

**The Role of Personality Traits, Self-esteem, Self-
efficacy and Locus of Control in Internet and
Gaming Dependency**

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ABSTRACT

Gaming and internet dependency is a relatively new area of research. However, it takes tremendous amount of attention from a wide geography. Studies on the matter suggest that gaming and internet dependents are in parallel with the substance related addictions such that evidence is existent on mood modification, escapism, preoccupation, tolerance etc. Since current literature on the matter is plentiful however vague, this research aims to shed light on the role of personality traits (extraversion, neuroticism, conscientiousness, agreeableness and openness to experience), self-esteem, self-efficacy and locus of control on the condition of gaming and internet dependency. 235 participants both from Eastern Mediterranean University and from online surveys volunteered in the study. They completed questionnaires based on self-reports. Results showed that low conscientiousness and low self-efficacy predicted gaming dependency. In addition, conscientiousness, neuroticism and self-esteem predicted internet dependency. However, agreeableness, openness to experience, extraversion and locus of control had no significant value on the dependencies.

Keywords: Gaming, internet, addiction, dependency, personality traits, self-esteem, self-efficacy, locus of control, self-concepts.

ÖZ

Oyun ve internet düşkünlüğü nispeten yeni bir araştırma alanıdır. Buna rağmen geniş bir coğrafyadan yüksek ilgi çekmektedir. Bu konu ile ilgili çalışmalar, oyun ve internet düşkünlüğünün madde bağımlılığıyla aynı doğrultuda olduğunu gösteriyor. Öyle ki bu bulgular duygu durumuna, kaçış tutumuna, toleransa ve aklın dolu ve meşgul olmasına yöneliktir. Mevcut literatürün bol ancak aynı zamanda belirsiz olmasından ötürü bu araştırma, kişilik özelliklerinin (dışa dönüklük, nörotisizm, sorumluluk, uyumluluk ve deneyime açıklık), özgüvenin, öz yeterliliğin ve algı odağının oyun ve internet düşkünlüğündeki rolüne ışık tutmayı hedeflemektedir. Araştırmaya, Doğu Akdeniz Üniversitesinden ve internet anketlerinden toplam 235 gönüllü katılmıştır. Anketler katılımcıların öz bildirimleriyle tamamlanmıştır. Sonuçlar sorumluluğun düşük oluşu ile düşük öz yeterliliğin oyun düşkünlüğünü yordadığını göstermiştir. Ayrıca, düşük sorumluluk, nörotisizm ve düşük özgüvenin ise internet bağımlılığını yordadığı görülmüştür. Ancak, uyumluluğun, deneyime açık olmanın, dışa dönüklüğün ve algı odağının hiçbir anlamlı değeri bulunamamıştır.

Anahtar kelimeler: Oyun, internet, bağımlılık, düşkünlük, kişilik özellikleri, özgüven, öz yeterlilik, algı odağı, benlik algısı.

To My Family

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LIST OF ABBREVIATIONS AND SYMBOLS

APA	American Psychological Association
BFI	Big Five Personality Inventory
DSM	Diagnostic and Statistical Manual of Mental Disorders
Doi	Digital Object Identifier
e.g.	Example Given
et al.	And others
etc	et cetera
GPIUS	Generalized Problematic Internet Use Scale
i.e.	That is
KOGIA	Korean Game Industry Agency
PIU	Problematic Internet Use
<i>F</i>	F-ratio
<i>M</i>	Mean
<i>p</i>	Probability
<i>r</i>	Pearson's Correlation Coefficient
R^2	R-square
ΔR^2	R-square change
<i>SD</i>	Standard Deviation
<i>SEb</i>	Standard Error
<i>t</i>	Critical Value
α	Alpha
β	Beta

Chapter 1

INTRODUCTION

Before the internet was put for use, there were mails, telegraphs, and telephones. Technology of internet connected people at a tremendous level as never before. It represents one of the most important investments in human history and continues to show its importance. When Soviet Russia launched its first satellite into space, race for technological advances has begun. One of the most important steps of this race was to develop a technology for allowing large amounts of data to be sent and received in short intervals (Computer History Museum, 2004). The motives to create such a technology were for military purposes, mostly. If or when the communications were to be cut between government leaders, the internet would take its place. In 1962, ARPANET was set and it all begun. The first message delivered through this network was the word 'LOGIN' in 1969 (even though the system crashed after the second letter, it was considered a success). Then, the World Wide Web was invented in 1992 and was made available to public in 1995 (Computer History Museum, 2004).

To understand the problem of gaming though, first it should be known that what games are. Smed and Hakonen (2003) define games as “a universal form of recreation generally including any activity engaged in for diversion or amusement and often establishing a situation that involves a contest or rivalry.” Video games are programs (implemented via computers) that are designed to create a task, difficult,

medium or easy, and to accomplish it, must overcome the obstacles. Since 1958, the first computer game that is ever invented – tennis for two – many games have been developed that include more complicated and more segregated aspects (Stony Brook University, 2013).

There are different genres in video games. Most popular of these video games are for example, action, adventure, racing, sports, and shooter. Also, among the types, there are kinds of gameplays. For instance, first person, third person, text based, simulation. These games can either be played online or offline and in addition, single-player or multi-player. One last aspect of games is them being either open ended or close ended. Close ended games require the player to complete a task and finish it. Open ended games require the player to complete a task and then another task, and then another... The very nature of open ended games requires a tremendous commitment that may influence your life style resulting from excessive playing. It is a virtual world that an individual can almost do anything in it. For instance, anyone can be a farmer or a warrior, have a spouse and children, rally an army and destroy cities. Gaming companies present individuals with endless scenarios that the players can't possibly finish which consequents in individuals to play and play.

1.1 Gaming Dependency

In her famous book *Caught in the Net*, Young (1998) argued this matter and for the first time, she coined the term 'internet addiction'. Young (1998) argued the concepts of 'online addiction', 'faceless communication', 'surfing on the net' will be a huge problem in the future because of the significant rises in the statistics that suggested each person will have a computer eventually. Thus, there were going to be excessive usage situations where people are prevented from doing their every-day activities

which are actually self-inhibited, self-inflicted problems and of course, with the consideration of sociological background which are pressure of having to do something because peers are doing it as well – to be discussed in detail further. Since either online or offline gaming wasn't of an issue at the time being, the popular topic, at least for Young, was internet usage. In the same line with predictions Young made almost two decades ago, gaming dependency is now a serious issue all over the world, especially in South East Asia, Europe, North America and some percentage of Middle East. More than 90% of adolescents in South Korea are reported to be play online video games and also, in the USA, 73% of the adolescents are estimated play video games either online or offline (KOGIA, 2008; IGA, 2009). A in a study conducted by Kuss, Rooij, Shorter, Griffiths, and Mheen (2013) with 3105 Dutch adolescents revealed a 3.7% prevalence rate. Another study conducted by Bayraktar (2002) revealed a 1.1% prevalence among adolescents in Turkish speaking population. Last, a meta-analysis of pathological gaming revealed that there exists a 9.6% prevalence in online gaming and 4.4% prevalence in offline gaming (Ferguson, Coulson, & Barnett, 2011).

Even though it is known that there is a serious prevalence on the matter of internet and gaming dependency, literature still lacks a general definition that would help the researchers to identify a gaming addict. Thus, this research is aimed at looking at the role of big five personality traits that are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism, self-esteem, self-efficacy and locus of control in internet and gaming dependency

1.1.1 Diagnostic Criteria

The Diagnostic Tools and Statistical Manual of Mental Disorders (DSM), for both psychologists and psychiatrists, may be the most used tool in order to diagnose and classify the cases of psychiatric disorders which as the primary requirement of the profession, is fundamental. Before the publication of DSM-5 in 2013, what was used was DSM-IV. DSM-IV was published in 1994 and it was revised in 2000. This means that for full two decades, same categorical rules were used for classification and diagnostics. In these years past, knowledge possessed by the implementers increased drastically with tremendous amounts of research provided by the literature, worldwide.

By the American Psychiatric Association, a multi-disciplinary professional group was put together, a task force with mission of making a new tool in the year of 2007. Their main objective was to determine the weak and strong sides of DSM-IV. One of the subgroups of this task force was given mission to work under the substance use disorders which brings us to our primary proposition because internet – gaming disorder is defined under this category. This substance use disorders group analyzed the past studies on what was believed to be of importance on the matters of gambling, excessive shopping behavior and training (excessive exercise). The diagnostic criteria for substance use disorders at the time being with the exclusion of internet gaming disorder are as follows: 1) Has made repeated unsuccessful efforts to control, cut back, or stop 2) Has jeopardized or lost a significant relationship, job, or educational or career opportunity 3) After losing, often returns another day to get even (chasing one's losses) 4) Is often preoccupied with the problematic behavior (American Psychiatric Association, 2013). However, internet gaming disorder was

included in the section ‘Emerging Measures and Models’, meaning, it is recognized but not included as a real, existent disorder.

Despite the fact that there was an expeditiously flourishing literature on the matter of internet gaming disorder, it was not deemed to be involved in the manual and mainly, that is resulted from the fact that there wasn’t a standard tool that was to be used for diagnostic purposes to evaluate or assess internet gaming disorder among these studies (Griffiths, Kuss, & King, 2012). In a study conducted by King, Haagsma, Delfabbro, Graadisar and Griffiths (2013) 63 different quantitative papers were examined and it was revealed that the tools generated in these researches were more than 18 kinds of it meaning that there are only 18 different kinds of measurement tools towards the purpose of assessing the dependency. This inclusive review shows that there needs to be a higher standard in categorizing and diagnosing internet gaming disorder.

This particular dependency suffers from having a broadly accepted definition; problematic, pathological, addictive or excessive. One can ask why this issue is such a problem. On one hand, it is problematic because of point of origin. In a recent study, it was discussed that either gaming is the disorder itself originating from point of starting playing games or it is the internet as one of the primary floor for starting the disorder, where it actually originates (Demetrovics, Urban, Nagygyörgy, Farkas, & Griffiths, 2012). Young (1998) argues that online gaming dependency is one of the subtypes of internet related disorders itself where it actually originates and is facilitated. However, it is also discussed that it doesn’t necessarily have to be involved with tolerance and physical symptoms of withdrawal which again indicates, there is no common ground (Griffiths, 2005). On the other hand, it is because of

fulfilling the demands made by ethical reasons and political correctness which will be discussed further.

Even though whole quantity of addictions share particular characteristics such as salience, mood modification, tolerance, withdrawal symptoms, conflict and relapse, there has to be a common ground in order for the disorder to be included in the DSM-5 or even for merely studying it with common acceptance (Griffiths, King, & Demetrovics, 2014).

The section 'Emerging Measures and Models' in DSM-5, for a person to be diagnosed with internet gaming disorder, several criteria have to be evident (5 or more) which are in parallel with the literature: (salience); preoccupation, meaning, thinking about the desired behavior when it is not carried out, (withdrawal); when the access is taken away, withdrawal symptoms appear, (tolerance); as time passes, need to be in the game also increases in a positively manner, (relapse/loss of control); having failed attempts in trying not to participate in the desired problematic behavior, (conflict); losing interest in the pleasurable past times, (conflict 2); even though problems that psychological and social regarding internet gaming disorder are both evident and conscious, continuation of the excessive behavior, (conflict 3); trying to deceive others (family members, partners, peers, teachers, therapists etc.) in the matter of time spend with desired behavior, (mood modification); usage of the desired behavior in order the escape from the responsibilities of real life or contradictory/bad mood, (conflict 4); losing convenient circumstances of career, education, relationship or jobs (APA, 2013; Griffiths et al., 2014).

1.2 Internet Dependency

With the access available and media being more mobile, internet dependency arose as a very probable problem. The concept of internet dependency is still being built up and still in need of definition and diagnostic tools. However, when the literature is reviewed, it is very evident that internet dependency shouldn't be taken lightly because it is related with negative consequences quite a lot. One evidence to this could be a study conducted by Kuss and Griffiths (2012) revealing that adolescents suffer from identity formation when they manifest pathological behaviors of internet dependency. In addition, their brain may also be affected negatively in the sense of cognitive functioning and lead to low performance in school (Kim, et. al., 2011). It was also shown that eating habits may be altered negatively, interpersonal relationships may be influenced negatively and even self-inflicted injuries may be observed (Kim, et. al., 2006; Milani, Osualdella, & Di Blasio, 2009; Lam, Peng, Mai, & Jing, 2009).

Internet dependency may differ across countries. In the literature, different prevalence rates regarding internet dependency are suggested. For example, a study conducted by Kormas, Critselis, Janikian, Kafetsiz and Tsitsika (2011) in Greece revealed a 1.5% prevalence and another study conducted by Kaltiala-Heino, Lintonen and Rimpela (2004) revealed a 1.6% prevalence in Finnish population in terms of internet dependency. Also, in a study conducted with 3560 high school students in USA revealed a 4% prevalence (Liu, Desai, Krishnan-Sarin, Cavallo, & Potenza, 2011). While these numbers may not seem too much, in some countries, it is dramatically higher. For example, one study revealed 8% prevalence rate in China

among adolescents (Cao, Sun, Wan, Hao, & Tao, 2011). Also in South Korea, 10.7% of adolescents reported to be internet addicts (Park, Kim, & Cho, 2008).

In addition to these, when both internet and gaming dependency prevalence rates are considered under the condition of being in a psychiatric setting, the numbers go even higher. One study conducted by Wölfling, Müller and Beutel (2010) with 81 child and adolescent patients with psychiatric conditions revealed a 11.3% prevalence in Germany. In addition, a study conducted with 71 adolescent outpatients in Puerto Rico revealed an 11.6% prevalence rate (Liberatore, Rosario, Colon-De Marti, & Martinez, 2011). This may mean that varieties in prevalence rates may not only differ from culture to culture but also differ as a consequence of a set of conditions (e.g. psychiatric conditions).

Other than the prevalence and negative outcomes of internet dependency, there is also another aspect which is comorbid clinical conditions that exist parallel with internet dependency. A study conducted by Cheung and Wong (2011) showed evidence for depression in adolescents who suffer from internet dependency. In addition to depression, insomnia was also present (Cheung & Wong, 2011). Commonly in adolescents, what are observed to be widely existent when under the condition of being an internet addict are attention deficit hyperactivity disorder, hostile behavior, having high anxiety when around people, obsessive compulsive disorder and especially, aggression (Ko, Yen, Chen, Yeh, & Yen, 2009; Ha et al., 2006; Ko, Yen, Liu, Huang, & Yen, 2009). Other than these, there are more behaviors that should be taken into consideration as risk taking behaviors. For example, suicidal thoughts were shown to be manifested partially; however, there is very little evidence supporting it (Fu, Chan, Wong, & Yip, 2010). Usage of drug and

excessive alcohol taking were found to be evident in adolescents with high internet dependency (Gong et al., 2009; Ko et al., 2009).

1.2.1 Diagnostic Criteria

As mentioned above for gaming dependency, similar criteria apply for internet dependency when talking in terms of DSM-5 Criteria. Just as how the diagnostic criteria for substance use disorders are applied for gaming dependency, it applies to internet dependency in a similar parallel. Similarly, it was included in the section ‘Emerging Measures and Models.’ As a behavioral dysfunction, internet dependency is generally believed to be linked with non-substance related addictions – gambling addiction (Kuss, Griffiths, & Binder, 2013; Griffiths, 2005). The case made for this is because individuals with internet dependents show symptoms in the same parallel with gambling addicts; mood modification, salience, tolerance, withdrawal, conflict and relapse (Griffiths, 2005). Also as mentioned before, these behaviors are: preoccupation, meaning, thinking about the desired behavior when it is not carried out; when the access is taken away, withdrawal symptoms appear; as time passes, need to be in the internet also increases in a positively manner; having failed attempts in trying not to participate in the desired problematic behavior; losing interest in the pleasurable past times; even though problems that psychological and social regarding internet dependency are both evident and conscious, continuation of the excessive behavior; trying to deceive others (family members, partners, peers, teachers, therapists etc.) in the matter of time spend with desired behavior; engaging in desired behavior in order to escape from the responsibilities of real life or contradictory/bad mood; losing convenient circumstances of career, education, relationship or jobs (APA, 2013; Griffiths et al., 2014; Kuss et al., 2013).

1.3 Addiction vs. Playing-Surfing too Much

Since gaming and internet dependency is a new area in psychology studies by comparison, diagnosing it with precision is a matter that should be taken seriously. However, since tools that are used are still being developed, it is needed to consider the factors that contribute to the undesired behavior and also which aspect of an individual's life is affected by the behavior itself, thoroughly. Even though they seem to overlap (dramatically), these kinds of behaviors should be considered carefully.

Griffiths (2010) argues that excessive involvement and dependent involvement are very different behaviors in terms of psychopathology. Moreover, he argues the importance of looking for two things in a person. On one hand, there may be someone who is involved in these behaviors as healthy excessive devotions which add to someone's life while on the other hand, one can be an actual addict who suffers a lot from it. A study conducted by Griffiths (2010) revealed that someone can be engaging in these activities resulting from common dependency criteria while someone can be engaging in these activities simply and only because these are symptomatic effects of not having a lot of things in one's life and this particular gaming behavior – what seems to be excessive – is a functional way of coping. Simply, playing a game for 80 hours a week may be excessive and yet healthy and also, it can be addictive and destructive.

Gaming, especially online gaming as a subdomain of internet dependency has been studied extensively – in comparison with internet dependency – and offers more addictive aspects especially as ways of escapist behaviors and social interaction (Kuss & Griffiths, 2012; Leung; 2004). Internet on the other hand, offers more social

applications of its content; online chat, social media websites (mostly facebook) and instant messages and shopping. These aspects of the internet have the highest dependency potential (Kuss et al., 2013). However, motivations to engage in these activities are not extensively studied by scholars and lack a ground for their hypotheses claiming they are destructive. As discussed above, an excessive behavior doesn't necessarily have to be destructive but in nature, functional, healthy, and may help build structure.

Internet and gaming dependency is ultimately related with certain personality traits and self-related psychological concepts. Next section introduces the big five personality traits.

1.4 Big Five Personality Traits

Five factor model of personality received tremendous amounts of attention for research purposes, used as empirical support for many context and in clinical settings (Clark, 2007; Widiger & Trull, 2007). As stated by Clark (2007), "The five-factor model of personality is widely accepted as representing the higher-order structure of both normal and abnormal personality traits" (p. 246). The five factor model of personality is a very convenient way to interpret personality traits that are considered to be major. It is comprised of a long and tested past and it was deduced from factor analytic researches of personality traits from the English language (Goldberg, 1993; John & Srivastava, 1999). It appears that five factor structure of personality traits are fairly universal in terms that it has replicated studies in a number of other countries including populations of Dutch, Polish, Hebrew, Turkish, Filipino, Korean, Czech, German and Italian (Allik, 2005; Ashton & Lee, 2001, Trull, 2012). The five domains in this model are neuroticism vs. emotional stability, agreeableness vs.

antagonism, conscientiousness vs. negligence, extraversion vs. introversion and openness vs. closedness to experience. It was first developed with nonclinical populations and the purpose towards this was to supply a comprehensive explanation for major traits of personality and its dimensions (Trull, 2012). Though, it was realized that five factor model may also be used in clinical settings and in forms of psychopathologies. For many, personality traits are dimensional and some personality disorders involve maladaptive personality traits swimming around high borders of extreme. Even though big five model of personality is considered to be universal along with it being dimensional, it doesn't necessarily mean that it can only be reduced to five traits only. Preferably, it means that it comprises a large number of personalities. Benet-Martinez and John (1998) states that:

“Big five structure does not imply that personality differences can be reduced to only five traits. Rather, the Big Five dimensions represent personality at the broadest level of abstraction, and each dimension includes a large number of distinct, more specific personality characteristics. Unfortunately, short English labels for dimensions as broad as the Big Five are difficult to come by, and the existing labels have numerous shortcomings and are easily misunderstood” (p. 730).

Extraversion compiles personality traits such as being controlling, friendly and outgoing, revealing, and positive emotions; Agreeableness compares prosocial behaviors towards other individuals with being obscure and carries traits such as being good to others, kindness and warmth, humility and trust; Conscientiousness provides a description for being in control for an impulse that creates behaviors that are with purpose and directed with goals; Neuroticism compares emotional stability with a large number of acts and behaviors such as being anxious, sad, irritable, and nervousness; Openness to experience provides a description for the scope, perspective and complexity of one's mental and physical environmental life (Trull, 2012; Benet-Martinez & John, 1998).

1.4.1 Internet/ Gaming Dependency and Personality Traits

Internet spreading all over the world very quickly caused many disciplines to study this matter without a doubt and it got itself in psychology literature regarding its effect on individuals in psychological terms. While it provides many needs (e.g. finding music and movies, communication, playing games in multiplayer forms) of people, it also plays role in developing dependencies.

According to one study conducted by Goldberg (2006) some individuals may use the internet excessively because they acquire their needs of communication experience in ways they choose and this excessive use of internet results in addict-like behaviors. Individuals with dependency may have different motivations for using the internet. For example, they can be using the web for pleasure, exchange of information or amusement. In other words, this means that internet dependency, time spent on the web or using the internet for interactions have a positive relationship with each other (Batıgün & Kılıç, 2011; Yang & Tung, 2007).

According to McKenna and Bargh (2000), individuals with introverted attitudes and who are shy tend to use the internet more because they can hide their identities while using the internet and be anonymous and since they have a tendency to worry for being rejected and ridiculed they show more dependent behavior. A study conducted by Tuten and Bosnjak (2001) based on five factor personality model revealed that individuals who have the personality trait 'openness to experience' tend to use the internet with motivations of pleasure times and information. Neuroticism on the other hand, was found to be related with internet dependency on more negative aspects of human behavior. For example, individuals with internet dependency can establish their true selves on the web instead of real life which enables a situation

where their real life suffers from a lack of true self (Amichai-Hamburger, Wainpel & Fox, 2002).

Scholars believe that lately, social support may exist in online environments. People on the web are creating a new life style and this is making real life social relationships to suffer from it (Young, 2004). In other words, individuals who are depressive are relying on the social support on the web, while real life interpersonal relationships are moving towards more negative consequences and positively, increasing the risk of internet dependency (Batıgün & Kılıç, 2011; Yeh, Ko, Wu, & Cheng, 2008). A study conducted by Landers and Lounsbury (2006) found that adolescents and young adults who are extroverted compared to those who are introverted are more likely to show higher levels of internet use. Also, agreeableness was found to be in negative relationship with high internet use which suggests that if people don't have the social skills to get along with others, they use internet more and that may result from the fact that when someone is online, there are very little demand for people to act in agreeable ways (Landers & Lounsbury, 2006). In addition, low conscientiousness personality traits were evident in individuals with high internet use and this may be based on the fact that when on the internet, there are very little limits and rules and unstructured procedures and regulations (Landers & Lounsbury, 2006).

Gaming dependency by some scholars is believed to be a form of internet dependency and is specifically related with problematic internet dependency (Morahan-Martin & Schumacher, 2000; Charlton & Danforth, 2010). Studies regarding gaming dependency in terms of personality traits generally conducted more in Eastern Asia and there seems to be a lack of Western studies. A number of

studies found relations between personality traits and gaming dependency and new hypotheses are being deduced towards a conclusion every day. Some circumstances that are favorable in order to receive social support may provide attraction towards people who have limits in their real-life relationships with others. Hence, gaming may seem like a convenient way for them to be themselves, especially if they are shy, introverted or lonely in particular and get involved in excessive and problematic gaming behavior. Some studies showed that people who show traits of shyness, feeling lonely and introversion compared to those who do not are more likely to be involved in these dependent behaviors (Charlton & Danforth, 2010; Chak & Leung, 2004; Landers & Lounsbury, 2006). Studies regarding traits of neuroticism in terms of gaming dependency however, have contradicting results in the literature. It is frequently found that there is no relationship between neuroticism and this particular dependent behavior (Landers & Lounsbury, 2006; Hills & Argyle, 2003) while it is suggested that the evidence is existent in individuals with problematic behavior (Tuten & Bosnjak, 2001) and this indicates that game playing addicts with high neuroticism have a major factor that may contribute to their problematic behaviors which is the desire to run from the responsibilities of real life (Young, 1998).

Individuals who show a personality characteristic which makes them less agreeable with others may require fewer social companions in their lives such as friends, family, or a lover and therefore, this little requirement of real life social support may result in an attraction towards gaming (Landers & Lounsbury, 2006; Swickert, Hittner, Harris, & Herring, 2002). Since activities on the internet or in the games do not require face to face relations, the internet and gaming structures an environment where they do not necessarily have to be agreeable (Charlton & Danforth, 2010).

In the literature, it could be observed that gamers who are believed to be problematic in their behavior, are more likely to be associated with neuroticism, low conscientiousness, agreeableness and extraversion (Collins, Greeman, & Premuzic, 2012; Huh & Bowman, 2008; Peters & Malesky, 2008). However, it should be noted that these traits are evident in individuals with high problematic behaviors. It's been shown that online gamers in general show personality traits that are extraversion, being more open and conscientiousness compared to those who are not (Teng, 2008; Yee, 2006). This indicates that gaming behavior doesn't necessarily result in dependency or problematic behavior but rather, excessive or pathological gaming behavior does.

1.5 Self-Esteem

Self-concepts are studied widely and it helps connect many different disciplines over the years. Especially, tremendous amounts of research regarding self-esteem is existent. These studies usually take the perspective of how social influences result and create a consequence for an individual (Rosenberg, 1981). However, these studies do not define this concept whether as a cause or an effect. Self-concepts can't be considered as a cause in most of the cases because its casual course is controversial (Rosenberg, 1981).

Although scholars studied this matter of relation between self-esteem and different social and psychological difficulties, they were not able to come to a conclusion regarding its direction (Allport, 1968; Rosenberg, 1981). Self-esteem is simply defined as how an individual reflects his/her self-concept, a sense of self-worth and evaluation of this self-worth (Aydin & Sarı, 2011; Rosenberg, 1981). If a motive towards positive image of the self is considered an ideal model, then exact opposite

of this should result in inconveniences in human behavior. According to Rosenberg (1981) any interference towards this model may result in depression and this depression would be consistent with an outcome of negativity in terms of the self (feeling guilty, without worth and unimportant).

1.5.1 Internet/ Gaming Dependency and Self-esteem

Self-esteem helps to understand internet and gaming dependency and it is a necessary variable regarding the explanation of the concept. It's been shown to be a predictor of both internet dependency and gaming dependency (Kim & Davis, 2009; Stetina, Kothgassner, Lehenbauer, Kryspin-Exner, 2011). When gaming addicts are specifically looked at, it could be seen that self-esteem aids in distinguishing different traits. For example, a study conducted by Bessiere, Seay and Kiesler (2007) revealed that individuals with low-esteem tend to create characters in games they considered to be 'ideal' while individuals with high self-esteem create characters similar to their own selves. Those who had lower self-esteem also showed symptoms of depression which may indicate that lower self-esteem is a predictor in terms of high problematic gaming behavior and therefore, gaming dependency. It's been argued that people who have lower self-esteem don't necessarily have a desire for face to face relationships (Baumeister, 1993). Though, they have a desire to create social interactions and with that, seek the acceptance and approval of other individuals (Murray, Rose, Bellavia, Holmes, & Husche., 2002).

It's been studied that social acceptance and approval aids in improving an individual's self-concept and build up to defeating depression (Mruk, 1999). With this said, it can be argued that those with low self-esteem may look for a way to connect to others without facing the obstacles of face to face relationship that

naturally comes from their situation in the first place and have a life in virtual world in order to provide what they deem to be convenient and avoid real life difficulties. Interactions in the web in general and also, playing of games in particular help generate such opportunities. Even though it is evident that there seems to be no relationship between the usage of internet and self-esteem (Hills & Argyle, 2003) it can be said that there is a relationship between internet dependency and lower self-esteem (Armstrong, Phillips, & Saling, 2000). Individuals who have lower self-esteem compared to those with high self-esteem are more likely to be involved with dependent behaviors either in the web or in games in order to escape from the difficulties of real life, sense of inadequacy and of no worth (Young, 1998; Yee 2006).

1.6 Self-efficacy

Self-efficacy means that believing in self-capability and this capability to arrange and execute behaviors and direct them towards a purpose and create benefit (Bandura, 1977). When dealing with what environment provides to us, efficacy doesn't play a fixed role in the matter. It doesn't mean simply knowing what to do or not but rather, it includes a creative capability that comprises factors such as cognition & social and behavioral abilities (Bandura, 1982). These abilities have to be gathered into one organized concept and integrate it towards a course of action and create profit in terms of satisfaction. When an individual is confronted with an obstacle that creates frustration has to handle the situation. Those with high self-efficacy show great effort when it comes to dealing with whatever challenge they face compared to those with lower self-efficacy whose efforts are inflicted with self-doubts and suffer from serious give up (Brown & Inouye, 1978; Weinberg, Gould, & Jackson, 1979; Bandura, 1982).

Cognition and affect are highly influenced by what is self-efficacy. Individuals who have lower self-efficacy tend to judge themselves as useless in terms of coping with difficulties they face even though the reality is however different (Meichenbaum, 1977; Beck, 1976). In contrast, individuals with higher self-efficacy place their concentration and their effort into whatever is demanded of the case and push themselves with great effort (Bandura, 1982).

1.6.1 Internet/ Gaming Dependency and Self-efficacy

Self-efficacy regarding social interaction involves believing in one's competence in terms of formation and conservation of relationships. Hence with this definition, those who have higher self-efficacy should be more likely to successfully preserve their relationships than those with lower self-efficacy and therefore, feeling of loneliness. In this parallel, individuals with the feeling of loneliness are more likely to have negative understanding of themselves in their competence in social interactions (Jeong & Kim, 2011).

In the literature, self-efficacy was tested in terms of internet dependency and it's been shown that there is a strong relationship (Lin, Ko, & Wu 2008; Lee, Lee, Paik, Kim, & Shin, 2001). Even though social interactions and self-efficacy are found to be related with internet (or gaming) dependency, there are not many studies to shed light on the matter in terms of social self-efficacy. A study conducted by Kim, Yoo and Lee (2004) revealed that individuals with internet dependency hold higher relationships with friends on virtual life (in the web or in the game) in the way of intimacy compared to the relationships that take place in real life. In addition, individuals with internet dependency showed a desire to have their social relationships in virtual life rather than real life which eventually creates an obstacle

relational aspect of human agency in real life (Young, 2004). Another study conducted by Jeong and Kim (2011) showed that adolescents who show the traits of loneliness and also prefer and spend little time in real life are more inclined to suffer from gaming dependency. In contrast, adolescents who suffer from gaming dependency showed a higher level of self-efficacy in virtual space resulting from the conveniences and comfort of the virtual environment providing them a more fulfilling atmosphere in terms of relationships in cyberspace.

1.7 Locus of Control

Internal versus external locus of control is one of the most investigated concepts in psychological studies and it's been translated into different languages. Studies regarding locus of control have a wide variety; public health, political and social sciences etc. human agencies always concerned themselves with the idea of causality and history includes many stories and myths explaining incidents controlled by fate, luck or one's own way of acting.

It is a well-known fact that historical events affect psychology literature in profound ways (Rotter, 1989). Also with the effect of media, people's perception of lack of control over the events that take place increased. These factors most probably played their part in the favor of the creation this measure, locus of control. It refers to a block of beliefs on how an individual acts and the interaction of this act to be reinforced, either positively or negatively (Morris, 1979). Rotter (1989) defines locus of control as:

“the degree to which persons expect that a reinforcement of an outcome of their behavior is contingent on their own behavior or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a function of chance, luck or fate is under the control of powerful others or is simply unpredictable” (p. 489).

If an individual believes the rewards in his life are consequences of one's behavior, this could be defined as an internal locus of control while if an individual believes the rewards or negativities in his/her life are there as a result of powerful others; this indicates an external locus of control.

1.7.1 Internet/Gaming Dependency and Locus of Control

Personal control when in games gives great satisfaction. Those who have a sense of such would have this satisfaction from being involved in these games as they move forward in being successful and earning accomplishments and advancements to next areas in games should entail an expertise in a winning strategy. Those who are involved in these kinds of games are almost seduced by these pleasurable situations in which they are in charge of a world they control (Chak & Leung, 2004).

A study conducted by Leung (2003) revealed that heavy internet users have great pleasure in virtual power of being in charge over the world inside the web and when playing games. Though, what Young (1998) suggests is that a game is a sort of internet activity (when online) that deduces behavior from the extreme dependency. Research shows that a sense of control over events is highly correlated with fortunate experience in the virtual (Leung, 1989). In a study conducted by Santa-Rita (1997), participants were given assignments of 'success' and were asked to complete these tasks. A pre-posttest analysis showed that there is a significant difference in their perceived control of consequences in terms of importance of luck in accomplishing goals (Santa-Rita, 1997). This may indicate that having a control over the events and its consequences give great satisfaction to those who are either internet or gaming addicts. Another study conducted by Chak and Leung (2004) revealed that there is a negative correlation between internet dependency and internal locus of control. This

means that an individual with an external locus of control who believes he/she is not in charge of the consequences of his/her behaviors may use the virtual environment to compensate this lack of control and get involved in problematic behaviors.

1.8A Cognitive-Behavioral Model

Internet and gaming dependency has been evaluated with a focus on behavioral aspects before. The general focus was what sorts of behavioral changes occur in an individual's life and also, what kinds of behaviors need to be manifested for the undesired behavior to be existent in order to diagnose such dependency (Young, 1996; Davis, Smith, Rodrigue, & Pulvers, 1999). Along with behavioral symptoms, they also focused on affective symptoms of the dependency as well. However, this model for *problematic internet use* (PIU) takes a cognitive approach along with behavioral aspects (Davis, 2001). This model holds that PIU is a consequence of problematic thoughts matches with behaviors that increases the undesired behavior or preserves it. In this model, PIU is defined under two categories; specific and generalized. In specific PIU, individuals are dependent on a particular aspect of the internet. Example to this could be pornography, gambling sites, online games, auction houses and these are excessively accessed by the individuals.

When etiology of problematic internet use is defined, a cognitive-behavioral approach is used. To understand the very nature of PIU with a cognitive approach, it is required to give a description of the concepts. Abramson, Metalsky and Alloy (1989) categorize between conceptions of necessary, sufficient and contributory causes of symptoms. In order for the symptoms to be existent, a necessary cause is required. However, existence of a necessary cause doesn't necessarily mean that symptoms will be manifested. Put differently, necessary causes are not sufficient

enough for the symptoms to be manifested. A cause being sufficient enough means that it is an etiological factor that assures the manifestation of the symptoms. Contributory cause on the other hand, is not sufficient and also, not necessary for the symptoms to occur. It is simply a contribution to the likelihood of the symptoms to be manifested (Davis, 2001).

Other concepts Abramson et al. (1989) categorizes are proximal and distal causes. In the etiological chain that creates a set of symptoms, some belong to end (proximal) and some belong in the beginning (distal) (Abramson et al., 1989). This can be clarified by contemplating on the development of symptoms of anxiety such as rapid heart rate, dryness of mouth etc. when these are looked at, proximal causes are very evident (stress, danger etc). A lack of sleep or cardiac arrhythmia however could be more distal causes.

According to the cognitive-behavioral model of PIU (Figure 1), psychopathologies are distal and necessary causes of PIU symptoms that are required to be existent before. As mentioned before, these are not sufficient causes on their own but necessary in order to manifest the symptoms. In the model, the stressor is the usage of internet or other technologies found the web for the first time. However, it is hard to track back a person's first introduction to the internet; a more measurable event is the new experience of a technology found on the web. An example to this could be the time an individual first used websites for pornography, games, shopping or chatting.

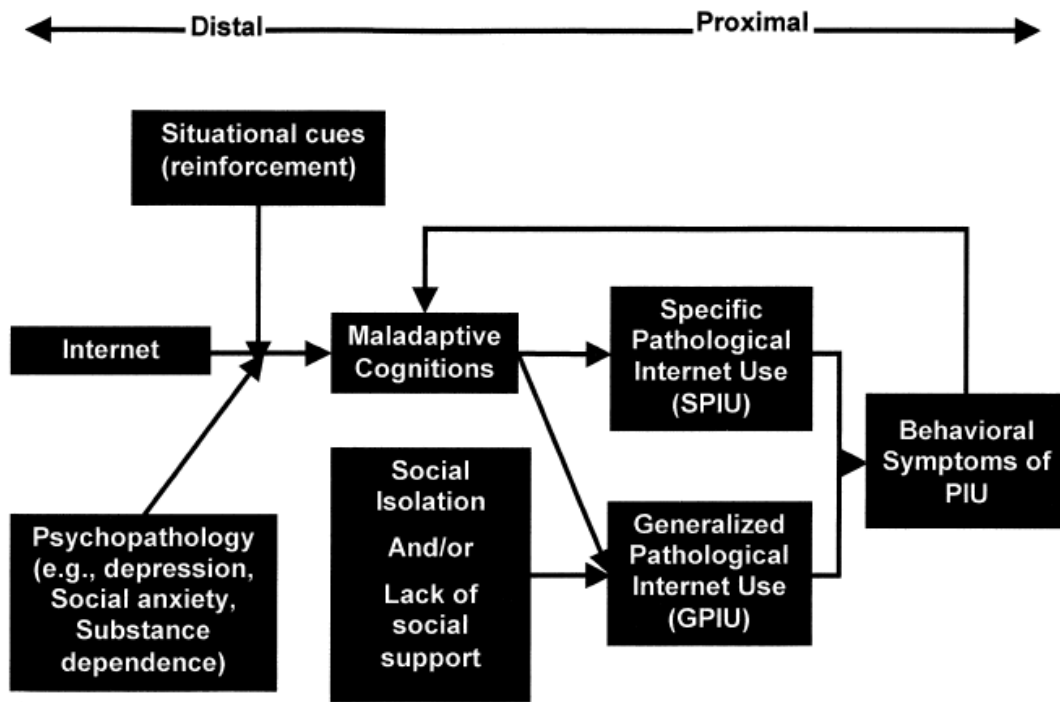


Figure 1: The Cognitive-Behavioral Model of Pathological Internet use (PIU)

A factor of importance in experiencing internet and its related technologies are what a person receives as reinforcement from the act. When someone tries a feature of the web, he gets a following response. If it is good, he is more reinforced to do so again. Then the individual is more likely to do the same thing again because the reward was satisfactory. Cognitions about world can be thought as generalizing specific events. In other words, an individual may believe that he has respect on the web and it is the only place that gets the respect and because of that, he/she may be more likely to be addicted to the internet which results from the belief that there won't be anyone to respect him/her in the real world but only in virtual world. Cognitive-behavioral theory centralizes its focus on symptoms that are cognitive (Davis, 2001). These could be obsessive beliefs about the web, abated control for impulses, failing to cut down of usage, and maybe most importantly, believing that internet could be the only friend an individual has. They may believe that the web could be the only real environment where they can act as themselves and feel good in the process and also

the environment that surrounds them. With this, a further difficulty comes into the scene when the individual eventually cuts himself from real friends in order to engage with online friends more. This problematic behavior preserves the destructive cycle of problematic internet use that the individual comes to be socially cut down (Davis, 2001). One other symptom of PIU is being preoccupied when not online and thinking about the web when offline. However, after some time, what was satisfactory for them before then, now becomes no longer enjoyable and when that happens, a more difficult case arises. They start to build a perception of guilt about their time spent on the web and they start to lie to their family or friends on the fact that they spend tremendous amount of time in the web. Even though they know that what they do is nowhere close to being socially agreeable, they continue doing it nonetheless. This eventually results in a burned down sense of self-worth and continued and additional symptoms of problematic internet use (Davis, 2001).

A reason for selecting this model for this particular study is that it provides a chronological view. This view allows us to look at how past pathologies may contribute to today's condition. Also, it separates behavior and cognition but at the same time, looks at its effects all together. Also, given literature, it is obvious that internet and gaming dependency carries very similar patterns. Since these patterns exist, it is believed to be justified using this model to apply it to the gaming dependency.

Given literature suggests that there are certain personality traits and self-related psychological concepts that can be related to gaming and internet dependency. Finding out what sorts of factors contribute to acquisition and development of this dependency carries importance if there is to be a treatment regarding it.

1.9 Current Study

Present study aims to investigate the role of the big five personality traits that are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism and self-related psychological concepts that are self-esteem, self-efficacy and locus of control in internet and gaming dependency. With the given literature, hypotheses are as follows:

- 1) Lower conscientiousness will predict internet and gaming dependency
- 2) Lower extraversion will predict internet and gaming dependency
- 3) Lower agreeableness will predict internet and gaming dependency
- 4) Not being open to new experiences will predict internet and gaming dependency
- 5) Higher neuroticism will predict internet and gaming dependency
- 6) Low self-efficacy (real-life) will predict gaming dependency
- 7) High self-efficacy (virtual-life) will predict gaming dependency
- 8) Low self-esteem will predict internet and gaming dependency
- 9) External locus of control will predict internet and gaming dependency.

Chapter 2

METHODS

2.1 Participants

Current study included 235 participants in which 120 of them were males and 115 were females. The mean age of the sample was 23.08 with a standard deviation of 3.68 with a range of 17-31. The mean age of males was 23.33 ($SD=3.51$) and the mean age of females 22.81 ($SD=3.85$). 122 of the participants were recruited from Eastern Mediterranean University while the remaining 113 from online surveys. Eighty five percent of the participants were either studying at undergraduate or graduate level.

The sample was specifically targeted to represent Turkish speaking population. Both Turkish and Cypriot nationalities were involved. However, an assessment regarding the nationality of the sample was not conducted since the main inclusion criterion was participants being Turkish speakers.

2.2 Materials

In the current study, a questionnaire was administered to the participants for data gathering (see appendix A).

2.2.1 Demographics

The participants were asked of their age, gender and education levels.

2.2.2 Generalized Problematic Internet Use Scale (GPIUS)

Generalized Problematic Internet Use Scale was used to assess problematic internet use behavior. The scale was developed by Caplan (2002). Translation of GPIUS was conducted by a research assistant who is fluent in both Turkish and English. The scale assessed a generalized problematic behavior on 7 sub-domains. These domains were mood alteration (e.g., “I have used the internet to talk with others when I was feeling isolated”), social benefits (e.g., “I am treated better in my online relationships than in my face-to-face relationships”), negative outcomes (e.g., “I have gotten into trouble with my employer or school because of being online”), compulsive use (e.g., “I want to or have made unsuccessful efforts to, cut down or control my use of the internet”), excessive time online (e.g., “I lose track of time when I am online”), withdrawal (e.g., “I miss being online if I can’t get on it”) and social control (e.g., “when I am online, I socialize with other people without worrying about how I look”). The scale consists of 29 items with a 5 point Likert scale ranging from 1 (Strongly agree) to 5 (Strongly disagree). In the analysis, total score were used. Lower scores on the scale indicate a higher problematic behavior while higher scores indicate fewer problematic behaviors. Internal consistency of the total scale was high ($\alpha = .91$).

2.2.3 Generalized Problematic Internet Use Scale (Gaming version)

This scale was the gaming version of Generalized Problematic Internet Use Scale (GPIUS) in which the words ‘*internet*’ in the (GPIUS) were changed to ‘*game*’. Total number of items in the scale were 29 with a 5 point Likert scale ranging from 1 (Strongly agree) to 5 (Strongly disagree). Lower scores on the scale indicate a higher problematic behavior while higher scores indicate fewer problematic behaviors. Internal consistency of the scale was high with a Cronbach’s alpha of .93.

2.2.4 Big Five Personality Inventory (BFI)

The original scale was developed by Benet-Martinez and John (1998). It was designed to assess big five domains of personality; openness to experience (e.g., “high imagination; love thinking, knowledgeable in art, music and literature”), conscientiousness (e.g., “reliable, productive, make plans and follow them”), extraversion (e.g., “talkative, energetic, takes initiative”), agreeableness (e.g., “helpful and non-expedient, forgiving, usually trust others”) and neuroticism (e.g., “depressed and melancholic, get anxious, get angry easily”). In the study, an adapted Turkish version of the scale was used (Sümer & Sümer, 2005). The scale consists of 44 items with a 5 points Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Items 1, 6, 11, 16, 21, 26, 31 and 36 measured Extraversion, 3, 8, 13, 18, 23, 28, 33, 38, and 43 measured conscientiousness, 2, 7, 12, 17, 22, 27, 32, 37 and 42 measured agreeableness, 5, 10, 15, 20, 25, 30, 35, 40, 41 and 44 measured openness to experience and last, items 4, 9, 14, 19, 24, 29, 34 and 39 measured neuroticism (items 2, 6, 8, 9, 12, 18, 21, 23, 24, 27, 31, 34, 35, 37, 41 and 43 are reversed). Internal consistency of the total scale were .77 for openness to experience, .65 for conscientiousness, .84 for extraversion, .68 for agreeableness and .77 for neuroticism. Higher scores indicate strength of the particular personality trait.

2.2.5 Rosenberg Self-esteem Scale

This particular scale was developed by Rosenberg (1965). An adapted Turkish version of the scale was used in the current study (Çuhardaroğlu, 1986). The scale consists of 10 items based on a 4 points Likert scale ranging from 1 (Very true) to 4 (Very wrong) and aims to assess self-esteem levels of young adults and adults. The questionnaire involves questions such as “I believe I have some positive qualities” or

“I am generally satisfied with myself.” Items 1, 2, 4, 6, and 7 were reversed. Internal consistency of the scale was .85. Higher scores indicate strength of self-esteem.

2.2.6 Virtual-Real Life Social Self-efficacy Scale

This scale was developed by Jeong and Kim (2011) and aims to assess social self-efficacy levels of young adults and adults either in real life or virtual (games) life. Translation of the scale was conducted by a research assistant who is fluent in both Turkish and English. The scale consists of 8 items, 4 of them measuring virtual, other 4 measuring real life social self-efficacy based on a 4 points Likert scale ranging from 1 (Not true) to 4 (Completely true). The questionnaire involves questions such as “I can be friends with others easily” or “I meet with others rarely.” Items 2, 4 and 8 were reversed. Internal consistency of the scale for virtual life was .75 and for real life was .55. Higher scores indicate strength of self-efficacy.

2.2.7 Internal-External Locus of Control Scale

This scale was developed by Rotter (1966) and aims to assess individuals’ beliefs about their sense of control on the events that take place around them. An adapted Turkish version of the scale was used in the study (Dağ, 1991). The scale consists of 29 items. 2 choices (a or b) are offered and the participants are asked to select the most appropriate one in accordance with their belief. The questionnaire involves questions such as “It is hard to anticipate how someone really likes you or not” or “the amount of friends we have depends on how good of a person we are.” ‘A’ options of the questions 2, 6, 7, 9, 16, 17, 18, 20, 21, 23, 25 and 29 are scored 1. ‘B’ options of the questions 3, 4, 5, 10, 11, 12, 13, 15, 22, 26 and 28 are scored 1. Higher scores indicate an external orientation while lower scores indicate an internal orientation.

2.3 Procedure

This study was conducted after approval of ethics was obtained from Eastern Mediterranean University Psychology Department Ethics and Research Committee. Participants were recruited with an opportunistic and convenient sampling strategy among Eastern Mediterranean University students in a class setting (between December 2014 and March 2015). In addition, an online survey was conducted in the recruitment of participants. Before obtaining consent from participants, they were given information regarding the study and it was made clear that the participating in the study is completely voluntary. It took approximately 30 minutes to complete the questionnaires. For the online surveys, a website called 'typeform' was used. Same procedures took place in the online survey. Information regarding the study is given before the consent form. In the consent screen, participant is given a choice to continue with an option (START SURVEY). If they wish to participate in the study, they pressed on that option and the questionnaires appeared. A debriefing was available to participants after completing the questionnaires that explained the aims of the study. When the data were collected, a statistical analysis was conducted with a computer software program (Statistical Package for Social Sciences, Version 20).

Chapter 3

RESULTS

For the purposes of this study, data gathered were analyzed with SPSS. In the analysis, independent sample t-test, correlations, standard multiple regression and hierarchical multiple regression were used.

3.1 Descriptive Statistics

The means and standard deviations for each variable are present in Table 1. To see if there are any gender differences in terms of internet and gaming dependency, an independent samples t-test was conducted.

A significant difference was found on gaming dependency such that males ($M = 3.38, SD = 0.72$) scored lower than females ($M = 3.98, SD = 0.64$) indicating that males are more dependent on games compared to females, $t(232) = -6.66, p = 0.00$. Same significant difference was also evident on internet dependency such that males ($M = 3.52, SD = 0.67$) scored lower than females ($M = 3.76, SD = 0.65$) again indicating males are more dependent on internet compared to females, $t(230) = -2.78, p = 0.01$

Table 1: Mean numbers of all variables of males and females (with standard deviations)

Variables	Male	Female	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>
Age	23.33 (3.51)	22.81 (3.85)	1,09
Gaming Dependency	3.38 (0.72)	3.98 (0.64)	- 6.66**
Internet Dependency	3.52 (0.67)	3.76 (0.65)	- 2.78**
Self-esteem	3.09 (0.54)	3.12 (0.49)	- 0.45
Self-efficacy (real life)	2.97 (0.59)	3.07 (0.62)	- 1.31
Self-efficacy (virtual life)	2.46 (0.77)	1.91 (0.77)	5.41**
Locus of Control	0.50 (0.17)	0.52 (0.17)	- 0.79
Extraversion	3.67 (0.82)	3.79 (0.90)	- 1.05
Conscientiousness	3.42 (0.64)	3.54 (0.60)	- 1.53
Neuroticism	2.80 (0.84)	3.21 (0.84)	- 3.78**
Agreeableness	3.58 (0.64)	3.87 (0.53)	- 3.87**
Openness to Experience	4.07 (0.60)	3.94 (0.61)	1.63

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

3.2 Correlational Analyses

In order to examine the relationships among the variables and to see whether further analyses could be conducted, simple correlations were conducted. Correlation coefficients of variables are present in Table 2.

Table 2: Correlation coefficients values (Pearson) of the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gaming Dependency	-												
2. Internet Dependency	,593**	-											
3. Age	,026	,150*	-										
4. Gender	,401**	,180**	-,072	-									
5. Self-esteem	,264**	,330**	,077	,029	-								
6. Self-efficacy (real)	,236**	,198**	,180**	,087	,337**	-							
7. Self-efficacy (virtual)	,317**	-,144*	-,041	-,339**	,066	,030	-						
8. Locus of Control	-,122	-,198**	-,023	,052	-,249**	-,162*	,079	-					
9. Extraversion	,201**	,107	-,001	,068	,319**	,426**	,114	-,049	-				
10. Conscientiousness	,335**	,391**	,065	,100	,248**	,097	,125	-,171**	,155*	-			
11. Neuroticism	-,095	-,243**	-,091	,240**	-,369**	-,282**	-,098	,229**	-,070	-,146*	-		
12. Agreeableness	,282**	,244**	,081	,245**	,270**	,239**	,015	-,104	,199**	,254**	-,144*	-	
13. Openness to Experience	,056	,135*	,213**	-,106	,227**	,204**	,027	-,099	,382**	,120	,176**	,144*	-

Note: *. Correlation is significant at 0.05 level

** . Correlation is significant at the 0.01 level

3.3 Regression Analyses

3.3.1 Regression on Gaming Dependency

A three stage hierarchical multiple regression was conducted with gaming dependency as the dependent variable. Age and gender was entered at stage one of the regression as control measures. Self-related psychological concepts (self-esteem, self-efficacy and locus of control) were entered at stage two and big five personality domains (extraversion, conscientiousness, neuroticism, agreeableness and openness to experience) were entered at stage three. Personality domains were entered at the last stage because it was deemed more stable in general compared to other variables. Preliminary analyses were conducted to ensure no violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity were violated.

The results showed that at stage one, age and gender contributed significantly to the regression model, ($F(2,222) = 21.43, p = 0.00$) and accounted for 16% of the variation in gaming dependency. Introducing self-related psychological concepts explained an additional 12% of variation in gaming dependency and this change in R^2 was significant, $F(4,218) = 9.28, p = 0.00$. Self-esteem ($\beta = .20, p = 0.00$), real life self-efficacy ($\beta = .14, p = 0.02$) and virtual life self-efficacy ($\beta = -.23, p = 0.00$) significantly predicted gaming dependency. Finally in the third step, adding big five personality domains to the regression model explained an additional 10% of the variation in gaming dependency and this change in R^2 was significant, $F(5,213) = 6.56, p = 0.00$. When all independent variables were included in the last stage of the regression model, neither self-esteem nor self-efficacy (real) was significant predictors of gaming dependency. In the final model, three of the variables predicted gaming dependency significantly; gender ($\beta = .23, p = 0.00$), self-efficacy (virtual;

$\beta = - .30, p = 0.00$) and conscientiousness ($\beta = .28, p = 0.00$). Together all the variables accounted for 38% of the variance in gaming dependency. Detailed information on regression analysis is present in Table 3.

Table 3: Hierarchical multiple regression on gaming dependency

Variables	R²	ΔR²	B	SEb	β
Step1	.162	.162			
Age			.01	.01	.05
Gender			.60	.09	.40**
Step2	.284	.122			
Age			-.01	.01	-.00
Gender			.45	.09	.30**
Self-esteem			.30	.09	.20**
Self-efficacy (real)			.17	.08	.14**
Self-efficacy (virtual)			-.21	.06	-.23**
Locus of Control			-.20	.26	-.05
Step3	.379	.100			
Age			-.00	.01	-.02
Gender			.35	.10	.23**
Self-esteem			.16	.10	.11
Self-efficacy (real)			.12	.08	.10
Self-efficacy (virtual)			-.28	.06	-.30**
Locus of Control			.03	.25	.01
Extraversion			.08	.06	.09
Conscientiousness			.34	.07	.28**
Neuroticism			-.04	.06	-.05
Agreeableness			.11	.07	.09
Openness to Exp.			-.06	.08	-.05

Note: ** $p < 0.01$

3.3.2 Regression on Internet Dependency

A three stage hierarchical multiple regression was conducted with internet dependency as the dependent variable. Age and gender was entered at stage one of the regression as control measures. Self-esteem and locus of control were entered at stage two and big five personality domains (extraversion, conscientiousness, neuroticism, agreeableness and openness to experience) were entered at stage three. Personality domains were entered at the last stage because it was deemed more stable in general compared to other variables. Preliminary analyses were conducted to ensure no violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity were violated.

The results showed that in the first step, age and gender contributed significantly to the regression model ($F(2,228) = 7.16, p = 0.00$) and accounted for 6% of the variation in internet dependency. Introducing self-related psychological concepts explained an additional 12% of variation in internet dependency and this change in R^2 was significant, $F(2,226) = 15.72, p = 0.00$. Self-esteem ($\beta = .28, p = 0.00$) and locus of control ($\beta = -.14, p = 0.03$) significantly predicted internet dependency. Finally in the third step, adding big five personality domains to the regression model explained an additional 10% of the variation in internet dependency and this change in R^2 was significant, $F(5,221) = 6.29, p = 0.00$. When all independent variables were included in the last stage of the regression model, neither age nor locus of control was significant predictors of gaming dependency.

In the final model, four of the variables predicted internet dependency significantly; gender ($\beta = .19, p = 0.00$), self-esteem ($\beta = .17, p = 0.02$), conscientiousness ($\beta = .28, p = 0.00$) and neuroticism ($\beta = -.15, p = 0.02$). Together all the variables accounted

for 28% of the variance in gaming dependency. Detailed information on regression analysis is present in Table 4.

Table 4: Hierarchical multiple regression on internet dependency

Variables	R²	ΔR²	B	SEb	β
Step1	.059	.059			
Age			,03	,04	,16**
Gender			,26	,09	,19**
Step2	.159	.115			
Age			,03	,01	,14*
Gender			,25	,08	,19**
Self-esteem			,36	,08	,28**
Locus of Control			-,52	,24	-,14*
Step3	.277	.103			
Age			,02	,02	,11
Gender			,25	,08	,19**
Self-esteem			,21	,09	,17*
Locus of Control			-,29	,23	-,08
Extraversion			-,03	,05	-,04
Conscientiousness			,30	,07	,28**
Neuroticism			-,12	,05	-,15**
Agreeableness			,04	,07	,05
Openness to Exp.			,04	,07	,04

Note: * $p < 0.05$ ** $p < 0.01$

Chapter 4

DISCUSSION

The present study aimed to investigate the roles of big five personality traits that are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism and self-concepts that are self-esteem, self-efficacy and locus of control in internet and gaming dependency. The results indicate a partial fulfillment of the hypotheses.

It was hypothesized that personality traits would predict gaming dependency such that introversion, neurotic personality traits, lower conscientiousness, lower agreeableness and not being able to open to new experiences. It was shown that conscientiousness significantly predicted gaming dependency. This finding was in line with the previous literature suggesting that gamers who are believed to be problematic in their behavior are more likely to be associated with lower conscientiousness (Collins, Greeman, & Premuzic, 2011; Huh & Bowman, 2008; Peters & Malesky, 2008). An individual who is conscientious have a natural description for being in control for an impulse. They are directed with goals and purpose. It makes sense that when an individual is conscientious, they recognize their responsibilities and act in accordance with those with an attitude of discipline. To illustrate, presume an undergraduate student who is disciplined enough to finish his/her educational program with a high CGPA. If this individual is to be goal oriented and moves with a sense of purpose, an expectation towards him/her showing

a behavior that reveals a non-dissonance between the behavior and the cognition would be less likely. It means that those who are conscientious would not neglect their responsibilities in order to engage in activities (i.e. gaming) that would create obstacles towards the purpose (i.e. receiving a high CGPA).

It was also hypothesized that self-concepts would predict gaming dependency and the results have shown that virtual self-efficacy significantly predicted gaming dependency. Previous studies confirmed this (Lin, Ko, & Wu 2008; Lee et al., 2001; Kim, Yoo & Lee, 2004). These findings are reasonable when a consideration is made towards the sense that self-efficacy regarding social relationships include a belief in one's competence conservation and formation of relationship skills. If notion is to be accepted that those whose self-efficacy is high are more competent in social relationships than those who are not, it could be argued that they could suffer from loneliness. Loneliness is not a desired condition. It would make sense to believe that in order to avoid loneliness, an escape to a different reality (virtual world) where one isn't alone is preferable.

Parallel with gaming dependency, it was hypothesized that personality traits would have a prediction on internet dependency and it was shown that conscientiousness and neuroticism significantly predicted internet dependency. It was shown that those with excessive internet usage had personality traits of lower conscientiousness (Landers & Lounsbury, 2006). As discussed before, those who are conscientious are more goal oriented individuals. However, internet is a place of with little limits, rules and unstructured procedures and regulations. It would be sensible that this creates an environment for those who are low in conscientiousness and encourages their behavior of problematic internet use. Also for neuroticism, it was hypothesized that a

neurotic personality characteristic would have a prediction on internet dependency and this finding was in parallel with previous studies (McElroy, Hendrickson, Townsend, & DeMarie, 2007; Mark & Ganzach, 2014). Since individuals with neurotic personality traits have a tendency to worry and have an overall anxious predisposition, it is safe to assume that they require social support at some point. However, when real life interpersonal relationships are in a direction to a more negative consequence, they may prefer to choose a new life style that involves a social support that can be found on the web endlessly (Batıgün & Kılıç, 2011; Yeh et al., 2008). This may indicate that the web provides them an environment where they can have a support of social aspect while real life scenarios lack this. Obstacles in real life when under the condition of having issues of emotional stability, creates stress (Sinclair & Tetrick, 2000). It would be a logical response to try to avoid these conditions and to prefer being involved in the comfort of an environment with less stress (i.e. the web) and for that, this could indicate that these individuals with neurotic personality traits are not being involved in this problematic internet use to run away from the issues in real life. It should be stressed that having a motivation to find a functional interaction that lowers stress and support for a relief of stress are completely different than simply trying to run away from realities of life; while one is an observed behavior (i.e. problematic internet use), the other is the motivation behind the behavior (i.e. escapism). What might seem like a problematic behavior that should be lowered in order to provide a favorable well-being, could be a functional behavior. This functional behavior could prevent another problem that might have originated from a different aspect of life. Consequently, the focus on the matter should be that how a neurotic personality trait is came to be a part of the individual rather than simply looking at the trait.

Also, an assumption was made towards the idea that a lower self-esteem would predict internet dependency. The findings revealed that this was in line with previous findings (Kim & Davis, 2009; Stetina et al, 2011; Armstrong et al., 2000). Those who have a low self-esteem are shown not to look for face to face relationships in particular (Baumeister, 1993). If this is to be the base of an argument, it can be said that internet is an environment where someone doesn't necessarily have to engage in face to face relationships, naturally. Also, it's been shown that individuals with low self-esteem tend to create avatars in games what they believe to be an ideal self of theirs (Bessiere et al., 2007). If this is to be considered in terms of internet dependency, it could be argued that creating a profile that is favorable by others on social media or other platforms where your life is on display would be in the same direction which would be sensible. It could also be argued that even though individuals lack the desire for face to face relationships, they still require a way to connect with others only if they could find a way to do it without facing the obstacles of face to face relationships itself. And at this point, internet is one of the most favorable domains to do so where someone can have a connection while not seeing others in person and avoiding the anxiety of real life conditions of social interactions.

According to the Cognitive-Behavioral Model of PIU, there requires to be a several factors that accords problematic behavior (Davis, 2001). There needs to be a necessary cause. It is safe to assume that those who are low in self-esteem, high in neuroticism and with no goal oriented life style are more likely to suffer from depression. Depression as a necessary and distal cause for such problematic behaviors to occur, it makes sense that with either introduction of the internet itself or gaming, addition of maladaptive cognitions such as a low sense of self-worth,

problematic behavior being evident fits in the model. Additionally, having a low social competency pushes the individual to isolate himself/herself and in return this serves as a contributory cause to the manifestation. All in all, this model explains the findings of this study and helps us to point fingers at a specific trait on the particular dependency by showing what factors could contribute to and most importantly, when.

There is a wide literature suggesting that introversion, lower agreeableness and not being open to experiences are strongly associated with both internet and gaming dependency (Tuten & Bosnjak, 2001; Huh & Bowman, 2008; Peters & Malesky, 2008; Landers & Lounsbury, 2006; Collins et al., 2011). However, the findings of the study have shown that this association did not show itself as a prediction. There could be several implications of these findings that are not in parallel with the literature. Even though people being introvert means that they are less outgoing, less revealing and less friendly and this indicates that they are more likely to be involved in this problematic behavior, no observation was made towards this direction. One reason for this could be resulting from the nature of today's games and the internet itself. Every day more and more players are being involved not just in games but specifically in online games and also, more in the web and in social media (Ducheneaut, Yee, Nickell, & Moore, 2006; Feng, Brandt, & Saha, 2007; Chen, Huang, Huang, & lei, 2005; Cheng, Dale, & Liu, 2008; Lenhart, Purcell, Smith, & Zickuhr, 2010). In the case of gaming, it is no longer just playing closed ended games where someone is given a mission and receives a congratulatory reward and finishes it. In online games, players are meant to interact with other players. Players are intended to cooperate with them, communicate with them and especially, get

along with them towards a purpose of winning the given task. It can be argued that a requirement of a significantly more interpersonal ability compared to before could have resulted in neutralization of the assumed variable. What is implied here is that since games require more social skills, several characteristics (i.e. introversion, low agreeableness, and not being open to experiences) might have not been observed. To illustrate, take an individual as an example he/she involves in gaming activities where he/she has to be involved in a gaming clan to defeat an enemy (in the game). For an opponent to be defeated, a high amount of commitment to the task, good communication skills (via Skype, Teamspeak, or Ventrilo as communication tools) and excellent cooperation is required. How this influences an individual could be a requirement of extravert traits. Since extraversion means a friendly attitude and since the community inside the games require of players to show such traits while being involved in these activities, as well as a competitive spirit, this could mean that introversion no longer explains gaming dependency as it did before. One reason for this could be the increased population in games and also in-game atmosphere demanding a more friendly and cooperative attitude. How games are now, are not as they were before (i.e. playing the game in forms of different sized groups instead of playing alone). The same argument could also be made for agreeableness too. To be able to create a tactical advantage over the opponents in the game, players require a good communication, as discussed. Since agreeableness means being good to others and trust as mentioned before, these traits are required for groups that are formed to play.

In the case of internet, it is widely believed that these traits are evident. A common explanation of this usually is that those who are introvert, not agreeable and who

have a closed sense to their circle are more likely to be involved in these activities and that results from the perspective of the personality traits itself. Introverts generally don't like to be around of people so they could be running away from them and choose the isolated life of virtual world. What is being missed here is that on the web, your life is on display. They have to get along with people both in real life and in virtual life.

It also should be considered the culture studied is Turkish culture. By the very nature of the particular culture, it has traits of collectivism, traditionalism and conservatism (Çukur, Guzman, & Carlo, 2004, Kağıtçıbaşı, 2003). This could mean that the importance of relations in this culture may differ from others drastically. This could explain why introversion not predicting internet dependency because they may not be able to afford the luxury of being introvert because they are demanded to have better relationships.

The literature suggested that lower self-esteem, higher real life self-efficacy and an internal orientation of locus of control is associated with gaming dependency (Kim & Davis, 2009; Stetina, Kothgassner, Lehenbauer, Kryspin-Exner, 2011; Chak & Leung, 2004). Thus, it was hypothesized accordingly. However the results indicated otherwise. These conditions did not predict gaming dependency. It is discussed that those who believe not being in charge of the consequences of his/her behaviors are being involved in such dependencies because they want to take the restraints of the consequences around them. However, since there is very little evidence suggesting that an orientation of internal locus of control is associated with these particular dependencies, it is implied further research. Also it is discussed that creating an ideal self is a way of enhancing the self-image and thus, increased self-esteem. Last, they

lack the competency to have effective and fruitful relationships in real-life so they prefer virtual life. However, a focus is not made on the new demands of gaming and opportunities internet (especially social media) provides. Games in forms of groups that require good communication call for other audiences as well. An individual who lacks social competency may choose to have the fruits of virtual life but also, it appeals to those who are socially competent, high in self-esteem and with an internal locus of control. A focus should be made on the matter that personality traits or self-concepts may no longer be factors that contribute to gaming or internet dependency. It could be said that these traits no longer predict such dependencies and for that, different aspects of behaviors should be looked and investigated in individuals with gaming and internet dependency.

There were several limitations in the current study. First of all, the data gathered were in form of self-reports and the questions directed towards the participants were about intimate details of their personalities. This means that they could have very easily skewed their answers in desirable ways to make themselves better. Also, they could have cognitive biases (poor memory etc.) and these cognitive biases might mean that they may not be self-knowledgeable as they believe. This lack of self-knowledge may result in poor reports.

Additionally, some of the data was collected with online surveys. This has a disadvantage of the sample to lack representativeness of targeted population. Also, absence of an interviewer could have resulted in individuals to have difficulties answering resulting from possible complexities of the questions. Another limitation was that the factor of self-efficacy only being measured on gaming dependency but not internet dependency. A measurement on internet dependency could have

provided more results and therefore more indications. In addition, the participants were mostly from university students. This could mean that the sample may have not been a representative of gamer population. However, some studies suggested that this is not the case and university student profile is not that different from the normative gamer profiles reported elsewhere (Griffiths, Davies, & Chappell, 2003; Griffiths, Davies, & Chappell, 2004).

Several improvements could be made to enhance the present study. First of all, the amount of scales could be increased to measure different aspects of particular dependencies since there are many. However, this would also mean to raise another limitation that is being long enough to cause distraction to the participant. Above, it was discussed that some personality traits may no longer predict gaming and internet dependencies because it may no longer explain the dependency or new nature of games and internet appeals not only to those pointed in the literature but also to those who are not pointed. An improvement could be made to this with a suggestion that is aligned at a purpose to look for motivations. Different motivations could predict what separates the cases of gaming and internet dependencies. Since a wider variety of individuals is believed to be involved in these activities looking at the motivations could help us predict these dependencies. Such motivations could be for example, does the individual prefer online or offline games? Someone preferring to choose an offline game instead of online could help us hypothesize that he or she doesn't necessarily have to be involved in social relationships in the virtual which in turn could help identify a particular personality trait. It could also be said that the kind of social media he or she uses might have given the researchers an idea towards the sense that the individual might be choosing one social media website to receive good

comments about the person while one other social media provides an environment to share experiences which in turn help researchers identify different needs of people on the web.

In addition, looking at what aspects of the internet are preferred could also help predict these dependencies. For example, the amount of social media platforms used or which social media platform is used towards which purpose would help us relate to more implications. To illustrate, an individual might use facebook only to follow acquaintances, friends and relative while using instagram to post pictures and use twitter to post political thoughts. A person who is an online gambling addict is naturally an internet addict too because this need to gamble can only manifest itself through the internet. However, using the internet with a different motivation (e.g. for dating) could imply another thing. Similarly, looking at motivations behind different tasks in games could also help us identify difference between these individuals. For example, as discussed before, looking at excessive usage could mean a lot of things. One can be using the game as a way to escape from reality and losing many friends, jobs or other opportunities on the way. However, same behavior could be existent only because there was nothing better to do and this behavior manifested itself as a functional way; nothing destructive but the opposite, healthy.

A preventive education developed by Lim, Bae and Kim (2004) shows a need to identify a motif of internet use and also, thorough check of scenarios that pushes people into internet addiction. Through these, the preventive education aims to create awareness on the matter of internet use and enable individuals to see themselves if they are in positions to be absorbed into the web. Such preventive educations that could be presented in class settings could be modified with researches as this current

study to help predict the situations that enables individuals to be absorbed into the web in the first place and thus, serves as bricks in the foundation of such educations.

Despite the ambiguity of the study, it carries importance helping researches to look for particular personality traits that could help us predict what contributes to acquisition, development and perpetuation of gaming and internet dependency. Considering this area of research is relatively new, future research is required to replicate and extend this research.

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APPENDICES

Appendix A: The Questionnaire

Kişisel Bilgi Formu

1) Yaşınız: _____

2) Kadın Erkek Diğer

3) Eğitim durumunuz:

İlköğretim

Lise

Önlisans

Lisans

Yüksek Lisans / Üzeri

Genelleştirilmiş İnternet Kullanım Ölçeği

Lütfen aşağıdaki cümleleri okuyunuz ve size en uygun olduğuna düşündüğünüz şıkkı seçerek 1'den 5'e kadar derecelendiriniz.

- 1=KESİNLİKLE KATILYORUM
2=KATILYORUM
3=KARARSIZ
4=KATILMIYORUM
5=KESİNLİKLE KATILMIYORUM

		1	2	3	4	5
1	Soyutlanmış hissettiğimde internette başkalarıyla konuşuyorum.					
2	Soyutlanmış hissettiğimde internette başkalarını arıyorum.					
3	Moralim bozuk olduğunda interneti kendimi daha iyi hissetmek için kullanıyorum.					
4	Kötü hissettiğimde daha iyi hissetmek için çevrimiçi oluyorum.					
5	İnternetteyken, yüz yüze olan ilişkilere kıyasla daha iyi muamele görüyorum.					
6	Yüz yüze olmasıyla kıyasla, internette başkalarıyla bağlantı kurarken daha güvende hissediyorum.					
7	İnternette sosyalleşirken, dışarıdaki halime göre daha kendimden eminim.					
8	Bilgisayarlarla, insanlarla olduğumdan daha rahatım.					
9	Çevrimiçi iken, çevrimdışı olmama nazaran daha iyi muamele görüyorum.					
10	Sürekli internette olduğum için iş veya okulda sıkıntılar yaşadım.					
11	İnternette olmamdan ötürü iş veya dersleri kaçırdım.					
12	Dışarıdayken değersiz hissediyorum ama internetteyken bir bireyim.					
13	İnternette olmamdan ötürü sosyal etkinlikleri kaçırdım.					
14	İnternet kullanımımı kontrol etmede başarısız girişimlerim oldu.					
15	İnternette geçirdiğim süreyi düşüremiyorum.					
16	İnternette geçirdiğim süreyle ilgili suçlu hissediyorum.					
17	Çok uzun süreler interneti kullanımımı bırakmayı denedim.					
18	İnternet başındayken zamanı takip etmeyi başaramadım.					
19	İnterneti, beklediğimden daha uzun süre kullanıyorum.					
20	İnternette epeyce uzun bir zaman harcıyorum.					
21	Amaçladığımdan daha uzun süre çevrimiçi kalıyorum.					
22	Başında olmadıgımda aklım internet ile meşgul oluyor.					
23	Başında olmadıgımda internette olmayı özliyorum.					
24	İnterneti kullanmadığım zamanlarda acaba orada neler oluyor diye düşünüyorum.					
25	İnternette olmadıgımda kaybolmuş gibi hissediyorum.					
26	İnternette beni neler bekliyor diye düşünmekten kendimi alıkoyamıyorum.					
27	İnternette sosyalleşirken, nasıl görüdüğüm ile ilgili bir endişem olmuyor.					
28	İnternette sosyalleşirken, bir ilişkiye kendimi adamayla ilgili bir sıkıntı yaşıyorum.					
29	İnternetteyken insanların beni nasıl algıladığına dair kontrolüm var.					

Genelleştirilmiş Oyun Kullanım Ölçeği

Lütfen aşağıdaki cümleleri okuyunuz ve size en uygun olduğuna düşündüğünüz şıkkı seçerek 1'den 5'e kadar derecelendiriniz.

- 1=KESİNLİKLE KATILYORUM
2=KATILYORUM
3=KARARSIZ
4=KATILMIYORUM
5=KESİNLİKLE KATILMIYORUM

		1	2	3	4	5
1	Soyutlanmış hissettiğimde oyunu başkalarıyla konuşmak için kullanıyorum.					
2	Soyutlanmış hissettiğimde oyunda başkalarını arıyorum					
3	Moralim bozuk olduğunda oyunları kendimi daha iyi hissetmek için kullanıyorum.					
4	Kötü hissettiğimde daha iyi hissetmek için çevrimiçi oluyorum.					
5	Oyundayken, yüz yüze olan ilişkilere kıyasla daha iyi muamele görüyorum.					
6	Yüz yüze olmasıyla kıyasla, oyunlarda başkalarıyla bağlantı kurarken daha güvende hissediyorum.					
7	Oyunda sosyalleşirken, dışarıdaki halime göre daha kendimden eminim.					
8	Bilgisayarlarla, insanlarla olduğumdan daha rahatım.					
9	Oyunlarda, gerçek hayata kıyasla daha iyi davranılıyorum.					
10	Sürekli oyunda olduğum için iş veya okulda sıkıntılar yaşadım.					
11	Oyun oynamamdan ötürü iş veya dersleri kaçırdım.					
12	Dışarıdayken değersiz hissediyorum ama oyundayken bir bireyim.					
13	Oyunda olmamdan ötürü sosyal etkinlikleri kaçırdım.					
14	Oyun oynamayı kontrol etmede başarısız girişimlerim oldu.					
15	Oyunda geçirdiğim süreyi düşüremiyorum.					
16	Oyunda geçirdiğim süreyle ilgili suçlu hissediyorum.					
17	Çok uzun süreler oyun oynamayı bırakmayı denedim.					
18	Oyunun başındayken zamanı takip etmeyi başaramadım.					
19	Oyunu beklediğimden daha uzun süre oynuyorum.					
20	Oyunda epeyce uzun bir zaman harcıyorum.					
21	Amaçladığımdan daha uzun süre oyunda kalıyorum.					
22	Başında olmadığımında aklım oyun ile meşgul oluyor					
23	Başında olmadığımında oyunda olmayı özlüyorum.					
24	Oyun oynamadığım zamanlarda acaba orada neler oluyor diye düşünüyorum.					
25	Oyunda olmadığımında kaybolmuş gibi hissediyorum.					
26	Oyunda beni neler bekliyor diye düşünmekten kendimi alıkoyamıyorum.					
27	Oyunda sosyalleşirken, nasıl görüdüğüm ile ilgili bir endişem olmuyor.					
28	Oyunda sosyalleşirken bir ilişkiye kendimi adamayla ilgili bir sıkıntı yaşamıyorum.					
29	Oyundayken insanların beni nasıl algıladığına dair kontrolüm var.					

BEŞ FAKTÖR KİŞİLİK ENVANTERİ

Aşağıda sizi kısmen tanımlayan (ya da pek tanımlayamayan) bir takım özellikler sunulmaktadır. Örneğin, başkaları ile zaman geçirmekten hoşlanan birisi olduğunuzu düşünüyor musunuz? Lütfen aşağıda verilen özelliklerin sizi ne oranda yansıttığını ya da yansıtmadığını belirtmek için sizi en iyi tanımlayan rakamın altına X işareti koyunuz.

1= Hiç katılmıyorum

2=Biraz katılmıyorum

3=Ne katılıyorum ne de katılmıyorum (kararsızım)

4=Biraz katılıyorum

5=Tamamen katılıyorum

	1	2	3	4	5		1	2	3	4	5
1. Konuşkan						23. Tembel olma eğiliminde olan					
2. Başkalarında hata arayan						24. Duygusal olarak kolayca keyfi kaçmayan					
3. İşini tam yapan						25. Keşfeden, icat eden					
4. Bunalımlı						26. Atılgan bir kişiliğe sahip					
5. Orijinal, yeni görüşler ortaya koyan						27. Soğuk ve mesafeli olabilen					
6. Ketum/vakur						28. Görevi tamamlanıncaya kadar sebat edebilen					
7. Yardımsever ve çıkarıcı olmayan						29. Dakikası dakikasına uymayan					
8. Biraz umursamaz						30. Sanata ve estetik değerlere önem veren					
9. Rahat, stresle kolay baş eden						31. Bazen utangaç, çekingen olan					
10. Çok değişik konuları merak eden						32. Hemen hemen herkese karşı saygılı ve nazik					
11. Enerji dolu						33. İşleri verimli yapan					
12. Başkalarıyla sürekli didişen						34. Gergin ortamlarda sakin kalabilen					
13. Güvenilir bir çalışan						35. Rutin işleri yapmayı tercih eden					
14. Gergin olabilen						36. Sosyal, girişken					
15. Maharetli, derin düşünen						37. Bazen başkalarına kaba davranabilen					
16. Heyecan yaratabilen						38. Planlar yapan ve bunları takip eden					
17. Affedici bir yapıya sahip						39. Kolayca sinirlenen					
18. Dağınık olma eğiliminde						40. Düşünmeyi seven, fikirler geliştirebilen					
19. Çok endişelenen						41. Sanata ilgisi çok az olan					
20. Hayal gücü yüksek						42. Başkalarıyla işbirliği yapmayı seven					
21. Sessiz bir yapıda						43. Kolaylıkla dikkati dağılan					
22. Genellikle başkalarına güvenen						44. Sanat, müzik ve edebiyatta çok bilgili					

Gerçek Hayat Sosyal Öz-yeterlilik Ölçeği	Doğru Değil	Neredeyse Doğru	Kısmen Doğru	Tamamen Doğru
Diğer insanlarla kolaylıkla arkadaş olabilirim	1	2	3	4
Arkadaşlarım bana katılmadığında kendimi ifade etmede sıkıntı yaşıyorum	1	2	3	4
Tanışık olmadığım insanlarla muhabbet etmek benim için kolay birşeydir.	1	2	3	4
Başka insanlarla çok nadir buluşuyorum	1	2	3	4
Sanal Hayat Sosyal Öz-yeterlilik Ölçeği	Doğru Değil	Neredeyse Doğru	Kısmen Doğru	Tamamen Doğru
Oyun oynarken, oyundaki insanlarla kolaylıkla arkadaş olabilirim	1	2	3	4
Oyunlardaki topluluklarına genellikle dahil oluyorum	1	2	3	4
Oyundayken tanımadığım insanlarla buluşmayı seviyorum	1	2	3	4
Oyun oynarken, oyundaki insanlarla tanışmam benim için çok da önemli değil	1	2	3	4

ROSENBERG BENLİK SAYGISI ÖLÇEĞİ

Lütfen her bir maddeyi dikkatlice okuyunuz ve maddelerin size uygunluğunu 1'den 4'e kadar işaretleyiniz. Puanların karşılık geldiği ifadeler aşağıdaki gibidir:

1=ÇOK DOĞRU

2=DOĞRU

3=YANLIŞ

4=ÇOK YANLIŞ

		1	2	3	4
1	Kendimi en az diğer insanlar kadar değerli buluyorum.				
2	Bazı olumlu özelliklerim olduğunu düşünüyorum.				
3	Genelde kendimi başarısız bir kişi olarak görme eğilimindeyim.				
4	Ben de diğer insanların birçoğunun yapabildiği kadar bir şeyler yapabilirim.				
5	Kendimde gurur duyacak fazla bir şey bulamıyorum.				
6	Kendime karşı olumlu bir tutum içindeyim.				
7	Genel olarak kendimden memnunum.				
8	Kendime karşı daha fazla saygı duyabilmeyi isterdim.				
9	Bazen kesinlikle kendimin bir işe yaramadığımı düşünüyorum.				
10	Bazen kendimin hiç de yeterli bir insan olmadığımı düşünüyorum.				

ROTTER İÇ-DİŞ KONTROL ODAĞI ÖLÇEĞİ

Bu anket, bazı önemli olayların insanları etkileme biçimini bulmayı amaçlamaktadır. Her maddede 'a' ya da 'b' harfleriyle gösterilen iki seçenek bulunmaktadır. Lütfen, her seçenek çiftinde sizin kendi görüşünüze göre gerçeği yansıttığına en çok inandığınız cümleyi (yalnızca bir cümleyi) seçiniz ve bir yuvarlak içine alınız.

1	A	Ana-babaları çok fazla cezalandırdıkları için çocukları problemlili olur.
	B	Günümüz çocuklarının çoğunun problemi, ana-babaları tarafından aşırı serbest bırakılmalarıdır.
2	A	İnsanların yaşamındaki mutsuzluklarının çoğu, biraz da şanssızlıklarına bağlıdır.
	B	İnsanların talihsizlikleri kendi hatalarının sonucudur.
3	A	Savaşların başlıca nedenlerinden biri, halkın siyasete yeterince ilgilenmemesidir.
	B	İnsanlar savaşı önlemek için ne kadar çaba harcarsa harcasın, her zaman savaş olacaktır.
4	A	İnsanlar bu dünyada hak ettikleri saygıyı er geç görürler.
	B	İnsan ne kadar çabalasa çabalasın ne yazık ki değeri genellikle anlaşılmaz.
5	A	Öğretmenlerin öğrencilere haksızlık yaptığı fikri saçmadır.
	B	Öğrencilerin çoğu, notların tesadüfi olaylardan etkilendiğini fark etmez.
6	A	Koşullar uygun değilse insan başarılı bir lider olamaz.
	B	Lider olamayan yetenekli insanlar fırsatları değerlendirememiş kişilerdir.
7	A	Ne kadar uğraşsanız da bazı insanlar sizden hoşlanmazlar.
	B	Kendilerini başkalarına sevdiremeyen kişiler, başkalarıyla nasıl geçinileceğini bilmeyenlerdir.
8	A	İnsanların kişiliğinin belirlenmesinde en önemli rolü kalıtım oynar.
	B	İnsanların nasıl biri olacaklarını kendi hayat tecrübeleri belirler.
9	A	Bir şey olacaksa, eninde sonunda olduğuna sık sık tanık olmuşumdur.
	B	Ne yapacağıma kesin karar vermek kadere güvenmekten daima daha iyi olur.
10	A	İyi hazırlanmış bir öğrenci için, adil olmayan sınav hemen hemen söz konusu olmaz.
	B	Sınav sonuçları derste işlenenle çoğu kez o kadar ilgisiz oluyor ki, çalışmanın anlamı kalmıyor.
11	A	Başarılı olmak, çok çalışmaya bağlıdır şansın bunda payı ya hiç yoktur ya da çok azdır.
	B	İyi bir iş bulma temelde, doğru zamanda doğru yerde bulunmaya bağlıdır.
12	A	Hükümetin kararlarında sade vatandaş da etkili olabilir.
	B	Bu dünya güç sahibi birkaç kişi tarafından yönetilmektedir ve sade vatandaşın bu konuda yapacağı fazla bir şey yoktur.
13	A	Yaptığım planları yürütebileceğimden hemen hemen eminimdir.
	B	Çok uzun vadeli planlar yapmak her zaman akıllıca olmaya bilir, çünkü birçok şey zaten iyi ya da kötü şansa bağlıdır.
14	A	Hiçbir yönü iyi olmayan insanlar vardır.
	B	Herkesin iyi bir tarafı vardır.
15	A	Benim açımdan istediğimi elde etmenin şansa bir ilgisi yoktur.
	B	Çoğu durumda, yazı-tura atarak da isabetli kararlar verebiliriz.
16	A	Kimin patron olacağı, genellikle, doğru yerde ilk önce bulunma şansına kimin sahip olacağına bağlıdır.
	B	İnsanlara doğru şeyleri yaptırmak bir yetenek işidir; şansın bunda payı ya hiç yoktur ya da azdır.

17	A	Dünya meseleleri söz konusu olduğunda, çoğumuz anlayamadığımız ve kontrol edemediğimiz güçlerin kurbanıyızdır.
	B	İnsanlar siyasal ve sosyal konularda aktif rol alarak dünya olaylarını kontrol edebilirler.
18	A	Birçok insan rastlantıların yaşamlarını ne derecede etkilediğinin farkında değildir.
	B	Aşlında 'şans' diye bir şey yoktur.
19	A	İnsan, hatalarını kabul edebilmelidir.
	B	Genelde en iyisi insanın hatalarını örtbas edebilmesidir.
20	A	Bir insanın sizden gerçekten hoşlanıp hoşlanmadığını bilmek zordur.
	B	Kaç arkadaşımızın olduğu, ne kadar iyi olduğunuzu bağlıdır.

21	A	Uzun vadede, yaşamımızdaki kötü şeyleri iyi şeyler dengeler.
	B	Çoğu şanssızlıklar yetenek eksikliğinin, ihmalin, tembelliğin ya da her üçünün birden sonucudur.
22	A	Yeterli çabayla siyasal yolsuzlukları ortadan kaldırabiliriz.
	B	Siyasetçilerin kapalı kapılar ardında yaptıkları üzerinde halkın fazla bir kontrolü yoktur.
23	A	Öğretmenlerin verdikleri notları nasıl belirlediklerini bazen anlamıyorum.
	B	Aldığım notlarla çalışma derecem arasında doğrudan bir bağlantı vardır.
24	A	İyi bir lider, ne yapacaklarına halkın bizzat karar vermesini bekler.
	B	İyi bir lider herkesin görevinin ne olduğunu bizzat belirler.
25	A	Çoğu kez başıma gelenler üzerinde çok az etkiye sahip olduğumu hissedirim.
	B	Şans ya da talihin yaşamımda önemli bir rol oynadığına inanırım.
26	A	İnsanlar arkadaşça olmaya çalışmadıkları için yalnızdırlar.
	B	İnsanları memnun etmek için çok fazla çabalamanın yararı yoktur, sizden hoşlanırlarsa hoşlanırlar.
27	A	Liselerde atletizme gereğinden fazla önem veriyorlar.
	B	Takım sporları kişiliğin oluşumu için mükemmel bir yoldur.
28	A	Başıma ne gelmişse, kendi yaptıklarımdandır.
	B	Yaşamımın alacağı yön üzerinde bazen yeterince kontrolümün olmadığını hissediyorum.
29	A	Siyasetçilerin neden öyle davrandıklarını çoğu kez anlayamıyorum.
	B	Yerel ve ulusal düzeydeki kötü idarelerden uzun vadede halk sorumludur.

Appendix B: Eastern Mediterranean University Psychology Department's Ethics and Research Committee Approval Letter



**Eastern
Mediterranean
University**

**The Department of Psychology
Eastern Mediterranean University
Research & Ethics Committee
Senel Husnu Raman-Chairperson**

**Famagusta, Turkish Republic of Northern
Cyprus
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Ref Code: 14/11-04

Date: 26.11.2014

Dear Onur Yilmaz,

Thank you for submitting your revised application entitled *The role of personality traits and self-concepts in internet and gaming addiction*. Your application has now been *approved* by the Research & Ethics Committee on 26.11.2014.

If any changes to the study described in the application or supporting documentation is necessary, you must notify the committee and may be required to make a resubmission of the application. This approval is valid for one year.

Yours sincerely,

A handwritten signature in black ink, appearing to be "SHR", is written over a light blue horizontal line.

Assoc. Prof. Dr. Senel Husnu Raman
On Behalf of the Research & Ethics Committee
Psychology Department
Eastern Mediterranean University