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### *Extended Abstract*

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# The Use of Cognitive-Behavioral Therapy in Coping with Internet Addiction: A Case Study

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## **Abstract**

Along with the increasing use of the internet due to the wide availability of computers and smartphones, many studies have revealed an increase in problems experienced in work, school, family, and social life. The effects of internet addiction are defined as difficulties experienced in social, work, and school life due to an inability to control one's internet use and excessive use of the internet. There are a wide range of studies in the world regarding the definition, causes, and effects of internet addiction, however, research on the problem and solutions for internet addiction seem to be limited in Turkey. This study assessed the effectiveness of cognitive-behavioral counseling to develop coping skills in the treatment of internet addiction. In this respect, seven sessions were conducted with a 14-year-old girl diagnosed with internet addiction. The effectiveness of the program was tested with Young's Internet Addiction Test (YIAT) by comparing pre-test and post-test results and descriptive data. The results of the study revealed a decrease in the level of dependence in the subject. The subject has gained a healthy behavior surrounding the internet, and her school performance, and family and peer relationships have improved.

**Keywords:** Addiction • Internet • Internet addiction • Education • Cognitive-Behavioral therapy

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The development of technology has made computer and internet usage quite widespread in all sections and age groups of society. According to the Turkey Statistical Institute's "Household Use of Information Technology in Turkey" survey (TÜİK, 2013) which was conducted on the 16–74 age group, computer and internet usage rates have been found to be 49.9% and 48.9%, respectively. The highest computer and internet use rate was observed among 16–24 year olds. The survey (2013) also displayed that children start using the internet at an average age of nine. Computer, internet, and mobile phone usage rates of children between 6–15 years are as follows: 60.5%, 50.8%, and 24.3%. Among the internet users in this age group, the following breakdown of time has been calculated as to how much time is spent on the internet per week: 38.2% spend up to two hours, 47.4% spend between three to ten hours, 11.8% between 11 and 24 hours, and 2.6% spend more than 24 hours on the internet per week.

Excessive internet users' increasing problems in their work, social, and private lives have led to broad discussions on the topic. internet addiction exhibits itself with excessive internet use, preoccupation regarding the use of the internet, misuse of the internet, repetitive thoughts related to the control and limiting the use of the internet, inability to stop accessing the internet, the continuous increase in the hours spent online despite a loss of functionality, and experiencing withdrawal symptoms during a lack of internet access (Young, 1999 as cited in Şenorman, Konkan, & Sungur, 2012).

The term "internet addiction" was first used by Goldberg in 1996 (Ögel, 2012), and is interchangeable with various terms such as "computer addiction," "cyber addiction," "online addiction," "net addiction," "pathological internet use," "problematic internet use," "compulsive internet use," and "technology addiction" (Davis, 2001; Goldberg, 1996; Roij, Zinn, Schoenmakers, & Mheen, 2012; Şenormancı et al., 2010; Young, 1996). This study will use "internet addiction" to describe the pathological behavior.

### **Definition of Internet Addiction**

Internet addiction is defined as a failure to stop internet overuse, the loss of meaning of time spent offline, aggression in case of withdrawal and increasing degradation of the person's job, school social, and family life (Arisoy, 2009). The

DSM-IV determines the addiction criteria only for chemical and behavioral addictions, thus internet addiction is not yet defined as a standalone disorder. The concept of addiction involves the use of chemicals such as alcohol, cannabis, cocaine, and heroin therefore does not seem to do a full explanation with regard to the causes of addiction (Arısoy, 2009; Ögel, 2012).

Studies attempting to define internet addiction tend to lean toward two different perspectives: (1) internet addiction is an independent disease; (2) it is a symptom of another disease (e.g., internet addiction could present as a symptom of depression). Those who identify internet addiction as an independent disease argue that individuals could use the internet to suppress the troubles that arise due to other disorders. Not everyone who uses the internet excessively is an addict, but individuals that are addicts use the internet as an ideal environment to achieve temporary satisfaction within their lives as is comparable to other types of addicts. Thus, it is important to distinguish between individuals that may be dependent on the internet for various reasons, but not for the brief and enjoyable satisfaction that an internet addict would per se (Griffiths, 2000 as cited in Arısoy, 2009; Mikowski, 2005; Ögel, 2012).

Young (1996) seeks to identify internet addiction as a psychiatric disorder and therefore she has developed a self-assessment questionnaire for internet addiction by rearranging the criteria for the diagnosis of pathological gambling. According to Young, the internet, like gambling, creates an addiction and leads to various impulse control disorders.

As well as Young's (1996), internet Addiction Test, Goldberg has also developed a diagnostic scale for internet addiction (as cited in Şenormancı et al., 2010). In addition, Beard and Wolf (2001) have developed principles for internet addiction within the framework of Young's criteria.

Young (1996) adapted the pathological gambling disorder criteria in the DSM-IV to fit internet addiction and observed that internet addicts exhibit similar characteristics to gambling addicts, such as lack of self-confidence, emotional sensitivity, reactivity, alertness, lack of ability to express oneself and incompatibility. Young (1999), summarized her research findings under eight headings: extreme mental preoccupation with the internet, the increasing need to use the internet to take pleasure, unsuccessful attempts to control, reduce, or

completely stop the internet usage, in case of a reduction or complete cessation of internet use experiencing feelings of anxiety, depression or anger, spending more time on the internet than initially planned, having problems with family, school, friends and colleagues due to the excessive use of the internet, missing an opportunity related to career or education, lying to others (family, friends, therapists, and so on.) about the time spent online, using the internet to get away from the problems and negative feelings. Out of eight criteria, if five of them fit the individual, he or she can be considered an internet addict.

### **Cognitive-Behavioral Therapy**

Cognitive-behavioral therapy involves therapeutic approaches that help people identify their distressing thoughts and evaluate how realistic the thoughts are; then they learn how to change their distorted thinking. When they think more realistically, they begin to feel better. The emphasis is on consistently solving problems and initiating behavioral change (Beck, 2008).

Cognitive-behavioral therapy defines healthy use of the internet as using it in a period that can be considered reasonable in an individual's own terms, with a clear purpose; the individual distinguishes the difference between real communication and communication through the internet without hiding his or her real identity (Davis, 2001 as cited in Şenormancı et al., 2010).

Positive effects of cognitive-behavioral therapy within the treatment of internet addiction have been emphasized by various researchers (Arisoy, 2009; Davis, 2001; Ögel, 2012; Roij et al., 2012; Şenormancı et al., 2010; Young, 1999, 2000). Dysfunctional automatic thoughts, intermediate beliefs and core beliefs have undeniable contributions to the formation of internet addiction. Automatic thoughts are streams of negative thoughts that seem to arise spontaneously. Regardless of whether they are rational, these cognitions just come automatically in response to an event. A key part of cognitive behavioral therapy is to learn how to recognize automatic thoughts and reduce one's belief in them (Türkçapar, 2012).

Preventing access to or attempting to abstain from the internet in the treatment of addiction is not a functional method. Computers and the internet are

involved in all areas of life; therefore models based on internet avoidance in the treatment of addiction cannot offer practical solutions. The most appropriate approach when dealing with internet addiction is based on controlled use, similar to when one deal with eating disorders (Khazaal et al., 2012; Roij et al., 2012; Young, 1999).

The main cognitive-behavioral and motivational components of the “internet addiction” treatment are acknowledgement of the problem, auto observation, time management, development of off-line activities, and relapse prevention (Khazaal et al., 2012). Davis and Young’s models of internet addiction treatment are among the most comprehensive and functional cognitive-behavioral models. Davis (2001), implies an important role of cognitions in the Pathological Internet Use (PIU), and provides a framework for the development of cognitive-behavioral interventions for the PIU within an 11-week period, observing whether the individual can stay away from the internet, moving the computer in a room where others can see, connecting to the internet with other clients, changing his or her connection time, keeping an internet book, putting an end to personal use, sharing his or her problems related to the internet with family and friends, participating in sports activities, taking internet breaks, examining automatic thoughts, doing relaxation exercises, recording moods and feelings when offline, and acquiring new social skills (as cited in Arısoy, 2009).

Young’s therapy is usually limited to time and takes 12 sessions. First, the problem is acknowledged following a behavior analysis of the phenomenon. Clients are invited to identify their “voice of denials” such as permissive cognitions related to internet misuse. Then, a detailed assessment of online activities in terms of time, purpose, and location occurs. Behavioral strategies aiming to manage time are proposed and the client is trained. Those strategies involve the development of alternative activities, the identification of the usual pattern of usage, using external stoppers of internet use, planning internet usage, and alternative activities. Also, exploring factors leading to loneliness, limiting social life on the internet, and moving to real life situations are some of the steps in Young’s treatment (as cited in Arısoy, 2009).

In the light of the literature findings, this study develops an approach that will help individuals cope with internet addiction using cognitive-behavioral methods and enhance healthy internet use. In accordance with the general

purpose of the study, a seven step counseling practice, which is based on cognitive-behavioral method, has been prepared. The method involves activities, behavioral analysis, practices and assignments focusing on “developing awareness of internet addiction,” “creating motivation for change,” “learning the skills to cope with stress,” “developing regular study habits,” “strengthening communication with peers and family members,” “building social support areas,” “learning healthy internet use skills through time management and with a specific purpose.”

## **Method**

### **Case Selection**

Eighth grade students (112 students) from a primary school in the Fatih district in Istanbul were asked to complete the BAPI Internet Form (BAPINT) to determine the research sample. After assessing the BAPINT questionnaires, four students that spent more than four hours on the internet per day and whose family, school, and social lives were adversely affected due to excessive internet use were selected to continue in the process. These participants were briefly interviewed and informed regarding the study and were asked for their consent to participate in the study. In the preliminary interview, one student mentioned that he did not want to participate in the study. Young’s Internet Addiction Test (YIAT) was conducted on the remaining three students to test their addiction levels, which produced scores of 56, 66, and 81, respectively. The interpretation of the YIAT scores defines 80+ points as “internet addicts,” and 50–79 points in between “showing limited symptoms,” scores of 50 points and below have “no apparent symptoms” (Young, 1996). Therefore, a 14-year-old girl who scored 81 points on the test was identified as the sample of this study.

The client was the fifth child of a family of six children. The mother was an illiterate housewife; the father was literate with no school education, and employed in a government office as a contract worker. The family has a very low socioeconomic status and lives in an apartment as tenants.

The client expressed that she was in conflict with her mother and father, her parents lacked attention and affection toward her, and she did not have

close friends at school or in the neighborhood; she made friends online, she communicated, even with her school friends, on the internet. The client described herself as quiet, reserved, introverted, and lonely. She did not find herself physically attractive, she did not think she had likable features, and believed that she was a failure.

### **Data Collection Tools**

**BAPINT:** The test is composed of 18 questions and was developed by Ögel, Evren, Karadag, and Gürol (2012) to define internet addiction. The Cronbach's alpha coefficient is .88; the item-total correlation coefficients were calculated between .44 to .68 points. The retest score for the entire test is .85 ( $p < .01$ ) and the correlation between BAPINT and YIAT is .81 ( $p < .01$ ).

**YIAT:** Young's (1996) test was adapted into Turkish by Bayraktar (2001). It is a five point Likert-type scale that comprises 20 questions, the participants that score 80 or above are identified as "internet addicts." Participants with a score between 50–79 points "show limited symptoms of addiction," and those with 50 points and below show "no apparent symptoms of addiction" (Bayraktar, 1996). The reliability of the Turkish version of the test was measured to be the Cronbach alpha value of .91, Spearman–Brown value of .87 (Bayraktar, 2001).

### **Application Process-Sessions**

The counseling model to help cope with internet addiction was prepared by two expert counselors trained in cognitive-behavioral theory. One of the experts performed the counseling sessions; the other was in charge of consultation and supervision services for the weekly meetings. Each session lasted approximately 45 minutes.

The counseling lasted for seven sessions and was inspired by Young's (1996) and Davis' (2001) treatment approach based on cognitive-behavioral therapy, the general framework is as follows:

During the first session, the upcoming sessions were structured for the establishment of trust between the counselor and the client, and to establish a description of their relationship. The details such as the client's history of excessive use of the internet, inability to study regularly, low school performance, problems with family and friend relationships were noted. The client expressed that she could not get along with her parents, and could only communicate with her sister who lives in Ankara. She described herself as a quiet, calm, introverted, lonely person, and an unsuccessful student. The client was unable to build friendships in real life but preferred to make friends online. Internet deprivation caused her to experience withdrawal symptoms, nervousness, and agitation. When the client was not online, she thought life had no meaning and felt she was a failure in her family, at school, and in her social life; all of this information strongly pointed to the likelihood of dependence symptoms. In this session, the client's YIAT score were found to be high (81 points). Following the information regarding the cognitive-behavioral process, the client was assigned to keep a record of the purpose and the duration of her internet use on a chart.

Beginning in the second session, we began evaluating the client's mood, and controlling her assignments. In order to help the client raise her awareness levels, the problematic behavior was analyzed and triggering conditions were identified. In this session, the consultation purposes were clarified but they were not fully embodied. The client was connecting to the internet for 4.5 hours a day and approximately 31 hours a week, and it was observed that Facebook was the most frequently used internet function. A weekly internet usage chart was prepared and her daily internet use was limited to 2.5 hours. The hours were shifted to different times, and the computer was moved from the bedroom to the living room so that possible behavior triggers could be monitored. In addition, it was during the second session that we began to focus on the client's beliefs such as "Nobody cares about me," "nothing good will come out of me," "I'm worthless" and begin to change them through guided discovery and evidence review procedures, and replaced them with alternative ideas. The ABC technique was used to show the relationship between thoughts and feelings.

In the third session, the client was observed to have been abiding by the prepared schedule. In this session, the focus was on the important things the

client neglected as a result of excessive internet use. The problematic behavior was further analyzed to solidify the objectives of the counseling process. How thoughts can shape our emotions was studied and a new schedule for internet use was prepared. In the new schedule, access to Facebook was reduced to two hours and access to the internet, other than Facebook (e.g., homework, research.), was suggested to be limited to two hours. A day offline was also assigned as homework.

In the fourth session, the client was seen to have complied with the schedule substantially, but was also observed to have exceeded the internet use for 4 days by 30 minutes. However, she also attended private studies for two hours a day and made friends with a student in the private study class. The fact that she started studying, her grades started improving, and she started to draw the attention of family and friends is thought to be among the contributing factors to the client feeling better about herself and changing her dysfunctional beliefs. The client had a conversation with the counselor regarding the five harms of excessive internet use and five benefits of healthy internet use, which was followed by the preparation of some flashcards containing the items of discussion. The client was advised to look at these cards and contemplate on them when she felt the urge to go online. In order to promote her social life, and to provide alternatives to the internet, she was questioned regarding her hobbies and discovered that she liked playing volleyball despite showing no previous effort in this regard. As a result of the conversation, the client decided to book an appointment with the volleyball coach and to go for a walk or jogging for an hour during the weekends.

In the fifth session, it was recorded that the client had fulfilled her assignments quite well, abstained from the internet for four days, accessed Facebook for three hours a week, studied in the private study place for three hours every day, went walking and jogging for one hour in the park, and went to the cinema on the weekend with school friends. During this session, the client and the counselor also analyzed how thoughts affect emotions and behaviors. One of the most commonly used methods to cope with stress and/or feelings of deprivation was conducted, a series of breathing and relaxation exercises while imagining a safe place. The client was given the following assignments: taking an internet break for three days, jogging for one hour on the weekend, doing

relaxation and breathing exercises twice a day, and accessing Facebook no more than one hour.

In the sixth session, the client's concerns regarding an upcoming exam (the National High School Placement Exam /TEOG) and cognitive distortions were discussed. At the end of the six sessions, the client had reduced her initial daily 4.5 hours of internet use down to one hour and took three days off a week. Her school performance improved and her relationships with her family and friends changed in a healthy direction. The client chose to adopt muscle relaxation and breathing techniques, which were repeated in this session, as well.

In the last session, a brief evaluation of the previous sessions was made and the client was observed to have reached the set targets; the client's mother and teachers also confirmed these positive changes. The client limited her access to Facebook to one hour a day, took days off from the internet and did not experience any discomfort in this regard, improved her relationship with her family and with her friends, contacted her friends face-to-face almost every day, participated in outdoor activities and found them more entertaining, and no longer felt lonely. In addition to these improvements, she expressed that she studied for her course work regularly, her grades improved, she jogged with her friends in the park two days a week, and exercise helped her feel better. The client stated that she had healthy thoughts; she found that she was worthy of love, felt happy, social, and valued by friends and family. When the YIAS was conducted again, the impact of the counseling process was evaluated, and the sessions were ended emphasizing the positive changes she went through and the importance of client's willpower.

These seven sessions were followed up three months later. During the follow-up interview with the client, she stated that she used the internet to communicate with friends, to use social media, and to do homework. She imposed self-discipline in controlling the time she spent online, she did not feel any deprivation when she was offline, and did not experience any problems in relationships with family and friends because of internet use.

## Results and Discussion

This case study intended to test the effectiveness of the program based on a cognitive-behavioral counseling approach, which is expected to help individuals cope with internet misuse and develop healthy internet skills.

In the preparation of the program, Young's (1996) and Davis' (2001) treatment approaches for internet addiction and cognitive-behavioral practices were used. The counseling service was designed for seven sessions, each session lasting approximately 45 minutes. These sessions were conducted in school guidance premises. The participation was voluntary and all necessary consents and permissions were obtained prior to the study within the framework of ethics.

Prior to these sessions, the client spent an average of 4.5 hours online and her YIAT score was found to be high (81 points), allowing her to be defined as an internet addict. The client was a 14-year-old student in the eighth grade that had family problems and was unable to make friends in real life. In addition, she voiced some complaints about negative self-perceptions, school failure, not being understood, and feeling lonely. In this context, the first session was primarily intended to trigger automatic thoughts by applying behavioral interventions, and in the following sessions dysfunctional thoughts were examined. Except for the last session, she was given homework at the end of every session emphasizing the responsibility and willpower of the client in solving the problem. At the beginning and end of each session, a summary was made of the previous session and the client's feedback was collected. Session summaries were made by the client, and began to be emphasized in particular after the fourth session.

This study aimed at teaching the ABC model for defining the problem and analyzing internet usage behavior, identifying automatic thoughts, questioning the functionality of these thoughts, exploring the relationship between emotions, thoughts and behavior, establishment of concrete goals and redefining internet usage behavior, revising the factors that have an impact on behavior change, developing a healthy alternative mind set to cope with internet addiction. In this context, the client was given a responsibility in this process through behavior analysis, using tools such as schedules, internet registry, flashcards, creating activities that could be completed with friends, and assigning her

homework. In addition, relaxation and breathing exercises were taught to show the impact of physiological factors and to acquire skills for cognitive relaxation.

The pre-test and post-test applications were conducted to test the effectiveness of the program. The client's initial YIAT score was 81, whereas the post-test was calculated as 48. This score is associated with individuals that show no symptoms of internet addiction (Bayraktar, 2001). Also, the client's improving family relationships and friendships acquisition, school success and her feedback on the time she spends online indicates the success of the counseling program.

Three months after the counseling practice ended, a follow-up interview was conducted for monitoring purposes. The client expressed that she is careful about practicing what she was taught, she uses the internet only for certain purposes, emphasized that she uses self-discipline to limit the time when she is online, and is not wasting her time online as she used to do.

In conclusion, the pre-test and post-test data, data obtained from the parents, teachers, and the client, and the researchers' observations strongly indicate that the objective of the counseling practice which could be defined as "raising awareness about internet addiction and the problems posed by this addiction, and developing a healthy internet usage behavior" has been achieved.

In this study, potential variables that might trigger "internet addiction" could not be controlled. In future studies, specifying and controlling other independent variables and creating experimental and control groups will provide more in depth information for a further analysis of the issue. In addition, researchers are also advised to include the social environment to have a deeper insight into the issue of internet addiction.

## Kaynakça/References

Akkoyunlu, S., & Türkçapar, M. H. (2013). Bir teknik: Alternatif düşünce oluşturulması. *Bilişsel Davranışçı Psikoterapi ve Araştırmalar Dergisi*, 2, 53-59.

Arısoy, Ö. (2009). İnternet bağımlılığı ve tedavisi. *Psikiyatride Güncel Yaklaşımlar*, 1, 55-67.

Bayraktar, F. (2001). *İnternet kullanımının ergen gelişimindeki rolü* (Yüksek lisans tezi, Ege Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir). <https://tez.yok.gov.tr/UlusalTezMerkezi> adresinden edinilmiştir.

Beard, K. W., & Wolf, E. M. (2001). Modification in the proposed diagnostic criteria for internet addiction. *Cyber Psychology and Behavior*, 4(3), 377-380.

Beck, A. (2008). *Bilişsel terapi ve duygusal bozukluklar* (Çev. A. Türkcan ve V. Öztürk). İstanbul: Litera Yayınları.

Davis, R. A. (2001). A Cognitive-behavioral model of pathological internet use. *Computer Human Behavior*, 17, 187-195.

Goldberg, I. (1996). *Goldberg's message 1996*. Retrieved from <http://www.usr.rider.edu/~suler/psycyber/supportgp.html>.

Khazaal, Y., Xirossavidou1, C., Khan1, R., Edel, Y., Zebouni, F., & Zullino, D. (2012). Cognitive-behavioral treatments for "internet addiction." *The Open Addiction Journal*, 5, 30-35. Retrieved from <http://benthamopen.com/toaddj/articles/V005/SI0012TOADDJ/30TOADDJ.pdf>

Leahy, R. L. (2007). *Bilişsel terapi ve uygulamaları* (Çev. F. Özpilavcı, H. Hacak ve M. Macit). İstanbul: Litera Yayıncılık.

Mikowski, P. I. (2005). *Internet social support: A four –quadrant model for understanding the role of Internet social and psychopathological internet usage* (Doctoral dissertation). Retrieved from <http://www.proxy2.marmara-elibrary.com/>

Ögel, K., Evren, C., Karadağ, F., & Gürol, T. (2012). Bağımlılık Profil İndeksi'nin (BAPİ) geliştirilmesi: Geçerlik ve güvenilirliği. *Türk Psikiyatri Dergisi*, 23(4), 264-273.

Ögel, K. (2012). *İnternet bağımlılığı: İnternetin psikolojisini anlamak ve bağımlılıkla başetmek*. İstanbul: Türkiye İş Bankası Kültür Yayınları.

Roij, A. J., Zinn, M., Schoenmakers, T. M., & Mheen, D. (2012). Treating internet addiction with cognitive-behavioral therapy: A thematic analysis of the experiences of therapists. *International Journal of Mental Health Addiction*, 10, 69-82.

Şenormancı, Ö., Konkan, R., & Sungur, Z. (2010). İnternet bağımlılığı ve bilişsel davranışçı terapi. *Anadolu Psikiyatri Dergisi*, 11, 261-268.

Türkiye İstatistik Kurumu. (2013). *Hanehalkı Bilişim Teknolojileri Kullanım Araştırması, 2013*. <http://tuik.gov.tr/PreHaberBultenleri.do?id=13569> adresinden edinilmiştir.

Türkçapar, M. H. (2012). *Bilişsel terapi*. Ankara: HYB Yayıncılık.

Young, K. S. (1996). Internet addiction: The emergence of a new clinical disorder. *Cyber Psychology and Behavior*, 1(3), 240-242.

Young, K. S. (1999). *Internet addiction: Symptoms, evaluation and treatment*. Retrieved from <http://netaddiction.com/articles/symptoms.pdf>

Young, K. S. (2000). Cyber-disorders: The mental health concern for the new millennium. *Cyber Psychology and Behavior*, 3(5), 475-479.