 female) in Taiwan. Students' age range was from 18 to 24 years. Chen Internet Addiction Scale were applied to all of the participants and according to the results of the scale they assigned to low risk internet abuser group ( $n = 84$ ) or high risk internet abuser group ( $n = 73$ ). The study indicated that individuals in high risk internet abusers group have stronger depressive state than low risk group. However, the high and low risk abuser groups did not have any significant difference in terms of the depressive traits. In conclusion, findings of the study revealed that high risk internet abusers group had more depressive state but not depressive trait.

In the same year, Şenormancı et al. (2014) conducted a research with the intent of clarifying the association of internet addiction with cognitive style personality and depression in university students. Participants of the research were 720 university students from Bülent Ecevit University English Preparatory School and 52 (37 men, 15 women) of the participants were internet addicts. According to the results of regression model, predictors of internet addiction were determined as being male, duration of the internet use, depression, and perfectionistic attitude. The researchers also stated that depression scores of the participants who have internet addiction were significantly higher than others.

Furthermore, Mayda et al. (2015) made an investigation for the purpose of understanding the association between internet addiction of college students in a dormitory and their depression scores. Total of 698 (376 men, 322 women) individuals were included to the study. In terms of ages, 32 of participants were 18 and below, 365 of participants were 19 and above. Results of the study revealed that depression was more common among people who had tendency to depression. The researchers suggested that this tendency to depression might have been a cause or effect.

Another study, which investigated internet addiction and its association with depression, anxiety, stress, insomnia and self-esteem in university students, was carried out by Younes et al. (2016). Participants of the study were 600 students from faculty of medicine, dentistry and pharmacy at Saint-Joseph University. A survey package consisted of Young Internet Addiction Test, the Insomnia Severity Index, the Depression Anxiety Stress Scale (DASS 21) and the Rosenberg Self Esteem Scale (RSES), was utilized. According to the results, meaningful correlations between potential internet addiction and depression, anxiety, stress, insomnia were determined ( $p < .001$ ). Therefore, the investigators suggested that treatments should be planned for not only internet addiction but also other psychological issues such as depression, anxiety, stress, insomnia, and self-esteem.

In addition to other studies, a research, which had the aim of finding out the relationship between loneliness and depression and the mediation function of internet addiction, was conducted by Demir and Kutlu (2016). Total of 452 university students (241 women, 211 men) aged between 17 and 31, participated to the study. Findings of the research showed that there were positive meaningful relationships between depression, loneliness and internet addiction and these variables predicted internet

addiction. Additionally, the researchers suggested that internet addiction significantly and positively predicted depression.

Likewise, Odacı and Çıkrıkçı (2017) studied about problematic internet use in aspects of depression, anxiety and stress levels. Total of 543 university students (378 females and 154 males) were included to the research. The results showed that people who were suffering from high levels of depression, anxiety and stress had a tendency to use internet excessively.

Similarly Günay et al. (2018) made a research with 1288 college students. Results showed that 8% of students were under the risk of becoming an internet addict and there was a meaningful positive relationship between levels of internet addiction and levels of depression. Therefore, the investigators concluded that internet addiction and depression affected each other and it turned into a paradox.

In summary, depression leads people to feel sad and causes other symptoms that effect daily lives of individuals who are suffering from depression. Studies revealed that both internet addiction and depression were associated positively with each other among general population and college students. Studies also indicated that additional research was necessary to understand this association in more detail.

### **2.3.2 Psychological Flexibility, Cognitive Defusion, Mindfulness and Experiential Avoidance**

According to Hayes (2004) behavior therapy can be classified into three types as traditional behavior therapy, cognitive behavior therapy and the more contemporary “third wave” of relatively “contextualistic” approaches. “Wave” indicates a group of formulation of common assumptions, methods and goals, some implicit that help organize research, theory and practice. These third wave approaches are specifically sensitive to the context and functions of a psychological- phenomena instead of only their form. Consequently, it focuses on contextual and experiential change methods besides more direct and didactic ones (Hayes, 2004).

Teasdale (2003) states that instead of emphasizing changing of psychological events directly by using first-order change strategies, third wave behavioral therapies emphasize changing the function of events and the people’s relation to them by using

second-order change strategies such as cognitive defusion, mindfulness or acceptance (As cited in Hayes, Luoma, Bond, Masuda, Lillis, 2006).

A meta-analysis, which was conducted by A-Tjak et al. (2015), revealed that ACT is as effective as other psychological treatments for anxiety disorders, depression and addiction. In order to understand the relations of three concepts of the ACT and internet addiction; mindfulness, cognitive defusion and experiential avoidance are investigated in the present study and the explanations about them are presented below.

### **2.3.2.1 Psychological Flexibility**

Psychological flexibility is defined as people's being able to organize the way they behave in line with their values and it includes six main components. These components are acceptance, cognitive defusion, self as context, committed action, values, contacting with the present moment (Hayes, Follette & Linehan, 2004). Acceptance includes people's accepting and observing their thoughts instead of trying to escape or avoid from them. Therefore, in order to achieve acceptance people should disentangle with their thoughts (cognitive defusion) and should not avoid their undesired experiences (experiential avoidance) (Bond, Hayes & Barnes-Holmes, 2006). Self as context refers to improving awareness about constant nature of people's basic personality and its constant nature that is independent from their experiences (Hayes, Levin, Plumb-Villardaga, Villatte & Pistorello, 2013). Committed action means people's behaving consistent with their values for a great variety of life experiences. Values component of psychological flexibility means that ACT helps individuals to determine their ways in accordance with their values and enact committed actions (Hayes et al., 2004). Contacting with present moment means voluntarily focusing on what is happening at the present time and taking into consideration personal values and purposes (Hayes, et al., 2013).

According to Hayes et al. (2004), the purpose of ACT is to provide more psychological flexibility. The ACT also includes confronting with the harms of psychological inflexibility which is opposite of psychological flexibility. Moreover, previous research showed that low psychological flexibility was found associated with clinical issues and daily life problems (Luoma, Drake, Kohlenberg & Hayes, 2011).



### **2.3.2.2 Cognitive Defusion**

Gillanders et al. (2014) state that cognitive fusion is a process that occurs when an individual entangle with his/her thoughts and these thoughts manage behavior. It was found out that there were strong relations between cognitive defusion and avoidance behavior, distress and other negative outcomes across a wide range of physical and mental disorders.

According to Luoma, Hayes and Walser (2007), ACT indicates that the reason for individuals' suffering is associated with not having wrong thoughts but spending too much time in them instead of looking at them or observing them. For this reason, ACT uses cognitive defusion in order to prevent this problem by drawing client's attention to thinking as an ongoing process, and by making clients spend more time seeing thoughts as thoughts. In other words, cognitive defusion teaches clients to found another association with their thoughts, by asking clients to observe their thoughts in the matter of their being helpful instead of being true. For instance, the thought "It will relax me if I smoke" may affect smoking behavior because it is true to a limited extent. However, if the client can observe and evaluate his/her thought's being helpful, it will increase the possibility to achieve the goal of smoking less (Hooper et al., 2018).

Forsyth and Eifert (2005) state that much of human suffering is associated with cognitive fusion. While cognitive fusion means "a process that involves fusing or attaching to the literal content of our private experiences", cognitive defusion means "distinguish and uncouple these words and thoughts". According to Hooper and McHugh (2013), recent research shows that trying to escape from unwanted events is maladaptive. On contrary, using cognitive defusion, that is an acceptance based technique, for controlling undesired thoughts, might be a better alternative option. In the literature, although there have not been a lot of research studies about the associations between cognitive defusion and addictions, there have been studies which indicate that cognitive defusion might be a useful technique for various psychological problems including smoking, food craving, anxiety, depression, stress, shame memories, peer rejection, emotional discomfort, believability of negative self-referential thoughts and learned helplessness.

For instance, Hooper et al. (2018) carried out a study to find out whether defusion was useful in reducing smoking behavior of undergraduate students or not.

Sample of the study was 54 (33 men, 26 women) undergraduate students, who were studying in a university in Northern Cyprus. These participants were randomly divided into three groups: the group receiving a defusion procedure, the group receiving an experiential avoidance procedure and the control group receiving no procedure. This instruction procedure has been applied to the participants for two weeks and the researchers asked participants to observe their smoking behavior via a tally diary system. Results revealed that the defusion group smoked significantly less than the control group through first week and smoked significantly less than the control and experiential avoidance group throughout second week. Researchers suggested that brief defusion interventions can be affective on managing short term smoking behavior.

Moreover, Moffitt, Brinkworth, Noakes and Mohr (2012) studied with the aim of comparing cognitive restructuring and cognitive defusion as methods for resisting a craved food. Total of 111 self-identified chocolate cravers whose age ranged between 18 and 82 ( $M = 46.21$ ) were randomly assigned to a control group or other two groups for receiving a 60-minute standardized group intervention on either cognitive restructuring (CR) or cognitive defusion (CD). Researchers gave a bag of chocolate to the participants and asked them to carry these chocolates with themselves for one week without eating those chocolates. At the end of the week, participants brought uneaten chocolates back. According to the results, it can be stated that CD group resisted cravings for chocolate 3.26 times higher than CR group and this difference was significant. CD group participants also indicated that they observed improvements on their eating behaviors throughout the study period. Finally, the researchers concluded that CD was an easy and effective method to handle food cravings and other possible contributors to obesity.

Similarly, Taylor (2018) conducted a research with the aim of comparing short-term effect of a cognitive defusion instruction for sweet food cravings on a group with a control condition group who use a self-selected craving management method. Participants were undergraduate and graduate students who were studying in Bowling Green State University. The participants were quasi-randomly selected to the control group ( $n = 46$ ) and intervention group ( $n = 50$ ). Mean age of the participants was 20.3. According to the results, there were no main effects on dependent variables. However,

there was a decrement for self-reported total sweet food consumption and cognitive fusion of the both groups' participants.

In addition to other studies which investigated the relationships between cognitive defusion and food cravings, Bramwell and Richardson (2018) conducted a research in order to examine improvements in depression and mental health after acceptance and commitment therapy and their relations with changes in defusion and values based action. When individuals started their therapy sessions, they were invited to participate to this research by completing surveys at the beginning and end of their treatment. Treatment and surveys were applied by the ACT-trained therapists. Total of 33 individuals accepted this process and completed surveys. According to the results, it can be stated that decrements in level of fusion and increments in values based action were significantly related to the decrements in distress and depression.

Furthermore, Way (2013) studied in order to investigate the effectiveness of cognitive defusion and cognitive restructuring on managing general anxiety disorder. Total of 86 people participated to the study and received a 6-week web based treatment. First group received cognitive restructuring treatment, the second group received cognitive defusion treatment and the third group received no treatment (waitlist group). Participants were 18 years old or older, and live difficulties with repeated worry thoughts and/or anxiety. Results indicated that when it was compared with waitlist group, a significant difference for both of the cognitive defusion group and cognitive restructuring group was found. However, any significant difference between two treatment groups was not determined. Both of the treatment groups determined as effective approaches to reduce participants' anxiety symptoms.

Besides, Bardeen and Fergus (2016) studied about the interactive effect of cognitive fusion and experiential avoidance on depression, anxiety, stress and posttraumatic stress symptoms. Total of 955 (301 males, 654 females) adults ( $M = 36.1$ ) participated to the research via online questionnaires. Results revealed that there was an interactive effect across all four symptoms (depression, anxiety, stress and posttraumatic stress symptoms), with the significant positive relationship between cognitive fusion and symptom measures and it became strongest at higher levels of experiential avoidance.

Moreover, Masuda et al. (2010) carried out a study in order to compare the effects of cognitive defusion and thought distraction on emotional discomfort and

believability of negative self-referential thoughts. Total of 132 (30 male, 102 female) university students were included to the study via an online research participant pool. The participants were randomly selected for one of the three groups: cognitive defusion group, thought distraction group and distraction-based experimental control group. The decrement of emotional discomfort and believability of negative self-referential thoughts was significantly higher among cognitive defusion group participants than other two comparison groups. Additionally, it was found out that cognitive defusion provided the best consequences for depressive symptoms.

Additionally, Dinis et al. (2015) made an investigation with the intent of studying the function of cognitive fusion and experiential avoidance for shame memories and depression symptoms. The researchers suggested that acceptance and commitment therapy literature states that experiential avoidance is a consequence of cognitive fusion. Participants were 181 (66 male, 115 female) individuals aged between 18 and 65. According to the results, shame memories had impacts on both experiential avoidance and depression symptoms.

Furthermore, Halliburton (2016) conducted a pilot study with selected acceptance and commitment therapy components (acceptance, cognitive defusion and values) in order to find out their effectiveness on reducing experiential avoidance and consequences among youth rejected by peers. Total of 6 (5 male, 1 female) adolescents, whose age range was between 11 and 14 ( $M = 12$ ), participated to the study. They got therapy as five individual sessions and completed age-appropriate forms. Results showed that the program could decrease the level of experiential avoidance and cognitive defusion and increase the level of mindfulness and acceptance for most participants. In addition, existing symptomatology such as anger, depression, poor self-concept, overall stress decreased for several participants. However, there was not any significant improvement on value congruence of six participants.

Besides, a research was conducted by Hooper and McHugh (2013) in order to compare cognitive defusion and thought distraction in terms of their effectiveness for mitigation of learned helplessness. Total of 74 (57 female, 17 male) university students, whose age range was between 18 and 27 ( $M = 20.9$ ), participated to the study by receiving instruction and completing surveys after the instruction process. The participants were randomly assigned to defusion group, thought distraction group or control group. Members of defusion group and thought distraction group received

related instructions. However, the control group was not given any instruction. Results revealed that participants of cognitive defusion group produced significantly shorter amount of maze time, when they thought negatively, than both thought distraction and control groups.

In summary, in the literature, correlational and experimental studies that investigated the relationship between cognitive defusion and variety of psychological problems exist. Experimental studies indicated the effect on cognitive defusion on addictions such as smoking and food craving. Studies also revealed significant relationships between anxiety, depression, stress, shame memories, peer rejection, emotional discomfort, believability of negative self-referential thoughts, learned helplessness and cognitive defusion. According to both correlational and experimental studies, cognitive defusion plays a significant role on addictive behaviors and psychological issues.

### **2.3.2.3 Mindfulness**

According to Singh, Lancioni, Wahler, Winton, and Singh (2008) there was no agreement on the description of mindfulness. For instance, Kabat-Zinn (2013), in revised edition of the Full Catastrophe Living book, defined mindfulness as when people are wandering, redirecting their attention and reconnecting with what is more salient and important for them in that moment, in “here and now” of life. Moreover, Teasdale and Segal (2007) defined mindfulness as “the awareness that arises from paying attention on purpose, in the present moment and nonjudgmentally to things as they are”. Likewise, According to Baer, Smith, Hopkins, Krietemeyer and Toney (2006) mindfulness is giving nonjudgmental attention to what is happening here and now and accepting the experience as it is. In another definition, Bishop et al. (2004) indicated that mindfulness is a term that has two major components as self-regulation (giving attention to the current moment) and a specific orientation characterized by curiosity openness and acceptance.

According to Shonin, Van Gordon, and Griffiths (2016), until a few decades ago, mindfulness was not a popular topic for Western researchers to investigate. However, it is one of the fastest developing research fields of mental health studies currently. Likewise, Saddhajeewa (2019) expressed that mindfulness became popular

with its statistically supported use in psychology over two decades. Shonin et al. (2016) studied about the reasons of mindfulness' being popular in Western research and concluded that this popularity might occur because mindfulness finds alternatives to pharmacological treatments, it strengthens the efficacy of psychopathology treatments, it has cultural sensitivity and lots of methods for different cultural and religious backgrounds. Together with these reasons, Kabat-Zinn's perspective of mindfulness had an important role for the popularization and early development of mindfulness in therapeutic practices (Tommaney, 2016).

Shonin, Van Gordon and Griffiths (2014) indicated that preliminary studies showed that mindfulness based interventions were effective treatments for the behavioral addictions. Peele (2016) suggested that people can control themselves by using mindfulness and suggested that people generally start making changes in addictive behaviors by themselves, so it can be said that it is a mindful activity. On contrary to mindfulness, some of the models of addiction view people as passive victims (Peele, 2016). In the literature some studies were determined about the associations between mindfulness and various kinds of addictions such as internet addiction, video game addiction, smartphone addiction, Facebook addiction, smoking/nicotine addiction, gambling, substance abuse, alcohol addiction.

Studies were conducted to examine the relationships between internet addiction and technology related addiction types such as smartphone addiction, video game addiction and Facebook addiction (Bean, 2018; Blanco, 2016; Elhai Levine, O'Brien & Armour, 2018; Gamez-Goadix & Calvete, 2016; Kim, Milne & Bahl, 2018; Li et al., 2018; Peker, 2019; Zhang et al., 2020). For instance, Gamez-Goadix and Calvete (2016) conducted a research with the intent of studying the relationship between mindful awareness and problematic internet use. Total of 901 (546 girls, 347 boys, 8 unknown) adolescents aged between 14- 18 participated to the study. Findings of the study revealed that individuals, who had high levels of mindful awareness, had better social skills and less social anxiety. Additionally, the preference of people with higher levels of mindful awareness for online social relationship decreased and a significant negative association between using the internet for mood regulation and level of mindful awareness was found. Therefore, researchers concluded that mindful awareness helped preventing negative consequences of problematic internet use.

Likewise, Peker et al. (2019) made a research on mediating function of mindfulness in problematic smartphone and internet use among adolescents. Total of 308 (169 girls, 139 boys) middle school students aged between 12- 15 participated to the study. Results of the study showed a moderate negative relationship between mindfulness and problematic smartphone use and internet usage. Additionally, it was determined that there was a moderate positive relationship between problematic smart phone use and internet use. Moreover, mindfulness was also found as a partial mediator for the association between problematic smartphone use and internet use.

In addition to the studies which examined associations between mindfulness and problematic smartphone and internet use, Li et al. (2018) investigated the effect of mindfulness-oriented recovery enhancement for video game addiction among emerging adults. Eight session treatment was conducted weekly. According to the results, participants did not have criteria of standardized tests to be diagnosed with video game addiction after the treatment and at the follow up. Participants also stated that they gained some benefits about stress management and emotion regulation.

Furthermore, Bean (2018) conducted a study for the purpose of examining the relationship among trait mindfulness, Facebook use, life satisfaction and well-being of university students. Total of 101 college students, who had a Facebook account, were included to the online survey research. Findings of the research revealed that there was not any significant association between Facebook use and level of well-being. Additionally, a meaningful positive relationship was found between the level of mindfulness and level of well-being and life satisfaction. Mindfulness did not act as a moderator for predicting well-being and life satisfaction.

Moreover, Elhai et al. (2018) investigated about distress tolerance and mediating role of mindfulness for relationship of depression and anxiety sensitivity with problematic smart phone use. Participants were 261 college students. Results of the study revealed a significant negative relationship between distress tolerance, mindfulness and problematic smartphone use. Distress tolerance functioned as a mediator for the associations between anxiety sensitivity and levels of problematic smartphone use. Additionally, mindfulness served as a mediator for the relations between both depression and anxiety sensitivity with problematic internet use.

Likewise, Zhang et al. (2020) made an investigation related to the mediating role of depression and moderating role of mindfulness for smartphone use disorder and

future time perspective of college students. Participants were 1304 (522 male, 782 female) freshman and sophomore students whose mean age was 19.71. Results showed that there was a negative significant relationship between future time perspective and smartphone use disorder. Among college students, the relationship between future time perspective and depression decreased due to a high level of mindfulness and the relationship increased when mindfulness level was low. Furthermore, the relationship between future time perspective and depression increased due to low level of mindfulness; however, the relationship did not significantly change with high level of depression.

Besides, Kim et al. (2018) suggested that young internet users are at higher risk of being addicted to smartphone and aimed to examine the smartphone addiction cycle and health outcomes of young users and old users in terms of their mindfulness levels. Total of 339 (201 women, 138 men) individuals, whose age range was between 18 and 65 and older, participated to the study by completing online surveys. According to the results, among all of the participants, mindless behaviors had destructive effect on smartphone use and health outcomes. A positive significant relationship was found between mindlessness and the hours spend on negative activities such as social media use and this caused an increment of negative health experiences, psychological health issues and lower quality of life. When the level of smartphone use increased, physical health problems and some of the psychological issues such as social anxiety increased as well. According to the overall results, younger adults were more mindless and it led them to use smartphone more frequently and suffer from the negative effects of the usage.

Young (1998) considered pathological gambling as the most corresponding impulse control problem and Blanco (2016) conducted a study with the intent of examining experiential avoidance, mindfulness and values clarification as moderators of the association between impulsivity and gambling behavior. Total of 220 participants, whose ages were 18 years or older, completed an online survey package. Results showed a significant positive relationship between gambling behavior and impulsivity and experiential avoidance. Additionally, association between impulsivity and gambling behavior was moderated by experiential avoidance. However, in contrast with hypothesis, there were not any significant relationship between gambling



and both values clarification and mindfulness. Despite this nonexistence of the relationship, values clarification and mindfulness were found as moderators.

According to the definition of Egger and Rauterberg (1996), addiction is overwhelming use of a substance or a behavior carried compulsively into a person's daily life and inability to control that behavior. Therefore, it is understood that some kind of addictions includes extreme use of something such as substance, cigarette, alcohol and some researchers studied about their relationship with mindfulness (Brett, Leffingwell & Leavens, 2017; Daunter, 2013; Froeliger et al., 2017; Ögel, Sarp, Gürol & Ermağan 2014; Saddhajeewa, 2019). For instance, Ögel et al. (2014) made an investigation in order to examine mindfulness of addicted and non-addicted individuals. Participants of the substance users group were 191 people who have been taking treatment in Alcohol and Substance Addiction/Abuse Research and Treatment, and participants of the non-substance users group were 75 teachers, 25 bank clerks. Finally, the researchers found that the level of mindfulness was not significantly different in substance users and non-users group. However, mindfulness level was lower for the participants who had an addiction to a substance except alcohol and did not get treatment before.

Furthermore, Brett et al. (2017) conducted a research with the aim of finding out the relationships between the protective behavioral strategies (PBS), mindfulness, and alcohol use and associated consequences for college students. The investigators stated that alcohol addiction is an important issue for university students in the U.S. and its negative results also need attention. Total of 239 students were included to the study. Results of the study revealed that high trait mindfulness level predicted PBS use and it turns into a decrement for alcohol use and its negative consequences. Moreover, it was seen that mindfulness moderated the relationship between PBS and consequences. Eventually, a meaningful positive relationship was detected between mindfulness and each of the problem-focused coping facets as well as self-regulation.

Moreover, Saddhajeewa (2019) conducted a qualitative study and investigated features of people, who suffered from substance addiction before, with regard to mindfulness meditation and examined their cravings, feelings and emotions. Moreover, the study also examined participants' perception on mindfulness and its implementation. Total of 17 individuals who reported themselves as substance abusers participated to the study. Their age range was from 18 to 30. Participants meditated as

groups and after the meditation they debated about a selected word such as honest, humble, gentle etc. and stayed with the word. In the evening meetings, they had time to rethink about the selected word and its negative and positive sides. Participants produced a pattern by using the word eight times during the day. Results of the study showed that participants considered interventions as high intensity interventions and low intensity interventions. While they were thinking that behavioral interventions are high intensity interventions, mindfulness was the most suitable one because it changed their perceptions, thoughts and feelings.

In another research, Froeliger et al. (2017) studied about the effectiveness of mindfulness-oriented recovery (MORE) for nicotine addiction of cigarette smokers. Participants were 13 healthy adult smokers with a mean age of 49. Results revealed that after eight week implementation of MORE, smoking decreased significantly and it increased positive affect.

Similarly, Daunter (2013) conducted a study with the intent of examining how mindfulness practice affects smoking behavior and craving such as nicotine dependence, nicotine withdrawal and smoking cessation. Ten adults, who had history of smoking more than ten years and a routine of smoking five or more cigarettes daily, participated to the study. They completed mindfulness based stress reduction (MBSR) training program which includes mindfulness meditation and body scan technique. A semi-structured telephone interview was done and a survey package was applied to the participants. After that, their results assessed as pre intervention, immediately post intervention and two weeks post intervention. While analyzing these findings, researchers used both qualitative and quantitative techniques. According to the results, there was a significant decrement on the number of cigarettes smoked. The results of qualitative techniques showed that when participants used mindfulness adequately, it reduced urge to smoke, nicotine withdrawal symptoms, frequency of smoking and smoking behaviors.

Finally, Sancho et al. (2018) made a systematic review about the effectiveness of mindfulness based interventions for the treatment of substance and behavioral addictions. The researchers examined implementations of mindfulness based interventions for a broad variety of addictions such as substance addiction, smoking, alcohol addiction and gambling disorder. The researchers concluded that mindfulness based interventions were efficacious for minimizing dependence, cravings and other

symptoms of addiction by regulating individuals' mood. In addition, the researchers suggested that future research should be done especially for adolescences and youth because they are in risk group for addictions.

In summary, researchers have been studying the effectiveness of mindfulness as a therapeutic method for addictions. Although, there is a gap in the literature which focuses directly on the associations between internet addiction and mindfulness, it is possible to find some studies about mindfulness and internet addiction or other types of addictions. Research showed a significant negative relationship between mindfulness and both substance and behavioral addictions. When the literature was reviewed, a gap was recognized for research which focused directly on the association between internet addiction and mindfulness.

#### **2.3.2.4 Experiential Avoidance**

Kingston, Clarke and Remington (2010) defined experiential avoidance as the process of avoiding, escaping or otherwise altering undesired private events such as thoughts, feelings and memories. Although experiential avoidance seems not dangerous by itself and has an adaptive function; it becomes a disordered process when functioning rigidly and inflexibly controlling unwanted internal events (Kashdan, Barrios, Forsyht, & Steger, 2006).

Hayes, Wilson, Gifford, Follette and Strosahl (1996) indicated that "Many of the pathology can be conceptualized by unhealthy efforts to escape and avoid emotions". Likewise, Kingston et al. (2010) expressed that there was a relationship between various problem behaviors and experiential avoidance according to the available literature. More specifically, Cheng, Sun and Mak (2015) indicated that people who were suffering from internet addiction are more likely to use methods to escape from difficulties of real-life instead of handling stress actively.

Hayes et al. (2004) asserted that experiential avoidance is considered to be continued due to negative reinforcement because it provides immediate, short-term ease. Moreover, experiential avoidance is strongly related to general psychopathology for both clinical and non-clinical samples. Similarly, Kingston et al. (2010) indicated that experiential avoidance has a contribution on problem behaviors and it functions as a mediator for the relationship between both risk factors and problem behaviors. In

the literature studies investigated the relationships between experiential avoidance and psychological problems including different type addictions such as internet addiction. For example, Hsieh, Hsiao, Yang, Lee and Yen (2019) conducted a study for the purpose of examining the associations between self-identity confusion and internet addiction among college students and also the mediating effects of psychological inflexibility and experiential avoidance. A total of 500 (262 women, 238 men) college students participated to the study and completed surveys related to research variables. Findings of the study revealed a significant positive relationship between the severity of self-identity confusion and both severity of psychological inflexibility/experiential avoidance (PI/EA) and the level of internet addiction (IA). Additionally, a significant positive relationship between the severity of PI/EA indicators and the severity of IA was found. In summary, the results revealed a meaningful relationship between level of IA and self-identity confusion either directly or indirectly. The severity of PI/EA served as a mediator for this indirect relationship.

Another study was conducted by Chou et al. (2017) and the investigators examined the association of psychological inflexibility-experiential avoidance (PIEA) and internet addiction (IA) and mediating effects of mental health problems. Participations were 500 (262 women, 238 men) college students. According to the results, it can be stated that there was a direct relationship between the severity of PIEA and the severity of IA and there was an indirect relationship between the severity of PIEA and the severity of IA thorough increasing the severity of mental health problems. Finally, the researchers suggested that PIEA should have been one of the main structures, while applying therapy for college students who were suffering from internet addiction and mental health problems.

Furthermore, Chou et al. (2018) carried out research with the intent of assessing the predictive effects of psychological inflexibility-experiential avoidance and stress coping strategies on internet addiction, significant depression and suicidality for university students throughout a follow up period of one year. Participants were 500 (238 men and 262 women) college students, whose age range was between 20 and 30. The findings indicated that high level of psychological inflexibility-experiential avoidance and less effective stress coping strategies at the first assessment, caused an increment on the risk of internet addiction, serious depression and suicidality after one year.

Although number of the research that examined the relationship between internet addiction and experiential avoidance is limited, there are studies which investigated the associations between experiential avoidance and other types of addictions such as technology related addictions. For instance, Potash (2016) studied about the relationship between smartphone use, gratification delay and experiential avoidance. Participants were 245 (178 women, 67 men) people whose age ranged between 25 and 40. Results of the study showed a significant moderate linear relationship between the level of gratification delay and experiential avoidance. Additionally, it was found that there was not any significant difference in problematic smartphone use, gratification delay and experiential avoidance between participants who have been using their own devices for more than eight years and less than two years. Moreover, this study revealed a significant difference between the group of participants who used the internet more frequently and the group of participants who used the internet less frequently.

In another research, Harmon (2017) conducted an online study which was about the relations between experiential avoidance, coping styles and social media use of adolescents. Participants were 332 (40 males, 291 females, 1 transgender) students and their ages ranged between 17 and 19. According to the results of the data obtained from online surveys, it can be indicated that overall social media use did not have a coping function and it was not associated with decreased psychopathology. Additionally, it was found that level of experiential avoidance did not have any significant effect on the relationship between frequency of social media use and psychopathology.

Furthermore, Garcia-Olivia and Piqueras (2016) carried out a study in order to determine the association between adolescents' use of popular information and communication technologies (ICTs) and experiential avoidance. Total of 317 (163 boys, 154 girls) Spanish students, aged between 12 and 18, participated to the study by completing questionnaires. Results revealed that experiential avoidance was strongly associated with internet and mobile phone use and video game playing.

In addition, Ruiz-Ruano, Lopez-Salmeron and Puga (2020) conducted a research with the aim of examining the relationship between smartphone addiction and experiential avoidance. Total of 1176 (828 women, 348 men) individuals with the ages ranging from 18 to 82 ( $M = 30$ ) participated to the study. According to the findings of

the study, experiential avoidance and social network usage were directly associated with smartphone addiction. Additionally, a strong significant relationship was found between the level of smartphone addiction and the hours spent on mobile phone.

Similarly, Bong and Kim (2017) made an investigation in order to investigate the relationship between life stress, depression and smartphone addiction and the mediating effects of experiential avoidance of nursing students. Total of 238 undergraduate students who were studying at a university in Korea were participated to the study by completing self-report questionnaires. Results indicated that life stress, depression, smartphone addiction and experiential avoidance had significant positive associations. Additionally, experiential avoidance functioned as a partial mediator for the relationship between life stress and depression of nursing students.

In addition to other technology related addictions such as smartphone addiction and excessive social media use, some people may become addicted to a particular function of the internet such as problematic online pornography viewing. Cooper, Puatnam, Planchon and Boies (1999) suggested that problematic pornography viewing is a type of addictive behavior because people spend a great amount of time due to compulsive viewing in spite of being aware of negative consequences and trials for quitting viewing. In another study, Wettereneck, Burgess, Short, Smith and Cervantes (2012) indicated that problematic internet pornography use has been conceptualized as an aspect of sexual addiction and as including impulsivity and compulsivity. In literature, there are studies that aim to find out the relationships between experiential avoidance and compulsive pornography viewing and compulsive sexual behaviors.

For example, Wetterneck, Burgess, Short, Smith, and Cervantes (2012) studied about the role of experiential avoidance, sexual compulsivity and impulsivity in internet pornography (IP) use. Total of 494 (342 female, 152 male) individuals aged between 18 and 66 ( $M = 29.5$ ) were included to the research via university participant pool, in class recruitment sessions and class announcements. They completed online survey and were categorized in terms of their problematic or non-problematic IP use based on their answers for four questions. Significant differences were found out between individuals with and without problematic IP use in hours of weekly IP use, sexual compulsivity, amount of interference from sexual urges, experiential avoidance and negative and positive effects of IP use. It was determined that people who had problematic IP use scores spent their time for IP use much more frequently than people

who did not have problematic IP use scores. Experiential avoidance was significantly associated with stress related problematic IP use but not to IP use in general.

Another study conducted by Levin, Lillis and Hayes (2012) with the aim of finding out the relationship of internet pornography viewing and experiential avoidance to a variety of issues such as depression, anxiety, stress, social functioning and problems related to viewing. Total of 157 male undergraduate students were included to the study via online survey. Findings of the study showed that frequency of viewing was significantly and positively related to each psychosocial problem. Moreover, it was found out that experiential avoidance functioned as a moderator for the relationship between viewing and two psychosocial variables (predicted anxiety and problems related viewing) for only participants with clinical levels of experiential avoidance.

Similarly, Borgogna and McDermott (2018) examined the role of gender, experiential avoidance and scrupulosity in problematic pornography viewing by considering a moderated-mediation model. Total of 730 (301 men, 426 women, 3 not stated) participants were included to the study online from a university in the southern United States and also snowball sampling was used. It was found that both experiential avoidance and scrupulosity had positive relationship with problematic pornography viewing. In terms of indirect effects, experiential avoidance functioned as a positive mediator between scrupulosity and problematic pornography viewing.

Another study was conducted by Levin, Lee and Twohig (2019) in order to find out the role of experiential avoidance in problematic online pornography viewing. Total of 91 men university students, who stated their online pornography viewing, were included to the study by asking them to complete surveys. Age range of the students was from 18 to 45 with the mean age of 21.31 years. Results showed that viewing pornography with purposes, which are related to experiential avoidance, was associated with more frequent viewing and more self-reported negative results of viewing, which were related to other purposes such as sexual pleasure, curiosity and excitement seeking.

Moreover, Brem, Shorey, Anderson, and Stuart (2017) conducted a research about depression, anxiety and compulsive sexual behavior among men in residential treatment for substance use disorders and the role of experiential avoidance for other variables. Total of 150 men in residential treatment for substance use disorder

participated to the research. The data were collected by receiving patients' medical records from substance-misuse treatment centers and making participants complete some questionnaires. Results indicated that there were significant indirect effects for both depression and anxiety symptoms on compulsive sexual behaviors through experiential avoidance. Besides these studies, there are also some studies that investigated the associations of experiential avoidance and addictions that occur because of excessive consumption of a substance or doing an activity uncontrollably. For instance, Westrup (1999) made an investigation in order to examine whether experiential avoidance affects relapses of alcohol dependents or not. Participants were 58 individuals who have been receiving inpatient alcohol dependency treatment. Participants' level of experiential avoidance, alcohol severity, anxiety and depression measured and the measurement was repeated three months later. The results showed that regarding the level of experiential avoidance, 33 participants who lived relapse, did not differentiate from 38 who did not, because of the level of experiential avoidance. Additionally, in terms of coping style there was not any difference between relapsers and non-relapsers. However, it was found that, participants who lived more negative life events had a tendency to relapse more than others. Moreover, among participants who lived negative life events and experientially avoidant ones had tendency to relapse more.

Similarly, Cavicchioli et al. (2020) made an investigation with the aim of examining dialectical behavior therapy skills training for the treatment of addictive behaviors among people who were suffering from alcohol dependence disorder. The researchers also examined the effect of emotion regulation and experiential avoidance. Total of 186 people (110 males, 76 females), who were primary diagnosed with alcohol use disorder, participated to the research. In order to get data, self-report scales were applied to the participants at the beginning of the treatment, after one month and at the end of the training program. Results revealed that improvements in addictive behaviors were significantly affected by changes in emotion regulation. In addition, it was determined that experiential avoidance had indirect effects on compulsive buying and dysfunctional eating behaviors.

Furthermore, Levin et al. (2012) made an investigation with the intent of examining the association between experiential avoidance, alcohol use disorders and alcohol related problems among first-year college students. Total of 240 university



students, who were studying at first grade and aged between 18 and 20, participated to the research by completing a diagnostic interview and an online self-report questionnaire. According to the results, students, who had previous alcohol dependence, had significantly higher levels of experiential avoidance. Additionally, alcohol related problems were significantly predicted by experiential avoidance. The relationship between psychological distress and alcohol related problems was mediated by experiential avoidance.

Moreover, Shorey et al. (2017) studied about the relationship among experiential avoidance, distress tolerance and substance use cravings of adults in residential treatment for substance use disorders. Participants of the study were 117 (87 male, 30 female) individuals in residential substance use treatment. Research assistants asked these individuals to participate to the study and the participants completed surveys after their permissions were received. The mean age of the participants was 41.27. Results showed that each of the better distress tolerance and lower experiential avoidance was significantly and negatively related with alcohol and drug cravings. However, when experiential avoidance and stress tolerance were examined together at the same time, only experiential avoidance maintained the previous significant negative relationship.

Besides, Garey, Farris, Schmidt and Zvolensky (2016) made an investigation with the aim of examining smoking-specific experiential avoidance and its associations with perceived stress and smoking including nicotine dependence. Total of 365 (188 men, 177 women) daily smokers with a mean age of 38.02 were included to the study. The participants were included to the research by asking them to complete an interview and computerized self-report questionnaires. Results revealed that smoking specific experiential avoidance had a significant indirect effect on perceived stress and smoking criterion variable.

As an example of the research related to behavioral addictions, Alcaraz-Ibanez, Aguilar-Parra and Alvarez-Hernandez (2018) studied about the role of psychological inflexibility on exercise addiction. Participants were 398 (391 males, 17 females) individuals aged between 18 and 65 ( $M = 35.62$ ). They participated to the study by completing a questionnaire. Results showed that psychological inflexibility had a significant role on explaining exercise addiction and 30% of the variance in exercise addiction was explained by the model.

In another study, Riley (2014) aimed to find out the mediator role of experiential avoidance for relationships between thought suppression and mindfulness of problem gamblers. Total of 103 (51 male, 52 female) treatment seeking problem gamblers with a mean age of 42 were included to the research. The data were gathered via surveys and the results revealed that experiential avoidance predicted higher levels of problem gambling. Moreover, anticipated relationships between thought suppression and problem gambling; and mindfulness and problem gambling were mediated by experiential avoidance.

Briefly, experiential avoidance includes avoiding from undesired internal and external events. Although it serves positively for short term, it causes negative consequences in long term for problem behaviors including internet addiction. There have been studies which examined the associations between experiential avoidance and addictions such as internet addiction, smartphone use, social media use, usage of the popular information and communication technologies (ICTs), internet pornography viewing, compulsive sexual behavior, alcohol dependency, substance use, smoking/tobacco dependence, exercise addiction and gambling. These studies showed that experiential avoidance was significantly related to most of the addictions and had a mediating and moderating function for some of the psychological problems and addictions.

## **2.4 Literature Review Summary**

In this chapter, explanations and theoretical approaches of internet addiction were summarized. Besides, definitions, explanations and related studies about predictor variables of the study were presented. The role of depression, which was one of the predictor variables, on internet addiction was discussed in the light of previous studies. As predictors of internet addiction; cognitive defusion, mindfulness and experiential avoidance were investigated by taking into consideration ACT perspective. This chapter provided a background to the study by presenting the studies that examined associations between internet addiction and cognitive defusion, depression, mindfulness and experiential avoidance. Researchers indicated there is a need for more studies in order to explain the relationship between internet addiction and the predictor variables.

## **CHAPTER 3**

### **METHOD**

In the method chapter, methodological procedures of the study are explained. This chapter provides an overview of entire design of the study. In addition, participants of the study, description of data collection instruments, data collection procedures and limitations of the study are presented.

#### **3.1 Research Design**

The aim of the present study was to examine the relationship between cognitive defusion, depression, mindfulness and experiential avoidance and internet addiction. Correlational design, which is a research type that researchers investigate the associations between two variables without trying to control other variables, (Price, Jhangiani, & Chiang, 2015) was used in the current study. Statistical analyses of the study were conducted in IBM Statistical Packages of Social Sciences 20 (SPSS 20). Descriptive statistics and hierarchical multiple regression analysis of the study were carried out to analyze the data.

#### **3.2 Participants and Sampling**

Participants of this study were 640 university students (441 female 68.9% and 199 male 31.1%) from a public (271, 42.3%) and a private (369, 57.7%) university in Gaziantep (see Table 3.2.1). These two universities were selected because they are the biggest universities in the city with large number of students. The data were collected via convenience sampling during autumn semester of 2019-2020 academic year. Total of 11 participants were excluded from the data analyses because 2 of the participants

filled only demographical information form, 4 of them did not complete all scales, and 5 of them gave same answers for all questions of scales.

Ages of participants were examined by using specific age ranges. Therefore mean age was not calculated. Regarding age of participants following percentages were found; 109 (17%) students were between age of 18-19; 353 (55.2%) between 20-21 and 178 (27.8%) were 22 years or older (see Table 3.2.1). Among the participants, 120 (18.8%) were first, 178 (27.8%) were second, 203 (31.7%) were third and 139 (21.7%) were fourth year students (see Table 3.2.3). Majority of the participants, 532 (83.1%) had internet access at home, while 108 (16.9%) did not have the access (see Table 3.2.2).

The time participants spent on the internet in a day varies from twenty minutes to eighteen hours with a mean of 5 hours ( $M=5.08$ ,  $SD=3.35$ ). In terms of the tools that participants use to access internet, almost half of participants (44.7%) use laptop, 114 (17.8%) desktop, 619 (96.7%) smartphone, 147 (23%) smart TV, 115 (18%) use tablet as a tool for accessing the internet (see Table 3.2.2). Among the participants, 341 (53.3%) live with their family, 212 (33.1%) live in dormitories, 35 (5.5%) live with the housemate, 52 (8.1%) live in other accommodations (see Table 3.2.3).

Table 3.2. 1

*Demographic Characteristics of Participants*

	<i>F</i>	<i>%</i>
University		
Public	271	42.3
Private	369	57.7
Gender		
Female	441	68.9
Male	199	31.1
Age		
18-19	109	17
20-21	353	55.2
22 and older	179	27.8

Table 3.2. 2

*Characteristics of Participants' Internet Usage*

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>%</i>
Home Internet Access				
Yes			532	83.1
No			108	16.9
Daily Internet Usage	5.08	3.35		
Internet Usage Tool				
Desktop			114	17.8
Laptop			286	44.7
Tablet			115	18.0
Cellphone			619	96.7
Smart TV			147	23

Table 3.2. 3

*Education and Accommodation Related Characteristics of Participants*

	<i>F</i>	<i>%</i>
Class		
1	120	18.8
2	178	27.8
3	203	31.7
4	139	21.7
Accommodation		
With Family	341	53.3
In Dormitory	212	33.1
With Housemates	35	5.5
Other	52	8.1

**3.3 Data Collection Instruments**

The data were collected through a questionnaire package which includes demographic information form, Young Internet Addiction Test Short Form (YIAT-SF), Drexel Defusion Scale (DDS), Beck Depression Inventory (BDI), Mindful Attention Awareness Scale (MAAS) and Multidimensional Experiential Avoidance Questionnaire (MEAQ).

### **3.3.1 Demographic Information Form**

The Demographic Information Form, which was created by the researcher, includes gender, age, existence of internet access in accommodation, average daily internet usage, internet access tools, class, and accommodation type.

### **3.3.2 Young Internet Addiction Test-Short Form (YIAT-SF)**

Young Internet Addiction Test was developed by Young (1998) and was transformed into a short form by Pawlikowski, Altstötter-Gleich and Brand (2013) to measure level of internet addiction. It includes 12 items which are rated on a five point likert scale from 1 (never) to 5 (very often). There is no reverse item and higher scores mean higher levels of internet addiction. A sample item from Young Internet Addiction Test- Short Form is “How often do you try to decrease the time you spend on the internet and fail?”.

Internal consistency and reliability coefficient of YIAT-SF was calculated as .85. YIAT-SF was adapted into Turkish by Kutlu, Savci, Demir and Aysan (2016). Reliability was checked by calculating cronbach alpha and test re-test reliability. Cronbach alpha was .91 and test re-test reliability in three weeks was .93 for university students. Furthermore, internal consistency coefficient alpha value of the YIAT-SF for the current study was .89.

### **3.3.3 Drexel Defusion Scale (DDS)**

Drexel Defusion Scale (DDS) was developed by Forman et al. (2012) in order to measure ability of digressing from emotions and thoughts. In scale items, participants were asked to mark how effective they use the ability of defusion. The scale consists of ten items over five dimension from zero (not at all) to four (very much). There is no reverse item in this scale and it has one factor structure and gives a total score. Having high scores is a sign of high ability of defusing from inner emotions and thoughts. A sample item of this scale: “Imagine that you have a thought of nobody likes you. Generally, how well can you defuse from these negative thoughts about yourself?”.

The Cronbach alpha reliability coefficient for the scale was .83 (Forman et al., 2012). DDS adapted into Turkish by Aydın and Yerin Güneri (2018). Standardized estimates, t values, and explained variance also supported one factor structure of DDS. In order to measure internal consistency, the cronbach alpha was calculated and found as .80. Test re-test reliability of the scale was found .81 with one week interval. Additionally, internal consistency coefficient alpha value of the scale was calculated as .78 for the current study.

### **3.3.4 Beck Depression Inventory (BDI)**

Beck Depression Inventory was developed by Beck (1961) in order to measure depression level of people. It has 21 items related to emotional, cognitive, somatic and motivational signs of depression. Items are given points from zero to three. Total score is ranged between zero to sixty three. When obtained score increases, depression level increases as well. While evaluating scores the following criterion was used: between 1 to 10 normal, 11 to 16 mild depression, 17 to 20 clinical depression, 21 to 30 moderate depression, 31 to 40 serious severe depression, 40 and above indicates very serious severe depression. A sample item from Beck Depression Inventory is “0: I don’t feel sad. 1: I feel sad. 2: I am always sad and I cannot get out of this emotion. 3: I am so sad and unhappy that I cannot take it anymore.”

Internal consistency of Beck Depression Inventory was .86 for the test items at Beck’s original paper. Test-retest reliability was between .48 to .86 for psychiatric patients and .60 to .83 for non-psychiatric populations. Beck Depression Inventory was adapted into Turkish by Hisli (1988). Reliability of Turkish Version of Beck Depression Inventory was examined by item analysis and split half reliability. Internal consistency coefficient alpha values of the scale were .80 and .74 (Hisli, 1989). For the present study, cronbach alpha of BDI calculated for the current study was .90.

### **3.3.5 Mindful Attention Awareness Scale (MAAS)**

Mindful Attention Awareness Scale was developed by Brown and Ryan (2003) in order to find out tendency of being aware of instant experiences in daily life and being careful about them. MAAS consists of 15 items, rated on a 6 point Likert scale from 1 (almost always) to 6 (almost never). MAAS is one factor measure that yields a

total point. Having higher scores shows higher level of mindfulness. A sample MAAS item is “I have difficulties in focusing on what is happening at the moment”.

Internal consistency of MAAS was .82 and test-retest reliability results in four weeks interval was .81 (Brown & Ryan, 2003). Turkish adaptation of MAAS was formed by Özyeşil, Arslan, Kesici, and Deniz (2011) and the internal consistency coefficient of the scale was .80, and test-retest reliability estimates for three weeks interval was .86. Moreover, internal consistency was calculated as .82 for the present study.

### **3.3.6 Multidimensional Experiential Avoidance Questionnaire-30 (MEAQ-30)**

Multidimensional Experiential Avoidance Questionnaire was developed by Sahdra, Ciarrochi, Parker and Scrucca (2016) to understand the avoidance of people from unpleasant situations. MEAQ-30 includes 30 items and it is a seven point Likert scale from 1 (strongly disagree) to 7 (strongly agree). A sample item from MEAQ-30 is “I do everything in order to feel less stressful”.

The MEAQ-30 has a good validity and reliability. Internal consistency coefficient alpha value of the scale was found as .78 for behavioral avoidance, .76 for distress aversion, .78 for procrastination, .78 for distraction and suppression, .79 for repression and denial, .80 for distress endurance subscales (Sahdra et al., 2016). Ekşi, Kaya and Kuşçu (2018), adapted this scale into Turkish. Internal consistency coefficient alpha value of the adapted scale was .79 for behavioral avoidance, .76 for distress aversion, .78 for procrastination, .87 for distraction and suppression, .81 for repression and denial, .85 for distress endurance subscales. In order to calculate concurrent validity, correlation coefficient between subscales scores of Multidimensional Avoidance Scale and scores of Acceptance and Action Form II for experiential avoidance was investigated. Consequently, the results showed that there was a significant relationship between these scores except distress endurance scale. Values were between .27 and .60. According to these results, researchers stated that MEAQ-30 has sufficient reliability and validity to apply to Turkish participants. For the present study, internal consistency for the whole scale was found as .84. Subscale internal consistency results were as follows: .81 (behavioral avoidance), .74 (distress



aversion), .68 (procrastination), .65 (distraction and suppression), .89 (repression and denial), .74 (distress endurance).

### **3.4 Procedure**

Permissions for the use of scales in the present study were received from authors via email. Necessary ethical permission to conduct research was obtained from Middle East Technical University Human Subjects Ethic Committee for the current study (Appendix A). The data were collected from undergraduate students of a public and private university in Gaziantep in the fall semester of 2019.

The researcher contacted with faculty members from two universities in Gaziantep and took their permission and approval for applying the measures in their classes. Scales were implemented to volunteer students at the beginning of the class session. Most of the scales were administered by the researcher; however, 150 of them were administered by the course instructors. Prior to scale administration instructors were informed about aim of the study, duration and process of measure administration. Participants were also informed that they can quit filling out questionnaires whenever they want to.

The measures package used in the study included an informed consent form, demographic information form, Young Internet Addiction Test Short Form (YIAT-SF), Drexel Defusion Scale (DDS), Beck Depression Inventory (BDI), Mindful Attention Awareness Scale (MAAS) and Multidimensional Experiential Avoidance Questionnaire-30 (MEAQ-30). The purpose of the study was explained to participants prior to measure administration and it was also written on the informed consent form. It took nearly twenty five minutes for participants to complete the measures.

### **3.5 Statistical Analysis**

Descriptive and inferential statistics were used to analyze data. Firstly, initial analyses were conducted to determine whether there were any missing values, outliers and inaccurate data entries. Secondly, descriptive statistics were conducted. Thirdly, t-test was performed for the purpose of investigating if there was a significant difference of internet addiction of public and private university students. Lastly,

hierarchical multiple regression was conducted in order to explore the contribution of defusion, depression, mindfulness and experiential avoidance on internet addiction.

The assumptions of multiple regression analysis; linearity, univariate outliers, homoscedasticity, multicollinearity, independence of errors and normality were checked before data analysis. IBM Statistical Packages of Social Sciences 20 (SPSS 20) was used in order to perform all these analysis.

### **3. 6 Limitations of the Study**

Participants of the current study were 640 university students from two universities in Gaziantep. The convenience sampling method was used for data collection. Most of the participants (75.94%) were enrolled in social sciences faculties and the largest number of participants was from faculty of education and faculty of law. Therefore, results of the study may not be generalized to university students from different areas of study and in different regions of Turkey.

In the present research, only self-report measures, which may cause biases such as social desirability, were used. Although the anonymity may decrease social desirability biases, it might be recommended that future research should include different evaluation methods. For instance experimental and qualitative studies may be used.

Majority of the scales (77.03%) were administered by the researcher; however, 22.97% were administered by the course instructors. Although necessary measures were taken and standard procedure was applied to maintain consistency of the scale administration by informing instructors about the study, how to apply measures, possible questions that participants may ask, and the possible answers that could be given, it may have caused lack of clarification for some participants.

## **CHAPTER 4**

### **RESULTS**

This chapter reports data analysis results. In first section, preliminary analysis, descriptive statistics and t-test results are presented. The second part includes, result of the hierarchical multiple regression analysis that was carried out to investigate the relationship between internet addiction and cognitive defusion, depression, mindfulness and experiential avoidance (behavioral avoidance, distress aversion, procrastination, distraction and suppression, repression and denial, and distress endurance).

#### **4.1 Preliminary Analysis**

Firstly, frequency statistics were used in order to detect whether there were any missing values, outliers and inaccurate data entries. Frequency tables were examined to determine any incorrect data entry. The percentage of missing values for Young Internet Addiction Test Short Form (YIAT- SF), Drexel Defusion Scale (DDS), Beck Depression Inventory (BDI) Mindful Attention Awareness Scale (MAAS) and Multidimensional Experiential Avoidance Questionnaire (MEAQ) did not exceed 5%. Therefore, it can be inferred that the percentage of missing data did not affect the results significantly (Schafer, 1999; Bennet, 2001).

#### **4.2 Descriptive Statistics and Correlations**

Means, standard deviations, bivariate correlations of the outcome variable and predictor variables are shown in Table 4.2.1, t-test results for public and private universities in Table 4.2.2 and bivariate correlations in Table 4.2.3.

#### 4.2.1 Means and Standard Deviations

The internet addiction, which is the outcome variable, scores of participants ranged between 12 and 60 ( $M = 31.44$ ,  $SD = 10.06$ ). The higher score in Young Internet Addiction Scale- Short Form refers to higher level of internet addiction. The mean value of participants' internet addiction points shows that internet addiction level of university students is moderate. Cognitive defusion scores ranged between 2 and 50 ( $M = 23.61$ ,  $SD = 8.06$ ). The higher cognitive defusion scores show the higher level of ability to defuse from inner thoughts and feelings. According to the mean of cognitive defusion scores, it can be understood that participants have moderate level of cognitive defusion. Depression scores ranged between 0 and 63 ( $M = 15.49$ ,  $SD = 10.78$ ). The higher scores refer to higher level of depression. Thus mean value of depression scores reveals that participants might generally have mild psychological issues. Mindfulness were between 15 and 88 ( $M = 58.38$ ,  $SD = 11.70$ ) and the higher scores indicate higher levels of mindfulness. Mean level of mindfulness scores reveals that participants have relatively high mindfulness. Having high scores of experiential avoidance subscales means avoiding unpleasant situations frequently. Scores ranged between 5 and 35 for the behavioral avoidance subscale ( $M = 23.89$ ,  $SD = 6.18$ ), the distress aversion subscale ( $M = 21.66$ ,  $SD = 6.73$ ), the procrastination subscale ( $M = 21.10$ ,  $SD = 5.49$ ), and the distraction and suppression subscale ( $M = 23.86$ ,  $SD = 7.05$ ). The repression and denial subscale scores ranged between 5 and 40 ( $M = 18.28$ ,  $SD = 6.82$ ). Finally, minimum score of the distress endurance subscale was 5, its maximum score was 105 ( $M = 23.62$ ,  $SD = 7.53$ ). According to the results, it can be inferred that all of the subscales had high scores which showed that participants preferred to avoid unpleasant situations in their lives.

Table 4.2. 1

*Means and Standard Deviations of Variables*

Descriptive Statistics	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
<b>Criterion Variable</b>				
Internet Addiction	31.44	10.06	12	60
<b>Predictor Variables</b>				
Defusion	23.61	8.06	12	60
Depression	15.49	10.78	0	63
Mindfulness	58.38	11.70	15	88
<b>Dimensions of Experiential Avoidance</b>				
Behavioral Avoidance	23.89	6.18	5	35
Distress Aversion	21.66	6.73	5	35
Procrastination	21.10	5.49	5	35
Distraction/Suppression	23.86	7.05	5	35
Repression/Denial	18.28	6.82	5	40
Distress Endurance	23.62	7.53	5	105

**4.2.2 University Differences in Internet Addiction**

In order to measure differences on internet addiction scores caused by university diversion, t-test was conducted (Table 4.2.2). There was no significant difference on internet addiction scores of participants from two universities ( $t(638) = -.979, p = .773$ ).

Table 4.2. 2

*Means, Standard Deviations and t-Test Results of Internet Addiction in terms of Gender*

Variable	University	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>P</i>
Internet Addiction	Public University	271	30.98	9.72	2.07	.773
	Private University	369	31.77	10.30		
	Total	640	31.44	10.06		

### 4.2.3 Bivariate Correlations

Bivariate correlations were measured in order to find out the relationships among variables of the study. Results indicated that there were significant relationships between internet addiction and all predictor variables except behavioral avoidance and distraction and suppression which are subscales of experiential avoidance. There was a significant negative relationship between internet addiction and cognitive defusion ( $r = -.14, p < .01$ ) which demonstrates that higher levels of cognitive defusion was related to lower internet addiction. Internet addiction was significantly and positively associated with depression ( $r = .33, p < .01$ ), indicating that higher level of depression were related to higher internet addiction.

Another predictor variable, mindfulness was significantly and negatively related to internet addiction ( $r = -.32, p < .01$ ) and it showed that higher levels of mindfulness referred to lower internet addiction, and distress endurance was significantly and negatively associated with internet addiction ( $r = -.09, p < .05$ ) indicating that higher levels of distress endurance meant lower internet addiction.

Among the dimensions of experiential avoidance, distress aversion was significantly and positively correlated with internet addiction ( $r = .17, p < .01$ ) and it showed that higher levels of distress aversion was associated with higher internet addiction. The procrastination dimension was significantly and positively related to internet addiction ( $r = .25, p < .01$ ) which means higher levels of procrastination refers to higher internet addiction. The dimension of repression and denial was significantly and positively correlated to internet addiction and it means that higher levels of repression and denial dimension indicates higher internet addiction ( $r = .32, p < .01$ ). In view of correlations among independent variables, there were significant relationships among all of them except between behavioral avoidance and cognitive defusion; distraction/suppression and cognitive defusion; repression/denial and cognitive defusion; repression/denial and behavioral avoidance; distress-endurance and procrastination. The strongest significant negative correlation was between mindfulness and depression ( $r = .37, p < .01$ ). The strongest positive relationship was between distraction and suppression-distress aversion ( $r = .33, p < .01$ ).

Table 4.2.3  
*Bivariate Correlations between Independent Variables and Dependent Variable (N=640)*

	1	2	3	4	5	6	7	8	9	10
Internet Addiction	-									
Cognitive Defusion	-.144**	-								
Depression	.328**	-.295**	-							
Mindfulness	-.316**	.290**	-.373**	-						
Experiential Avoidance										
Behavioral Avoidance	-.041	.075	-.152**	.179**	-					
Distress Aversion	.171**	-.126**	.169**	-.095*	.363**	-				
Procrastination	.249**	-.127**	.148**	-.218**	.158**	.269**	-			
Distraction/Suppression	.049	.036	-.088*	.101*	.356**	.329**	.094*	-		
Repression/Denial	.322**	-.061	.211**	-.196**	.041	.275**	.301**	.157**	-	
Distress Endurance	-.085*	.230**	-.220**	.202**	.273**	.139**	.061	.351**	.121**	-

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

### 4.3 Assumption Check for Multiple Regression Analysis

Prior to data analysis, assumptions of multiple regression analysis which are sample size, normality of errors, homoscedasticity and linearity, independence of errors, multicollinearity and univariate outliers were checked.

**Sample Size** At first, sample size was checked in order to understand whether the sample size was appropriate to conduct hierarchical regression or not. According to Green (1991)  $n > 50 + 8m$  formula can be used to determine sample sizes for regression analysis and “m” refers to number of independent variables. More recently, Jenkins and Quintana-Ascencio (2020) suggested that, studies, which use regressions or meta-regressions to analyze their findings, should use a sample with more than 25 participants ( $n \geq 25$ ) in order to avoid problems. At first, there were 651 participants of the current study. However, 11 participants were excluded from the data analysis because 2 of them filled only demographical information form, 4 of them did not complete all scales, and 5 of them gave same answers to all questions in scales. The final sample size of the present study was 640 and it consisted of 4 independent variables. Therefore, the sample size of 640 was higher than minimum numbers suggested.

**Normally Distributed Errors** Normality histogram and normal P-P plot were checked to understand homoscedasticity assumption. It was proved that residuals in the model were random, in other words normally distributed. The P-P Plot of residuals was bell shaped as it can be seen in Figure 4.3.2 and scatter plot was normally distributed despite slight differences from the perfect normal distribution (See Figure 4.3.1.). Therefore, it can be expressed that normality assumption was not violated and the model was normally distributed.



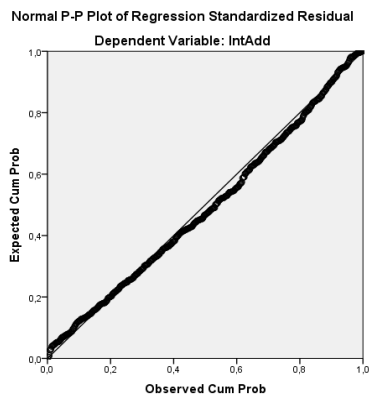


Figure 4.3.1 Normality Histogram

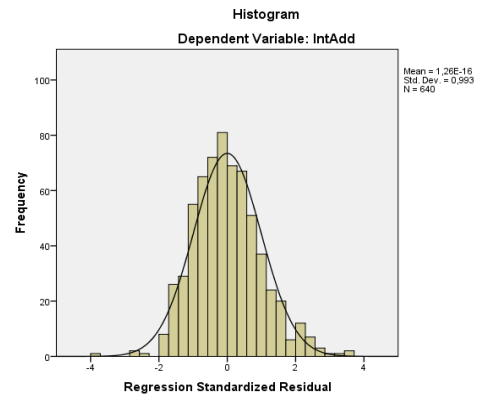


Figure 4.3.2 P-P Plot of Residuals

***Homoscedasticity and Linearity*** In order to check homoscedasticity and linearity assumption, the scatterplot of regression and its values (Figure 4.3.3) were examined. As can be seen its visual demonstration in Figure 4.3.3, the shape of scatterplot was not harmonious and people were not being clustered; therefore it proved that homoscedasticity assumption was not violated.

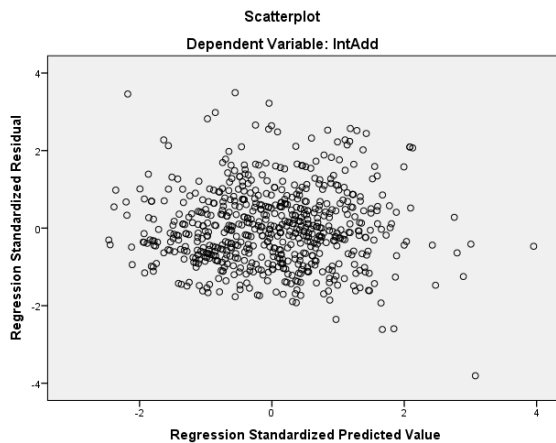


Figure 4.3.3 Residual Scatterplot

***Independent Errors*** Durbin Watson Test was used to check whether the residual terms were uncorrelated, in other words they were independent for all of the observations. According to Field (2009), Durbin Watson value must not be less than 1, or more than 3 to provide independent errors assumption. The calculations showed

that the independent errors assumption was not violated with the Durbin Watson value of 1.88.

***Multicollinearity and Singularity*** If there is a strong correlation between two or more independent variables, multicollinearity occurs. Perfect multicollinearity must not exist in order to calculate regression scores. Field (2009) mentions three ways to check multicollinearity. First way is scanning the correlation matrix. In order not to violate multicollinearity assumption, there must not be strong correlations which refer to the scores higher than .90 ( $r > .90$ ). Correlation matrix of these research verified that there was not such a strong relationship between any of the independent variables. Second way is checking the scores of variance inflation factor (VIF). VIF score must be less than four to validate multicollinearity. Results indicated that VIF scores ranged between 1.00 and 1.372. Third way is checking tolerance value that must be more than .20. The findings revealed that the tolerance values ranged between .98 and .78. Taking into account all of these, it can be expressed that multicollinearity was not violated.

***Influential Observation*** In order to determine outliers, z score for each variable was calculated. Z values for variables were ranged between -1.93 and 2.84. This range is in the necessary range which is between -3.29 and 3.29. Therefore, it was not necessary to delete any items because of univariate outliers (Field, 2012). Cook's Distance is violated if a score exceeds 1 (Cook & Weisberg, 1982). For the present study, Cook's Distance was calculated and the results showed that Cook's Distance scores ranged between .00 and .08. Therefore, it is understood that there was no violation. Field (2009) states that the assumption of Leverage value is supposed to be below .50. The Leverage scores of this research ranged between .00 and .21. Therefore, Leverage assumption was not violated.

#### **4.4 Results of Hierarchical Regression**

A four step hierarchical regression analysis was carried out in order to determine if adding participants' levels of cognitive defusion, depression, mindfulness and experiential avoidance improved the prediction of their internet addiction levels. Cognitive defusion was entered firstly, depression secondly, mindfulness thirdly, behavioral avoidance, distress aversion, procrastination, distraction and suppression, repression and denial, distress endurance were entered as a group lastly.

As it is presented in Table 4.4, results showed that model one significantly contributed to the regression model,  $R^2 = .021$ ,  $F(1, 638) = 13.571$ ,  $p < .001$  and cognitive defusion accounted for 2% of the variation in internet addiction ( $R^2 = .021$ ,  $Adjusted R^2 = .019$ ). The cognitive defusion significantly and negatively predicted the level of internet addiction ( $\beta = -.144$ ,  $t = -3.684$ ,  $p < .001$ ). Likewise, the model two was also significant,  $F(1, 637) = 63.775$ ,  $p < .001$ . Depression accounted for additional 9% of change in scores of internet addiction and this change was significant as well ( $R^2 = .110$ ,  $\Delta R^2 = .089$ ). The model three yielded significant result as well,  $F(3, 636) = 37.718$ ,  $p < .001$ . Mindfulness level accounted for additional 4% of change in the scores of model 2 and this change was significant ( $R^2 = .151$ ,  $\Delta R^2 = .041$ ).

Finally, the model four was significant,  $F(6, 630) = 37.718$ ,  $p < .001$ . Experiential avoidance level accounted for additional 7% of difference in the scores of model 3 and this was a significant change  $F(6, 630) = 20.020$ ,  $p < .001$ . Experiential avoidance level accounted for .071% variation in the scores of model 3 and this difference was significant ( $R^2 = .222$ ,  $\Delta R^2 = .071$ ).

When model four was closely examined, it was seen that procrastination and repression/denial contributed to the model significantly ( $\Delta F = 20.020$ ,  $p < .001$ ) and these variables caused a significant increase in explained variance ( $\Delta R^2 = .071$ ). In respect to beta values, it was understood that procrastination significantly and positively predicted internet addiction scores with beta values of  $\beta = .109$ ,  $t = 2.823$ ,  $p < .05$ ; repression/denial also significantly and positively predicted internet addiction scores with beta values of  $\beta = .204$ ,  $t = 5.208$ ,  $p < .001$ .

In terms of squared partial correlations, the values revealed that the contribution of depression was the highest among all variables ( $sr^2 = .089$ ). Other independent variables contributed fairly lower than depression. Cognitive defusion ( $sr^2 = .021$ ), mindfulness ( $sr^2 = .041$ ), procrastination ( $sr^2 = .009$ ), distraction and suppression ( $sr^2 = .002$ ), repression and denial ( $sr^2 = .033$ ), distress endurance ( $sr^2 = .001$ ). Behavioral avoidance and distress aversion did not contribute to internet addiction level.

In conclusion, cognitive defusion, depression, mindfulness and four dimensions of experiential avoidance (distress aversion, procrastination, repression/denial and distress endurance) were significantly associated with internet addiction. However, other dimensions of experiential avoidance which are behavioral

avoidance and distraction and suppression did not contribute variance in internet addiction scores. The model explained total 22% of variance on internet addiction scores.

Table 4.4

*Results of Multiple Regression Analysis for Internet Addiction, Depression, Cognitive Defusion, Experiential Avoidance and Mindfulness*

Variables	R <sup>2</sup>	B	SE	$\beta$	T	sr <sup>2</sup>
Step I	.021					
Cognitive Defusion		-.180	.049	-.144	-3.68**	.021
Step II	.110					
Depression		.292	.037	.312	7.986**	.089
Step III	.151					
Mindfulness		-2.88	.518	-.223	-5.549**	.041
Step IV	.222					
Behavioral Avoidance		-.045	.067	-.028	-.673	.000
Distress Aversion		.054	.062	.036	.864*	.000
Procrastination		.201	.071	.109	2.823**	.009
Distraction/Suppression		.078	.058	.054	1.346	.002
Repression/Denial		.300	.058	.204	5.208**	.033
Distress Endurance		-.058	.054	-.043	-1.079	.001

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

## **CHAPTER 5**

### **DISCUSSION**

In this chapter, results of the present study are discussed by taking related literature into consideration. Then, the implications obtained from the results are examined. Finally, recommendations for further research are explained.

#### **5.1 Discussions of the Findings**

The aim of the present study was to investigate the associations between internet addiction and cognitive defusion, depression, mindfulness and experiential avoidance. More specifically, the study intended to figure out to what extent cognitive defusion, depression, mindfulness and experiential avoidance predict level of internet addiction.

The hypothesized model that aimed to find out the effect of predictive variables on internet addiction was significant and the model explained 22% of the variance in total internet addiction of the participants. Results revealed that university students who had high level of cognitive defusion and mindfulness and low level of depression and experiential avoidance (procrastination, distraction and suppression, repression and denial and distress endurance) showed less tendency to have high internet addiction.

According to the results of the current research, a significant negative relationship between cognitive defusion and internet addiction was revealed. In the literature, the relationship between cognitive defusion and internet addiction was not investigated. However, there are some studies which indicated that there might be association between cognitive defusion and various psychological problems including smoking (Hooper, et al., 2018), food craving (Moffitt, et al., 2012; Taylor, 2018),

anxiety (Bardeen & Fergus, 2016; Way, 2013), depression (Bardeen & Fergus, 2016; Bramwell & Richardson, 2018), stress (Bardeen & Fergus, 2016; Hinton and Gaynor, 2010), shame memories (Dinis, et al., 2015), peer rejection (Halliburton, 2016), emotional discomfort, believability of negative self-referential thoughts (Masuda et al., 2010) and learned helplessness (Hooper & McHugh, 2013).

Despite nonexistence of a study that investigates the relationship between cognitive defusion and internet addiction, this study supported the literature by showing that cognitive defusion was negatively related to various types of addiction. Additionally, it was found that there was a significant relationship between cognitive defusion and depression. This finding was parallel to previous research that indicates increment in cognitive defusion level leads decrement in depression level (Bramwell & Richardson, 2018).

The results revealed that the contribution of depression to the model was the highest among all predictor variables. This means that the possibility of university students' having high level of internet addiction is higher for the students who have high level of depression. This finding was consistent with previous research conducted with university students and indicated that depression was a significant predictor of internet addiction (Bahrainian et al., 2014; Ceyhan & Ceyhan, 2008; Dalbudak et al., 2013; Dalbudak et al., 2014; Demir & Kutlu, 2016; Günay et al., 2018; Huang et al., 2014; Odacı & Çikrikçi 2017; Şenormancı et al., 2014; Younes et al., 2016).

Moreover, according to the findings of the present study, mindfulness is positively and significantly related to internet addiction. Some studies indicated associations between mindfulness and various kinds of addictions such as internet addiction (Gamez-Goadix & Calvete, 2016; Peker et al., 2019), video game addiction (Li et al., 2018), smartphone addiction (Elhai et al., 2018; Kim et al., 2018; Peker et al., 2019; Zhang et al., 2020), Facebook addiction (Bean, 2018), smoking/nicotine addiction (Daunter, 2013; Froeliger et al., 2017), gambling (Young, 1998), substance abuse (Egger & Rauterberg, 1996; Ögel et al., 2014; Saddhajeewa, 2019; Sancho et al., 2018), alcohol addiction (Brett et al., 2017).

Grohol (2020) states that people use the internet with the aim of escaping other problems for instance; feeling depressed, having anxiety or serious health problem or relationship problem. Mindfulness was found effective for treating psychopathology and finding alternatives to pharmacological treatments. (Shonin et al., 2016).

Therefore, it may decrease internet addiction by treating possible causes of it such as depression, anxiety etc. Moreover, mindfulness has a protective function for behavioral addictions and problematic internet use (Shonin et al., 2014). Thus, findings of the previous and current research showed that mindfulness might be useful in decreasing internet addiction.

Furthermore, in the present study, significant positive relationships between the scores of internet addiction and the scores of distress aversion subscale, procrastination subscale, repression and denial subscale and distress endurance subscale of experiential avoidance were determined. However, any significant relationship between internet addiction and behavioral avoidance and distraction and suppression subscales of experiential avoidance was not found. To clarify, behavioral avoidance refers to not doing anything make you feel uncomfortable; and distraction and suppression means making lots of effort to stop thinking about an undesired thought (Sahdra et al., 2016). Additionally, taking into account that cognitive defusion was negatively associated with internet addiction, distancing from thoughts might be more beneficial instead of trying to stop thinking about them.

In the literature, there are also some studies which show a significant relationship between experiential avoidance and internet addiction (Chou et al., 2017; Chou et al., 2018; Hsieh et al., 2019). Besides, some technology related studies indicate significant relationships between experiential avoidance and smartphone use (Bong & Kim, 2017; Potash, 2016; Ruiz-Ruano et al., 2020), popular information and communication technologies (Garcia-Olivia & Piqueras, 2016), problematic online pornography viewing (Borgogna & McDermott, 2018; Brem et al., 2017; Cooper et al., 1999; Levin et al., 2012; Levin et al., 2019; Wetterneck et al. 2012). Thus, majority of the studies in the literature indicates existence of a significant relationship between experiential avoidance and addictions.

In summary, while depression, cognitive defusion, some subscales of experiential avoidance (distress aversion, procrastination, repression/denial and distress endurance) and mindfulness predicted internet addiction; behavioral avoidance and distraction and suppression subscale scores of experiential avoidance did not predict internet addiction. Besides, depression was the strongest predictor of internet addiction.



## **5. 2 Implications for Practice**

Firstly, cognitive defusion was determined as one of the predictors for internet addiction of university students. The current study examines the relationship between cognitive defusion and internet addiction. Therefore, it may shed a light on effectiveness of cognitive defusion for the treatment of internet addiction. The findings of present research might be beneficial for the mental health professionals in university counseling centers. They may integrate cognitive defusion practices to individual and group therapy sessions and help students to use cognitive defusion for their entangled thoughts. In this way, students may learn seeing their thoughts as thoughts instead of totally believing their correctness and may use this for their harmful thoughts while coping with their internet addiction.

Depression was found as the most powerful predictor of university students' internet addiction among all predictor variables. In order to treat depression, counseling centers should organize group and individual therapy sessions. It is not sufficient to organize sessions because some of the students may not be aware of the possibility for their internet addiction's being related to depression. Students should be informed about this association by utilizing banners, guides, web site of the university counseling centers.

Results of the present research revealed that mindfulness was a significant predictor for internet addiction of university students. Therefore, psycho-education programs should be organized in order to strengthen students' information about mindfulness and how to apply mindfulness in their daily lives. Specifically, mindfulness based stress reduction programs may be helpful for university students to decrease their stress level and protect themselves from other psychological problems including internet addiction.

## **5. 3 Recommendations for Future Research**

The present research has correlational design which does not give information about cause and affect relationships between variables. Thus, it might be beneficial to recommend for future researchers to use experimental design in order to reveal causal relationships between the predictor variables and internet addiction. Besides,

conducting future research with longitudinal design might provide an opportunity to explain how the relationships between variables change over time during university years. In addition, longitudinal studies reveal within-person differences. Thus, it can be found that how one individual changes over years in terms of variables, instead of finding changes only for the sample as a group.

Moreover, this research was conducted in both a state and a private university in Gaziantep and convenience sampling was utilized. It might be good to replicate the present study with a more representative and randomly selected sample from various regions of Turkey. In addition, samples from secondary school, high school and graduate students might be used for future studies. Thus, the role of age and school levels for internet addiction and its predictors might be compared in detail.

Furthermore, although any significant difference between internet addiction levels of private university students and public university students was not found, the difficulties that students have to cope with may change. For instance, private university students may have less economic problems, better opportunities for internet access compare to public university students. Therefore, this kind of conditions may be investigated in more detail in future research.

Additionally, internet addiction literature is very comprehensive and it is not enough to explain internet addiction of undergraduate students by learning about its associations with only predictor variables of the current study. Future research may investigate the role of demographic variables such as gender, age, years of education and other possible predictor variables on university students' internet addiction.

In the present research, it was found that there was not any significant relationship between internet addiction and behavioral avoidance and distraction and suppression subscales of experiential avoidance. However, most of the other previous research showed a significant negative relationship between experiential avoidance and internet addiction. Thus, results of the present study may indicate a necessity for future studies to investigate experiential avoidance with its subscales.

Cognitive defusion should be one of these variables, which are needed to be investigated in future research, because the present study is the first study examining associations between cognitive defusion and internet addiction. Even though, a significant negative relationship was found in the current study, there is still a gap in

the literature about examining the relationship between cognitive defusion and internet addiction.

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## APPENDICES

### APPENDIX A: INFORMED CONSENT FORM

Değerli katılımcı,

Bu çalışma, Prof. Dr. Oya Yerin Güneri danışmanlığında Orta Doğu Teknik Üniversitesi Psikolojik Danışmanlık ve Rehberlik Yüksek Lisans programı öğrencisi Şebnem ASLAN tarafından yürütülen bir tez çalışmasıdır. Çalışmanın amacı, üniversite öğrencilerinde internet bağımlılığı ile bilişsel ayrışma, depresyon, bilinçli farkındalık ve yaşantısal kaçınma arasındaki ilişkileri incelemektir.

Çalışmaya katılım tamamen gönüllülük temelinde olmalıdır. Kimliğiniz gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayımlarda kullanılacaktır.

Ölçekler, genel olarak kişisel rahatsızlık verecek soruları içermemektedir ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz, ölçeği yanıtlamayı tamamlamak istemezseniz istediğiniz zaman cevaplamayı bırakmakta serbestsiniz. Çalışma hakkında daha fazla bilgi almak için Şebnem ASLAN (E-posta: sebnemaslan@outlook.com) ile iletişim kurabilirsiniz.

Bu çalışmaya katıldığımız için şimdiden teşekkür ederiz.

Şebnem ASLAN

Orta Doğu Teknik Üniversitesi

***Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum.***

İmza

Tarih

## APPENDIX B: DEMOGRAPHIC INFORMATION FORM

Aşağıdaki soruları lütfen **dikkatli bir şekilde okuyarak cevaplayınız.**

1-Cinsiyetiniz:  Erkek  Kadın

2-Yaş aralığınız:  18-19  20-21  22 ve üstü

3-Evinizde internet bağlantısı var mı:  Evet  Hayır

4-İnterneti bir günde kaç saat kullanırsınız: .....

5-İnternete hangi araçtan erişirsiniz:

Masaüstü bilgisayardan

Dizüstü bilgisayardan

Tabletten

Telefondan

Akıllı televizyondan

6-Kaçıncı sınıftasınız:  1  2  3  4  5  6 ve üstü

7-Nerede yaşıyorsunuz?

Ailemle

Yurtta

Arkadaşlarımla evde

Diğer(Belirtiniz): .....

**APPENDIX C: SAMPLE ITEMS FROM YOUNG INTERNET ADDICTION  
SCALE SHORT FORM (YIAS-SF)**

AÇIKLAMA: Lütfen aşağıdaki sorularda belirtilen durumları hangi sıklıkla yaşadığınızı belirtiniz. Lütfen her soru için sadece bir seçeneği işaretleyiniz ve hiçbir soruyu boş bırakmayınız.

- 1- Hiçbir Zaman
- 2- Nadiren
- 3- Bazen
- 4- Sıklıkla
- 5- Her zaman

1. Hangi sıklıkla planladığınızdan daha fazla internette kalırsınız	1	2	3	4	5
4. Birileri internette ne yaptığınızı sorduğunda hangi sıklıkla sır gibi saklar ve savunmaya geçersiniz?	1	2	3	4	5
6. Hangi sıklıkla internette harcadığınız süre yüzünden uykusuz kalırsınız?	1	2	3	4	5
9. Hangi sıklıkta internette harcadığınız zamanı azaltmak için uğraşırsınız ve başarısız olursunuz?	1	2	3	4	5



## APPENDIX D: SAMPLE ITEMS FROM DREXEL DEFUSION SCALE (DDS)

“Ayrışma” kelimesi, olaylara ya da durumlara, düşünceler ve duygulardan uzaklaşarak bakabilmeyi ifade eder. Bu “ayrışma” tanımını dikkate alarak, lütfen aşağıda verilen her bir senaryoda genellikle ne ölçüde “ayrışma” durumu yaşadığınızı ilgili kutucuğu işaretleyerek belirtiniz. Soruları cevaplamaya başlamadan önce bütün örnekleri okumak isteyebilirsiniz.

0-Hiç

1-Biraz

2-Bir Dereceye Kadar

3-Orta Seviyede

4-Oldukça Fazla

5-Çok Fazla

<b>1. Öfke duygusu.</b> Uzun bir kuyruktayken birisi önünüze geçtiğinde sinirlenirsiniz. Genellikle bu öfke duygusundan ne ölçüde ayrışabilirsiniz (uzaklaşabilirsiniz)?	0	1	2	3	4	5
<b>4. Kaygılı düşünceler.</b> Okulda ya da iş yerinde işler yolunda gitmiyor ve üst üste yığıyorlar. Genellikle “Bunları asla bitiremeyeceğim.” gibi kaygılı düşüncelerden ne ölçüde ayrışabilirsiniz (uzaklaşabilirsiniz)?	0	1	2	3	4	5
<b>5. Kendinizle ilgili düşünceler.</b> “Beni kimse sevmiyor.” gibi bir düşünceye sahip olduğunuzu hayal edin. Genellikle kendiniz hakkındaki bu olumsuz düşüncelerden ne ölçüde ayrışabilirsiniz (uzaklaşabilirsiniz)?	0	1	2	3	4	5
<b>10. Üzüntü hissi.</b> Gerçekten çok istediğiniz bir şeyi kaybettiğinizi hayal edin. Bu duruma üzüntüyorsunuz. Genellikle bu üzüntü duygusundan ne ölçüde ayrışabilirsiniz (uzaklaşabilirsiniz)?	0	1	2	3	4	5

**APPENDIX E: SAMPLE ITEMS FROM BECK DEPRESSION INVENTORY  
(BDI)**

Aşağıda, kişilerin ruh durumlarını ifade ederken kullandıkları bazı cümleler verilmiştir. Her madde bir çeşit ruh durumunu anlatmaktadır. Her maddede o ruh durumunun derecesini belirleyen 4 seçenek vardır. Lütfen bu seçenekleri dikkatle okuyunuz. Son bir hafta içindeki (şu an dahil) kendi ruh durumunuzu göz önünde bulundurarak, size en uygun olan ifadeyi bulunuz. Daha sonra, o maddenin yanındaki harfin üzerine (X) işareti koyunuz.

- 1) a. Kendimi üzgün hissetmiyorum  
b. Kendimi üzgün hissediyorum  
c. Her zaman için üzgünüm ve kendimi bu duygudan kurtaramıyorum  
d. Öylesine üzgün ve mutsuzum ki dayanamıyorum
- 2) a. Gelecekte umutsuz değilim  
b. Gelecek konusunda umutsuzum  
c. Gelecekte beklediğim hiç bir şey yok  
d. Benim için bir gelecek olmadığı gibi bu durum değişmeyecek
- 7) a. Kendimi hayal kırıklığına uğratmadım  
b. Kendimi hayal kırıklığına uğrattım  
c. Kendimden hiç hoşlanmıyorum  
d. Kendimden nefret ediyorum
- 15) a. Eskisi kadar iyi çalışabiliyorum  
b. Bir işe başlayabilmek için eskisine göre daha çok çaba harcıyorum  
c. Ne olursa olsun, yapabilmek için kendimi çok zorluyorum  
d. Artık hiç çalışmıyorum

**APPENDIX F: SAMPLE ITEMS FROM MINDFUL ATTENTION  
AWARENESS SCALE (MAAS)**

Aşağıda günlük yaşantınızla ilgili birtakım ifadeler yer almaktadır. Her bir deneyimi ne sıklıkla yaşadığınızı aşağıda 1'den 6'ya kadar verilen derecelendirmeyi kullanarak lütfen işaretleyiniz. Cevaplarınızı verirken deneyiminizin nasıl olması gerektiğinden öte *gerçekten yaşadığınızı yansıtan* seçeneği belirtiniz.

- 1-Hemen hemen her zaman
- 2-Çoğunlukla
- 3-Bazen
- 4-Nadiren
- 5-Oldukça az
- 6-Hemen hemen hiçbir zaman

1	Belli bir süre farkında olmadan bazı duyguları yaşayabilirim.	1	2	3	4	5	6
3	Şu anda olana odaklanmakta zorlanırım.	1	2	3	4	5	6
9	Başarmak istediğim hedeflere öyle çok odaklanırım ki o hedeflere ulaşmak için şu an ne yapıyor olduğumun farkında olmam.	1	2	3	4	5	6
11	Kendimi bir kulağımla birini dinlerken aynı zamanda başka bir şeyi de yaparken bulurum.	1	2	3	4	5	6

**APPENDIX G: SAMPLE ITEMS FROM MULTIDIMENSIONAL  
EXPERIENTIAL AVOIDANCE SCALE- 30 (MEAQ- 30)**

Lütfen aşağıdaki ifadelere ne derecede katıldığınızı değerlendirip sizin için en uygun seçeneğin üzerine çarpı (X) işareti koyunuz.

- 1-Kesinlikle Katılmıyorum
- 2-Katılmıyorum
- 3-Biraz Katılmıyorum
- 4-Kararsızım
- 5-Bazen Katılıyorum
- 6-Katılıyorum
- 7-Kesinlikle Katılıyorum

1	Beni rahatsız edeceğini düşündüğüm bir şeyi yapmam.	1	2	3	4	5	6	7
11	Yapılması gereken ama hoşuma gitmeyen şeyleri erteleme eğilimindeyim.	1	2	3	4	5	6	7
20	Olumsuz bir düşünce aklıma geldiğinde hemen başka bir şey düşünmeye çalışırım.	1	2	3	4	5	6	7
30	Önemli bir şey üzerinde çalışırken işler zorlaşsa bile vazgeçmem.	1	2	3	4	5	6	7

## APPENDIX H: APPROVAL OF METU HUMAN SUBJECTS

### ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ  
APPLIED ETHICS RESEARCH CENTER



ORTA DOĞU TEKNİK ÜNİVERSİTESİ  
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Sayı: 28620816 / 346

21 AĞUSTOS 2019

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAİK)

İlgili: İnsan Araştırmaları Etik Kurulu Başvurusu


Sayın Prof.Dr. Oya Yerin GÜNERİ

Danışmanlığını yaptığınız Şebnem ASLAN'ın "Üniversite Öğrencilerinde İnternet Bağımlılığı: Depresyon, Bilişsel Ayrışma, Deneyimsel Kaçınma ve Bilişçil Farkındalık Üzerine Bir Değerlendirme" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve 324 ODTÜ 2019 protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerimize sunarız.

  
Prof. Dr. Tulin GENÇOZ

Başkan

  
Prof. Dr. Tolga CAN  
Üye

İZİNLI  
Doç.Dr. Pinar KAYGAN  
Üye

  
Dr. Öğr. Üyesi Ali Emre TURGUT  
Üye

Dr. Öğr. Üyesi Şerife SEVİNÇ  
Üye

  
Dr. Öğr. Üyesi Müge GÜNDÜZ  
Üye

Dr. Öğr. Üyesi Süreyya Özcan KABASAKAL  
Üye

## APPENDIX I: TURKISH SUMMARY/ TÜRKÇE ÖZET

### BİLİŞSEL AYRIŞMA, DEPRESYON, BİLİNÇLİ FARKINDALIK VE DENEYİMSEL KAÇINMANIN ÜNİVERSİTE ÖĞRENCİLERİNİN İNTERNET BAĞIMLILIĞI ÜZERİNDEKİ ROLÜ

#### 1. GİRİŞ

Günümüz dünyasında, internet hayatımızın ayrılmaz bir parçası haline gelmiştir. Kayıtlara göre dünya nüfusunun yüzde 59.6'sı internet kullanıcısıdır (Internet World Stats, 2020). İnternet kullanımı birçok faydayı da beraberinde getirmiştir. Örneğin: üniversite öğrencilerinin pek çok araştırma yapabilmelerini, çok yönlü ödevler geliştirilebilmelerini, okuma ve öğrenme imkanlarının kapsamını genişletebilmelerini, kendi kendine öğrenme tekniğini uygulayabilmelerini ve akranlarından öğrenme yöntemini kullanabilmelerini sağlamaktadır (Apuke ve Iyendo, 2018). İnternet kullanımının faydalarna rağmen, aşırı kullanımının bazı sorunlara sebep olduğu yadsınmaz.

İnternetin kökeni askeri gelişmelere dayanmaktadır. Sovyet Rusya'nın 1957'de Sputnik adlı uyduyu fırlatmasıyla internetin bulunuşuna dair ilk adımlar atılmıştır (Lukasik, 2011). Sonraki yıl Amerika Birleşik Devletlerinin, ARPA diye adlandırdıkları Yüksek Araştırma Projeleri Kuruluşu, Amerikan ordusunun ihtiyaçları için faaliyete geçirilmiştir. Daha sonra kuruluşun adı ARPANET olarak değiştirilmiş ve bilgisayar sistemleri arasındaki bağlantılar ile ilgili çalışmalar yapılmıştır (Abbate, 1994). İnternet, bulunuşundan günümüze kadar geçen süreçte çok yüksek düzeyde yaygınlaşmıştır. Bu yaygınlaşmayla beraber, internetin oluşturulmasındaki temel faktör olan askeri amaçlar geri planda kalmıştır. Özellikle sosyal medya ve mobil bağıllık internetin kullanımında yeni alanlar oluşturmuştur (Naughton, 2016). Bütün bu gelişmeler, internet bağımlılığının 21. yüzyılın en önemli psikolojik sorunlarından biri haline gelmesine sebep olmuştur.

Türkiye İstatistik Kurumu (TÜİK, 2020) verilerine göre 16-24 yaş arasındaki bireylerin yüzde 90.8'i internet kullanmaktadır. Buna göre internet kullanımının lise ve üniversite öğrencileri arasında çok yaygın olduğu ve bu öğrencilerin internetin hem yarar hem de zararlarından oldukça etkileneceği düşünülebilir. Ayrıca, üniversite öğrencilerinin internete erişim için çok iyi olanaklara sahip olmaları ve teknolojiye ilgi duymaları da internette daha fazla vakit geçirmelerine sebep olmaktadır (Yang ve Tung, 2007).

Benzer şekilde; üniversite öğrencilerinin internete erişim sağlayabilecekleri kütüphane, üniversite ve internet kafe gibi olanaklarının bulunması (Ceyhan, Ceyhan ve Gürçan, 2007), internetten birçok bilgiye erişebilmeleri ve internette anonim olma şansına sahip olmaları (Keser, 2004) üniversite öğrencilerinde yoğun internet kullanımının sebeplerindedir. Tüm bunlar göz önünde bulundurulduğunda, üniversite öğrencilerinin internet bağımlılığında riskli grup olduğu anlaşılmış ve bu çalışmanın örneklemini üniversite öğrencilerinden oluşturulmuştur.

Bağımlılık, bir maddenin aşırı kullanımı veya belirli bir davranışın bireyin günlük hayatında takıntılı bir şekilde sürdürülmesi ve kişinin bu davranış üzerindeki kontrolünü kaybetmesi olarak tanımlanmıştır (Egger ve Rauterberg, 1996). İnternet bağımlılığı ise ilk kez 1995'te Dr. Goldberg tarafından tanımlanmıştır. Günümüzde internet bağımlılığını ifade etmek için patolojik internet kullanımı, problematik internet kullanımı, aşırı internet kullanımı, kompulsif internet kullanımı gibi farklı söyleyişler bulunmaktadır (Shaw ve Black, 2008).

Murali ve George (2007) internet kullanıcılarının önemli bir kısmının internet bağımlılığı geliştirdiğini ve çalışmaların internet bağımlılığını yordamada etkili olabilecek faktörlerle ilgili ilginç bilgiler sunduğunu belirtmiştir. Ayrıca, özellikle ruh sağlığı çalışanlarının internet bağımlılığı hakkında temel bilgilere sahip olmasının bağımlılığı fark etme ve uygun müdahaleleri gerçekleştirme açısından bir ihtiyaç olduğunu ifade etmiştir.

İnternet bağımlılığı alan-yazında yalnızlık (Whang, Lee ve Chang, 2003), kaygı (Lee, Lee, Paik, Kim ve Shin, 2001), özgüven (Fioravanti, Dettola ve Casale, 2012), stres (Gholamian, Shahnazi ve Hassanzadeh, 2017), kişilik özellikleri (Ko vd., 2010), takıntılılık (Whang vd., 2003), depresyon (Akin ve Iskender, 2011; Ceyhan ve Ceyhan, 2008; Dalbudak, Evren, Aldemir ve Evren, 2014; Günay, Öztürk, Ergun Arslantaş ve Sevinç, 2018; Odacı ve Çıkrıkçı, 2017; Orsal, Orsal, Ünsal ve Özalp,

2013; Şenormancı vd., 2014; Younes, vd., 2016), bilinçli farkındalık (Gamez-Guadix ve Calvete, 2016; Peker, Nebiöglu, ve Odemis, 2019) ve deneyimsel kaçınma (Chou, Yen ve Liu, 2018; Garcia-Oliva ve Piqueras, 2016) gibi deęişkenlerle ilişkiyi doęrultusunda incelenmiştir. Bu çalışmada ise internet bağımlılığı ile bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınma arasındaki ilişkiler incelenmektedir.

Alan-yazında bilişsel ayrışma ve çeşitli bağımlılık türleri arasındaki ilişkiyi inceleyen çalışmalar bulunmaktadır. Örneğin Hooper, Dack, Karekla, Niyazi ve McHugh (2018) sigara bağımlısı bireyler ile yaptıkları deneysel çalışmada bilişsel ayrışma grubundaki bireylerin hem deneyimsel kaçınma grubundakilerden hem de kontrol grubundakilerden anlamlı düzeyde daha az sigara içtiklerini gözlemlemiştir.

Depresyon ve internet bağımlılığı arasındaki ilişkiyi inceleyen çalışmalarda anlamlı pozitif ilişki bulunmuştur. Örneğin Mayda ve dięerleri (2015) 698 (376 erkek, 322 kız) öğrenciyle yaptığı çalışmada, depresyona meyilli olan öğrencilerde internet bağımlılığının daha yaygın olduğunu tespit etmiştir. Benzer bir şekilde, İkiz, Savcı, Asıcı ve Yörük (2015) 853 (518 kadın, 335 erkek) üniversite öğrencisiyle, internet bağımlılığı ve depresyon, kaygı, negatif benlik algısı, bedenselleştirme, düşmanlık gibi psikolojik semptomlar arasındaki ilişkileri inceleyen bir araştırma yürütmüştür. Araştırmanın sonuçları problemlili internet kullanımı ve araştırmada kullanılan psikolojik semptomlar arasında anlamlı pozitif ilişkiler olduğunu göstermiştir.

Alan-yazındaki çalışmalar internet bağımlılığı ile bilinçli farkındalık arasında anlamlı negatif bir ilişkiye işaret etmektedir. Örneğin Gamez-Goadix ve Calvete (2016) bilinçli dikkat ve problemlili internet kullanımı arasındaki ilişkiyi incelemiştir. Çalışmanın örneklemini 901 (546 kız, 347 erkek, 8 belirtilmemiş) ergen oluşturmuştur. Sonuçlar bilinçli dikkatin internet bağımlılığının olumsuz sonuçlarını engellemede rolü olduğunu ortaya çıkarmıştır. Benzer şekilde Peker ve dięerleri (2019) internet bağımlılığı ile akıllı telefon ve internet kullanımı arasındaki ilişkileri incelemeyi amaçladıkları çalışmalarını gerçekleştirmiştir. Çalışmanın bulgularına göre problemlili internet ve telefon kullanımı ile bilinçli farkındalık arasında orta düzeyde negatif ilişki bulunmuştur.

Yapılan alan-yazın taramasında, internet bağımlılığı ile bu çalışmanın bir dięer deęişkeni olan deneyimsel kaçınma arasındaki ilişkiyi inceleyen çalışmalar da saptanmıştır. Örneğin Garcia-Olivia ve Piqueras (2016) yaşları 12 ve 18 arasında



değişen İspanyol öğrencilerin katıldığı çalışmalarında, deneysel kaçınma ile bağımlı internet ve cep telefonu kullanımı arasında anlamlı ilişki bulmuştur. Bir başka çalışmaya ise yaşları 20 ile 30 arasında, 500 (238 erkek, 262 kadın) öğrenci katılmış ve çalışmada deneysel kaçınmanın ve etkisiz başa çıkma stratejileri kullanmanın internet bağımlılığı ve depresyon riskini artırdığı sonucuna ulaşılmıştır (Chou, Yen ve Liu, 2018).

Özet olarak, alan-yazında internet bağımlılığının üniversite yıllarındaki yaygınlığı ve bu konudaki çalışmaların önemi hakkında bilgiler sunulmaktadır. Önceki yıllarda internet bağımlılığı ile yalnızlık, özgüven, kişilik gibi çeşitli değişkenler arasındaki ilişkileri inceleyen çalışmalar yapılmıştır. İnternet bağımlılığını açıklayan çeşitli teoriler bulunmaktadır fakat bu çalışmada Kabul ve Kararlılık Terapisi çalışmanın değişkenlerinin belirlenmesinde kuramsal model olarak tercih edilmiştir. Bu çalışmanın amacı bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneysel kaçınmanın internet bağımlılığı ile ilişkilerini incelemektir.

## 1.2 Çalışmanın Önemi

Günümüzde, hem fırsat hem de sorunları beraberinde getiren bir internet çağında yaşamaktayız. Şüphesiz internet bağımlılığı çağımızın gençleri arasında önde gelen bu sorunlardan biridir. İnternet bağımlılığının artan önemine rağmen üniversite öğrencilerinin internet bağımlılığı üzerine yapılan çalışmalar sınırlı sayıdadır ve bu problemin arkasındaki karmaşık yapı hala tam olarak anlaşılammıştır (Torres, 2011). Şenormancı, Konkan ve Sungur (2010) internet bağımlılığının Türkiye’de önemli bir problem haline geldiğini ifade etmiştir. Ayrıca üniversite öğrencileri internet bağımlılığı için bir risk grubudur (Günay vd., 2018) ve bu yaş grubundaki bireylerin internet bağımlılığıyla ilişkili olabilecek değişkenleri inceleyen çalışmalara büyük bir ihtiyaç vardır. Bu sebeplerle bu çalışma internet bağımlılığı ile Kabul ve Kararlılık Terapisi temelli bilişsel ayrışma, bilinçli farkındalık ve deneysel kaçınma gibi değişkenler arasındaki ilişkileri incelemektedir. Bu çalışma Kabul ve Kararlılık Terapisini temel alması ve özellikle internet bağımlılığı ile ilişkisi daha önce araştırılmamış olan bilişsel ayrışmayı değişkenleri arasında bulundurması açısından özgün bir çalışmadır. Sonuç olarak bu çalışmanın internet bağımlılığı ile ilişkili unsurlar hakkında değerli bilgiler sunacağı umulmaktadır. Bu çalışma alan-yazına

bilişsel ayrışma ile internet bağımlılığı arasındaki ilişkiyi inceleyerek de katkıda bulunacaktır.

Yaşanan psikolojik sorunun yordayıcılarını belirlemek önleyici programlar geliştirmek için atılması gereken ilk adımdır (Chou vd., 2018). Odacı ve Çıkrıkçı (2017) ruh sağlığı problemlerinin bireylerin aşırı internet kullanımının sebebi olabileceğini belirtmiştir. Bu aşırı kullanım zaman zaman internet bağımlılığına dönüşmektedir. Shapira, Goldsmith, Kerr Jr, Khosla ve McElroy (2000) problemlili internet kullanımı olan bireylerin %70'inin aynı zamanda duygu-durum bozukluğu da yaşadığını tespit etmiştir (10% depresyon, 60% iki uçlu duygu-durum bozukluğu). İnternet bağımlılığı birçok ruh sağlığı problemiyle eş zamanlı olarak gözlemlenmiştir. Etkili bir psikolojik müdahale planlamak için internet bağımlılığının altında yatan başka bir psikolojik sorundan kaynaklı ya da o sorundan bağımsız olma durumunu inceleyen çalışmalara ihtiyaç duyulmaktadır (Arısoy, 2009). Böylece bu çalışmanın bulguları üniversite psikolojik danışma merkezlerindeki profesyoneller için psikoeğitim gibi önleme temelli programların yapılandırılmasına ve danışanlara uygun müdahalelerin sağlanmasına katkıda bulunabilir.

### **1.3 Çalışmanın Amacı**

Bu çalışmanın amacı: Bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınmanın üniversite öğrencilerinin internet bağımlılığı üzerindeki yordayıcı rolünü incelemektir.

### **1.4 Araştırma Soruları**

Bu çalışmada cevap aranacak araştırma sorusu: İnternet bağımlılığının hangi ölçüde bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınma tarafından yordandığıdır.

### **1.5 Değişkenlerin Tanımları**

*Bağımlılık*: Egger ve Rauterberg (1996) bağımlılığı bir maddenin aşırı kullanımı veya insanın günlük hayatındaki bir davranışın takıntılı bir şekilde

sürdürülmesi ve bu davranışın kişi tarafından kontrol edilememesi şeklinde tanımlanmıştır.

*İnternet Bağımlılığı:* İnternet bağımlılığı bireyin, günlük hayattaki olumsuz etkilerine rağmen internet kullanımını üzerindeki kontrolünü kaybetmesidir (Billieux ve Van Der Linden, 2012). İnternet bağımlılığı için üzerinde anlaşmaya varılmış resmi tanı kriterleri bulunmamaktadır ve DSM-V internet bağımlılığı için tanı kriterlerini içermemektedir (Spada, 2014).

*Bilişsel Ayrışma:* Bilişsel ayrışma düşünceler ve duygular gibi içsel deneyimlere tamamen kapılmayı önleyebilme yetisidir (Forman, vd., 2012).

*Depresyon:* Depresyon değişmeyen hüzünlü ruh hali, geçmişte keyif veren aktivitelerden daha az zevk alma ve bu aktivitelere olan ilginin azalması, uyku ve iştah bozulmaları, yorgunluk ve dikkat eksikliği gibi durumlara neden olan bir ruh sağlığı bozukluğu olarak tanımlanmıştır (Dünya Sağlık Örgütü, 2020).

*Bilinçli Farkındalık:* Bilinçli farkındalık şimdiki ana odaklanma, anlık öznel deneyimlere ve yargılayıcı olmayan düşüncelere yönelme, kabul ve gözlem gibi temel yapılarla (Bishop vd., 2000 & Marcus, 2009; akt. Ögel, Sarp, Gürol ve Ermağan, 2014) karşılık gelen bir doğu meditasyon geleneğidir (Kabat ve Zinn, 2000; akt. Özyeşil, Arslan, Kesici ve Deniz, 2011).

*Deneyimsel Kaçınma:* Deneyimsel kaçınma, güçlü sıkıntı içeren olumsuz uyarılardan kaçma ve onları kontrol etmeye yönelik öz düzenlemeyi içeren bir yöntemdir (Hayes, 1994).

## **2. YÖNTEM**

### **2.1 Araştırma Deseni**

Bu çalışmada bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınmanın internet bağımlılığını ne ölçüde yordadığını araştırmak amacıyla ilişkisel araştırma yöntemi kullanılmıştır.

## 2.2 Örneklem

Bu çalışmanın örneklemini Gaziantep’te bir devlet üniversitesinde ve bir vakıf üniversitesinde eğitimini sürdüren 640 (441 kadın, 199 erkek) lisans öğrencisinden oluşmaktadır. Çalışmanın verileri 2019-2020 eğitim öğretim yılı güz döneminde toplanmıştır.

## 2.3 Veri Toplama Araçları

Bu çalışmada veri toplama aracı olarak Demografik Bilgi Formu, Young İnternet Bağımlılığı Testi-Kısa Formu (YİBT-KF), Drexel Ayrışma Ölçeği (DAÖ), Beck Depresyon Envanteri (BDE), Bilinçli Dikkat ve Farkındalık Ölçeği (BDFÖ) ve Çok Boyutlu Yaşantısal Kaçınma Ölçeği- 30 (ÇBYKÖ-30) kullanılmıştır.

### 2.3.1 Demografik Bilgi Formu

Demografik Bilgi Formu araştırmacı tarafından geliştirilmiştir. Formda cinsiyet, yaş, internet bağlantısına sahip olma, günlük internet kullanım süresi, internete erişimde kullanılan araç ve kalınan yer gibi bilgileri elde etme amacıyla sorulan sorular bulunmaktadır.

### 2.3.2 Young İnternet Bağımlılığı Testi- Kısa Formu (YİBT- KF)

Young İnternet Bağımlılığı Testi, İnternet bağımlılığı düzeyini ölçmek amacıyla Young (1998) tarafından geliştirilmiş ve Pawlikowski, Altstötter-Gleich ve Brand (2013) tarafından kısa forma dönüştürülmüştür. Ölçek 1 (hiç) ile 5 (çok sık) arasında derecelendirilmiş, 12 maddeden oluşan, 5’li Likert tipi bir ölçektir. Yüksek puanlar, yüksek düzeyde internet bağımlılığını ifade etmektedir.

Pawlikowski ve diğerleri (2013) ölçeğin kısa forma dönüştürdüğü halinin güvenilirliğini .84 olarak saptamıştır. Ölçeğin kısa formunun Kutlu ve diğerleri (2016) tarafından geliştirilen Türkçe uyarlamasının iç tutarlık katsayısı .91 iken, bu çalışmada bulunan iç tutarlık katsayısı .89’dur.

### **2.3.3 Drexel Ayrışma Ölçeği (DAÖ)**

Drexel Ayrışma Ölçeği (DAÖ) Forman ve diğerleri (2012) tarafından duygu ve düşüncelerden uzaklaşabilme yetisini ölçme amacıyla geliştirilmiştir. DAÖ, 0'dan 4'e kadar derecelendirilmiş 10 maddeden oluşan 5'li Likert tipi bir ölçektir. 0 "hiç" ve 4 "çok fazla" anlamına gelmektedir. Alınan yüksek puanlar yüksek düzeyde bilişsel ayrışmayı belirtmektedir.

Ölçeğin Cronbach alfa güvenirlik katsayısı .83 olarak hesaplanmıştır (Forman vd., 2012). DAÖ, Türkçeye Aydın ve Yerin Güneri (2018) tarafından uyarlanmıştır. Cronbach alfa iç tutarlılık kat sayısı değeri .80 olan uyarlanmış ölçeğin, test- tekrar test güvenirliği .81 olarak tespit edilmiştir. Bu çalışmada ise ölçeğin cronbach alfa iç tutarlılık katsayısı .78 olarak hesaplanmıştır.

### **2.3.4 Beck Depresyon Ölçeği (BDÖ)**

Beck Depresyon Ölçeği, Beck (1961) tarafından bireylerin depresyon seviyelerini ölçme amacıyla geliştirilmiş bir ölçektir. Ölçek depresyonun duygusal, bilişsel, bedensel ve güdüsel belirtileri ile ilgili 21 maddeden oluşmaktadır. Ölçeğin maddeleri 0'dan 3'e kadar derecelendirilmiştir. Sonuçlara göre depresyon ve farklı düzeyleri tespit edilmektedir.

Beck'in orijinal çalışmasında ölçeğin iç tutarlılık katsayısı .86 olarak saptanmıştır. Türkçe uyarlaması Hisli (1988) tarafından düzenlenen ölçeğin iç tutarlılık katsayısı ise iki yarıya bölme yöntemiyle hesaplanmış ve .74 ile .80 arasında tespit edilmiştir. Bu çalışmada saptanan BDÖ cronbach alfa iç tutarlılık kat sayısı ise .90'dır.

### **2.3.5 Bilinçli Dikkat ve Farkındalık Ölçeği (BDFÖ)**

Bilinçli Dikkat ve Farkındalık Ölçeği Brown ve Ryan (2003) tarafından gündelik hayatın anlık deneyimlerinin farkında olma eğilimi ve bunlar hakkında dikkatli olabilmeyi ölçmek amacıyla geliştirilmiştir. Altılı Likert ölçek olarak düzenlenmiş 15 maddeden oluşmaktadır. 1 "hemen hemen her zaman", 6 "hemen hemen hiçbir zaman" anlamına gelmektedir.

Brown ve Ryan (2003) BDFÖ'nün iç tutarlılık katsayısını .82 olarak saptamıştır. Ölçeğin Türkçe uyarlamasını geliştiren Özyeşil ve diğerleri (2011) ise iç tutarlılığı .80 olarak tespit etmiştir. Bu çalışmaya göre ise ölçeğin iç tutarlılığı .82'dir.

### **2.3.6 Çok Boyutlu Yaşantısal Kaçınma Ölçeği- 30 (ÇBYKÖ-30)**

ÇBYKÖ-30, Sahdra, Ciarrochi, Parker ve Scrucca (2016) tarafından bireylerin istenmeyen durumlardan kaçınmasını ölçmek amacıyla geliştirilmiştir. ÇBYKÖ- 30, 1 (tamamen katılmıyorum) ile 7 (tamamen katılıyorum) arasında derecelendirilmiş, 30 maddeden oluşan Likert tipi bir ölçektir. Ölçeğin 6 adet alt boyutu bulunmaktadır.

ÇBYKÖ-30'un alt boyutları için iç tutarlılık katsayısı değerleri .78 (davranışsal kaçınma), .76 (sıkıntıdan hoşlanmama), .78 (erteleme), .78 (dikkat dağıtma/bastırma), .79 (baskılama/inkar) ve .80 (sıkıntıya katlanma) olarak bulunmuştur (Sahdra vd. 2016).

Ölçeğin Türkçe uyarlaması Ekşi, Kaya ve Kuşçu (2018) tarafından yapılmış ve alt ölçekler için iç tutarlılık katsayıları değerleri .79 (davranışsal kaçınma), .76 (sıkıntıdan hoşlanmama), .78 (erteleme), .87 (dikkat dağıtma/bastırma), .81 (baskılama/inkar) ve .85 (sıkıntıya katlanma) olarak tespit edilmiştir. Sonuçlar göz önünde bulundurulduğunda, ÇBYKÖ- 30 Türk katılımcılara uygulanma hususunda yeterli güvenilirlik ve geçerlilik değerlerine sahip bir ölçek olarak kabul edilmiştir.

Bu çalışmada hesaplanan iç tutarlılık kat sayıları ise tüm ölçek için .84; alt ölçekler için ise .81 (davranışsal kaçınma), .74 (sıkıntıdan hoşlanmama), .68 (erteleme), .65 (dikkat dağıtma/bastırma), .89 (baskılama/inkar) ve .74 (sıkıntıya katlanma) olarak saptanmıştır.

### **2.4 Veri Toplama Süreci**

Veri toplama süreci öncesinde Orta Doğu Teknik Üniversitesi İnsan Araştırmaları Etik Kurulundan gerekli izinler alınmıştır. Ölçeklerin kullanımıyla ilgili izinler ise yazarlarına e-posta yoluyla ulaşılarak edinilmiştir. Bu aşamalardan sonra, veriler 2019-2020 eğitim öğretim yılı sonbahar döneminde Gaziantep'te bulunan bir vakıf üniversitesinde ve bir devlet üniversitesinde öğrenim görmekte olan lisans öğrencilerinden toplanmıştır. Ölçekler akademisyenlerden izin alındıktan sonra ders

saatlerinde arařtırmacı veya akademisyen tarafından uygulanmıřtır. Akademisyenler, leklerin uygulanma ařamasından nce alıřmanın amacı ve uygulama sreci hakkında bilgilendirilmiřtir. Katılımcılara alıřmanın amacı ve diledikleri zaman katılmadan vazgeebilecekleri uygulamanın bařlangıcında szel olarak ve bilgilendirilmiř onam formunda yazılı olarak aıklanmıřtır.

## 2.5 Veri Analizi

ncelikle kayıp deęerlerin ve yanlış veri giriřlerinin tespiti iin analizler yapılmıř ve betimleyici istatistiki veriler elde edilmiřtir. Daha sonra biliřsel ayrıřma, depresyon, bilinli farkındalık ve deneyimsel kaınmanın niversite đrencilerinin internet baęımlılıęını yordamadaki roln saptamak amacıyla hiyerarřik oklu regresyon analizi dzenlenmiřtir. Bu analizlere ek olarak, devlet niversitesi ve zel niversite đrencilerinin internet baęımlılıęı dzeyleri arasında anlamlı bir fark bulunup bulunmadıęını tespit etme amacıyla baęımsız rneklemler t-testi yapılmıřtır.

## 3. BULGULAR

Aıklayıcı analiz sonuları gz nnde bulundurularak alıřmada kullanılan leklerin ortalama, standart sapma, en kk ve en byk deęerleri belirlenmiřtir. Deęiřkenler arası iliřkilerin saptanmasında ise Pearson korelasyon yntemi kullanılmıřtır.

Yordayıcı deęiřkenler arasındaki iliřkiler incelendięinde, davranıřsal kaınma ve biliřsel ayrıřma; baskılama/inkar ve biliřsel ayrıřma; dikkat daęıtma/bastırma; baskılama/inkar ve davranıřsal kaınma; sıkıntıya katlanamama ve erteleme deęiřkenleri arasında anlamlı iliřki bulunmamıřtır. Bu deęiřkenler dıřındaki btn deęiřkenler arasında anlamlı iliřkiler tespit edilmiřtir. En yksek dzeyde anlamlı negatif iliřki bilinli farkındalık ve depresyon arasında bulunurken ( $r = .37, p < .01$ ), en gtl anlamlı pozitif iliřki deneyimsel kaınmanın dikkat daęıtma/bastırma ve sıkıntıdan hořlanmama alt boyutları arasında bulunmuřtur ( $r = .33, p < .01$ ). Ayrıca, t-testi sonularına gre, zel niversite đrencileri ile devlet niversitesi đrencilerinin internet baęımlılıęı dzeyleri arasında anlamlı bir fark bulunmamıřtır.

Üniversite öğrencilerinde bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınmanın internet bağımlılığını ne ölçüde yordadığını tespit etmek amacıyla hiyerarşik çoklu regresyon analizi yapılmıştır. Analiz dört adımda gerçekleştirilmiştir. Birinci adımda (Model 1) bilişsel ayrışmanın internet bağımlılığındaki varyansın %2'sini açıkladığı tespit edilmiştir. Model 2'de ise depresyon regresyona dahil edilmiş ve modelin internet bağımlılığındaki varyansın %11'ini açıkladığı görülmüştür. Bilinçli farkındalığın da analize dahil edildiği Model 3 varyansın %15'ini açıklarken, deneyimsel kaçınmanın tüm boyutlarının da son adımda eklenmesiyle varyansın %22'sinin çalışmanın yordayıcı değişkenleriyle açıklandığı görülmüştür. Özet olarak bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınmanın internet bağımlılığının yordayıcıları olduğu saptanmıştır.

## 5. TARTIŞMA

### 5.1 Bulguların Tartışılması

Sonuçlar yüksek düzeyde bilişsel ayrışma ve bilinçli farkındalığa ayrıca düşük düzeyde depresyon ve deneyimsel kaçınmaya sahip üniversite öğrencilerinin internet bağımlılığına düşük seviyede bir eğilim gösterdiğini ortaya koymuştur. Hiyerarşik çoklu regresyon analizindeki dört modelin her birinde eklenen değişkenler internet bağımlılığındaki varyansa anlamlı katkılarda bulunmuştur. Buna rağmen deneyimsel kaçınmanın alt boyutları incelendiğinde davranışsal kaçınma ve dikkat dağınıklık/bastırma alt boyutları ile internet bağımlılığı arasında anlamlı bir ilişki bulunmamış; erteleme, sıkıntıdan hoşlanmama, baskılama/ inkâr ve sıkıntıya katlanma alt ölçekleri ise internet bağımlılığıyla pozitif yöne ilişkili olarak bulunmuştur.

Yapılan alan-yazın taramasında, çalışmanın yordayıcı değişkenlerinden olan bilişsel ayrışma ile internet bağımlılığı arasındaki ilişkiyi inceleyen bir araştırmaya rastlanmamıştır. Bilişsel ayrışma ile sigara bağımlılığı (Hooper vd., 2018), yeme krizi (Moffitt, Brinkworth, Noakes ve Mohr, 2012; Taylor, 2018), kaygı (Bardeen and Fergus, 2016; Way, 2013), stres (Bardeen and Fergus, 2016; Hinton ve Gaynor, 2010) gibi değişkenlerin arasındaki ilişkileri inceleyen çalışmalar ise mevcuttur. Sigara bağımlılığı bağımlılığın bir türü olması yönüyle bu çalışmaya yakın görülebilir. Sigara



bağımlılığı ile ilgili çalışmalarda, bu çalışmaya benzer olarak anlamlı negatif ilişkilere ulaşılmıştır.

Çalışma sonucunda elde edilen değerler yordayıcı değişkenler arasında internet bağımlılığındaki değişime katkısı en fazla olan değişkenin depresyon olduğunu göstermiştir. Buna göre yüksek depresyon düzeyi olan öğrencilerin internet bağımlısı olma riskinin daha fazla olduğu belirtilebilir. Bu bulgu depresyon ile üniversite öğrencilerinin internet bağımlılığı arasında anlamlı pozitif ilişki saptayan çalışmaların sonuçlarıyla tutarlıdır (Bahrainian, Alizadeh, Raeisoon, Gorji & Khazee, 2014; Ceyhan ve Ceyhan, 2008; Dalbudak vd., 2013; Dalbudak vd., 2014; Demir ve Kutlu, 2016; Günay vd., 2018; Huang, Chen, Wang ve Wang, 2014; Odacı ve Çıkrıkçı 2017; Şenormancı vd., 2014; Younes vd., 2016). Ayrıca, alan-yazında bu çalışmanın bulgularıyla tutarlı olarak internet bağımlılığı ile bilinçli farkındalık arasında anlamlı negatif ilişkiler tespit eden çalışmalar mevcuttur (Gamez-Goadix and Calvete, 2016; Peker vd., 2019).

Deneyimsel kaçınmanın bazı alt boyutları (erteleme, baskılama/inkar, sıkıntıya katlanamama ve sıkıntidan hoşlanmama) ile internet bağımlılığı arasında anlamlı pozitif ilişkiler bulunurken, bazı alt boyutları (davranışsal kaçınma ve dikkat dağıtma/bastırma) için ise anlamlı ilişkiler saptanmamıştır. Alan-yazında internet bağımlılığı ile deneyimsel kaçınma arasında anlamlı pozitif ilişki tespit eden çalışmalar bulunmaktadır (Chou vd., 2017; Chou vd., 2018; Hsieh, Hsiao, Yang, Lee ve Yen, 2019).

Özet olarak; bilişsel ayrışma, depresyon, bilinçli farkındalık ve deneyimsel kaçınmanın bazı alt boyutlarından sıkıntıya katlanma, erteleme, sıkıntidan hoşlanmama, baskılama/inkar düzeylerinin internet bağımlılığını yordadığı görülmüştür. Deneyimsel kaçınmanın diğer alt boyutlarından olan davranışsal kaçınma ve dikkat dağıtma/bastırma ile internet bağımlılığı arasında ise anlamlı ilişki bulunmamıştır. Bunun yanı sıra, çalışmanın diğer yordayıcı değişkenlerine kıyasla depresyonun, internet bağımlılığının en güçlü yordayıcısı olduğu tespit edilmiştir.

#### **4.2 Gelecekteki Alan Uygulamaları için Öneriler**

Bu çalışma bilişsel ayrışma ve internet bağımlılığı arasındaki ilişkiyi inceleyen ilk çalışma olması açısından özgün bir yapı taşımaktadır. Çalışmada bilişsel

ayrışmanın üniversite öğrencilerinin internet bağımlılığı üzerinde etkili olduğunun saptanması, bu çalışmayı üniversitelerde çalışan psikologlar ve psikolojik danışmanlar için önemli ve kullanılabilir bir araç haline getirmektedir. Üniversitelerdeki ruh sağlığı çalışanları, bilişsel ayırma uygulamalarını bireysel ve grup görüşmelerine entegre edebilir. Böylece, öğrenciler kendilerine zarar veren düşüncelerine sıkıca bağlanıp bütünüyle onların doğruluğuna ve gerçekliğine inanmak yerine, onların sadece birer düşünce olduğunu fark edebilirler.

Çalışmadaki değişkenler arasında depresyon en güçlü yordayıcı olarak tespit edilmiştir. Üniversitelerdeki psikolojik danışma merkezlerinde bu konuya uygun grupla danışma ve bireysel danışma hizmetleri sunulabilir. Sadece bu hizmetleri sunmak değil, öğrencileri bilgilendirmek de önemlidir. Bazı öğrenciler internet bağımlılığı yaşamalarının depresyondan kaynaklandığını fark etmeyebilir çünkü bu iki kavram arasındaki olası ilişkiden haberdar olmayabilir. Üniversite öğrencileri bu konuda broşürler, afişler, üniversite psikolojik danışma merkezlerinin internet sitesindeki bilgilendirici yazılar gibi araçlar kullanılarak bilgilendirilebilir.

Bu çalışmanın bulguları üniversite öğrencilerinde bilinçli farkındalık düzeyi arttıkça internet bağımlılığının anlamlı bir şekilde azaldığını göstermiştir. Bu yüzden üniversite öğrencileri için bilinçli farkındalık tekniklerini günlük hayatlarında nasıl kullanabilecekleriyle ilgili psikoeğitim programları düzenlenebilir. Özellikle, bilinçli farkındalık temelli stres azaltma programları düzenlenmesi, öğrencilerin stres düzeylerini azaltarak onlar için internet bağımlılığı da dahil olmak üzere pek çok psikolojik soruna karşı koruyucu bir rol üstlenebilir. Üniversitelerin psikolojik danışma merkezleri, internet bağımlılığı yaşayan öğrenciler için bilinçli farkındalık temelli oturumlar düzenleyebilir.

Daha önceki bölümlerde de belirtildiği üzere, bu çalışmada deneysel kaçınma alt boyutlarıyla incelenmiştir. İnternet bağımlılığı ile deneysel kaçınmanın bazı alt boyutları arasında anlamlı ilişki bulunurken, bazılarıyla ise bulunmamıştır. Alan-yazındaki daha önceki çalışmalar incelendiğindeyse internet bağımlılığı ile deneysel kaçınma arasında anlamlı pozitif ilişkiler saptandığı görülmüştür. Bu sebeple, bu çalışmanın gelecekteki çalışmalar için deneysel kaçınmayı alt boyutlarıyla inceleme gerekliliğine işaret ettiği düşünülebilir.

### 4.3 Gelecekte Yapılacak Çalışmalar İçin Öneriler

Bu çalışmanın deseni ilişkiseldir, bundan dolayı değişkenler arasındaki sebep sonuç bağlarını yansıtan bilgiler vermemektedir. Gelecek çalışmalar için, sebep sonuç ilişkileri elde etmeleri adına deneysel araştırma deseni kullanmaları önerilebilir. Bunun yanında boylamsal çalışmaların yapılması da internet bağımlılığı ve ilişkili faktörlerin üniversite öğrencilerinde yıllar boyunca nasıl değiştiğini tespit edebilmek için etkili olabilir. Böylece hem grubun hem de bir öğrencinin yıllar içinde değişkenlerle ilişkili olarak nasıl bir değişim geçirdiği anlaşılabilir.

Bu çalışma Gaziantep'te bulunan bir özel üniversitede ve bir devlet üniversitesinde yürütülmüş ve katılımcılar uygun/ulaşılabilir örnekleme yöntemiyle seçilerek belirlenmiştir. Gelecekteki çalışmaların örneklemin rastlantısal olarak seçilerek ve Türkiye'nin başka bölgelerini de kapsayacak şekilde düzenlenmeleri önerilebilir.

Vakıf üniversitesi ve devlet üniversitesi öğrencilerinin internet bağımlılığı düzeyleri arasında fark bulunmamasına rağmen, öğrencilerin başa çıkmak durumunda kaldıkları durumlar arasında farklılıklar bulunabilir. Örneğin vakıf üniversitesindeki öğrencilerin daha az ekonomik sorun yaşayacağı düşünülebilir. Bu gibi farklılıklar gelecekteki çalışmalarda daha detaylı olarak incelenebilir.

Tüm bunlara ek olarak internet bağımlılığı alan-yazınının çok geniş olduğu ve sadece bu çalışmada kullanılan değişkenlerle internet bağımlılığını açıklamanın yeterli olmayacağı belirtilebilir. Gelecekte çalışma yapacak araştırmacılara demografik özelliklerin ve başka olası ilişkili faktörlerin üniversite öğrencilerinin internet bağımlılığı düzeyindeki rolünün incelenmesi önerilebilir. Bilişsel ayrışma da bu faktörlere dahil edilebilir çünkü bilişsel ayrışmanın internet bağımlılığı üzerindeki rolü ilk defa bu çalışmada incelenmiştir ve alan-yazında bu konuda hala bir boşluk bulunmaktadır.

## APPENDIX J: TEZ İZİN FORMU/ THESIS PERMISSION FORM

### ENSTİTÜ / INSTITUTE

- Fen Bilimleri Enstitüsü** / Graduate School of Natural and Applied Sciences
- Sosyal Bilimler Enstitüsü** / Graduate School of Social Sciences
- Uygulamalı Matematik Enstitüsü** / Graduate School of Applied Mathematics
- Enformatik Enstitüsü** / Graduate School of Informatics
- Deniz Bilimleri Enstitüsü** / Graduate School of Marine Sciences

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DANIŞMANLIK / EDUCATIONAL SCIENCES, GUIDANCE and  
PSYCHOLOGICAL COUNSELLING

**TEZİN ADI / TITLE OF THE THESIS (İngilizce / English):** THE ROLE OF  
COGNITIVE DEFUSION, DEPRESSION, MINDFULNESS AND EXPERIENTIAL  
AVOIDANCE ON INTERNET ADDICTION AMONG UNIVERSITY STUDENTS

**TEZİN TÜRÜ / DEGREE:** **Yüksek Lisans** / Master  **Doktora** / PhD

1. **Tezin tamamı dünya çapında erişime açılacaktır.** / Release the entire work immediately for access worldwide.
2. **Tez iki yıl süreyle erişime kapalı olacaktır.** / Secure the entire work for patent and/or proprietary purposes for a period of **two years**. \*
3. **Tez altı ay süreyle erişime kapalı olacaktır.** / Secure the entire work for period of **six months**. \*

**Yazarın imzası** / Signature ..... **Tarih** / Date .....