

## Problematic Internet Use and Body Mass Index in University Students

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### Abstract

*Problem Statement:* Today, immobility and resulting weight gain constitutes one of the greatest problems among young people. The greatest problem for individuals spending a lot of time on the Internet is immobility. The result of this status is spending less energy than the amount required daily. Immobility is considered a cause of being overweight, and being overweight creates a vicious cycle by leading to further lack of mobility.

*Purpose of Study:* The purpose of this research is to investigate the relationship between the level of problematic Internet use (PIU) among Turkish university students and their body mass indexes (BMI).

*Methods:* The study sample consists of 525 university students studying at different departments (Elementary, Fine Arts and Turkish Language Education) at Fatih Faculty of Education at Karadeniz Technical University during the 2010-2011 academic year. Participants were selected through stratified sampling. Accordingly, in this study the departments were determined randomly from Faculty of Education. Distribution of the sample by gender was 234 males (44.6%) and 291 females (55.4%). The mean age of the students was 21.8 (SD=0.72). Racial distribution of participants was homogenous. Questionnaires were administered to students in groups, in a class environment, by the author. Participation was voluntary. In total, six hundred students participated in this study. Seventy five of them had to be excluded for not responding properly to all questionnaires, so the final sample consisted of 525 participants.

*Findings and Results:* The results indicate a significant relationship between BMI and PIU. A significant difference was determined between the students' BMIs (moderate or severe weakness, normal, weight, semi-obese and obese) and their PIU levels. Levels of PIU in those with obesity-level BMIs were found to be higher than the other groups.

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*Conclusions and Recommendations:* These results reveal that the use of communication technologies such as the Internet has a number of negative consequences for university students. In respect to the duration of students' daily Internet use, students may benefit from having to plan how and when they will use the Internet, in order to limit how frequently they use the Internet and to use it effectively.

*Keywords:* Problematic internet use, body mass index, university students

Along with rapid development of technology, use of computers and the Internet has become the indispensable requirement of human lives. The rate of access in places such as homes, offices, schools, Internet cafes etc., is growing particularly rapidly, and many studies (Anderson, 2001; Grohol, 1999; Kandell, 1998; Whang, Lee & Chang 2003) confirm that, today, a great majority of students has the opportunity to access computers and the Internet easily. Although the main functions of the Internet include assisting with communication in the developing world and increasing research opportunities by facilitating information sharing, the Internet's faster-than-expected spread throughout the world has also brought along several problems. While some individuals limit the use of the Internet to their needs only, some have suffered problems due to the excessive use of it in their business, school or social lives since they were incapable of such limitation. We observe studies showing that these problems have reached a clinical scale (Chin-Chung & Sunny 2003; Davis, 2001; Niemz, Griffiths & Banyard 2005; Young, 1996a; Young, 1996b; Young & Rodgers, 1998). Following the cases reported by clinicians, discussions began as to whether the Internet led to addiction or if excessive use of Internet was a behavioral indicator of existing psychological problems and exhibited itself through use of the Internet (Keser-Ozcan & Buzlu 2005; King & Barak 1999).

Along with beginning to define the behavioral pattern that caused problems for individuals as "pathologic" or "problematic", since they are damaging, various definitions were created for excessive use of the Internet. In the studies conducted, many concepts such as "Internet addiction", "Internet dependence", "pathologic use of Internet", "Internet behavioral addiction" and "cyber addiction" were used. Young (1996a) preferred the term "Internet addiction", and compared it with drug and alcohol addiction, since it caused academic, social and professional damage. In the later studies, Young defined problematic Internet use based on the criteria for "pathologic gambling" as contained in DSM-IV (Young, 1996b; Young & Rodgers 1998). Kandell (1998) defined Internet addiction as a psychological addiction and particularly considered the young a risky group for this addiction, emphasizing that it may lead to problems regarding health, relationships and time management. While many researchers (Young, 1996a; Young, 1996b; Young & Rodgers, 1998) consider the time spent by individuals on Internet an important criterion in the diagnosis of Internet addiction, pathologic or problematic Internet use, the time spent by individuals on the Internet alone is not sufficient for diagnosis of problematic Internet use; compulsive use of the Internet where excessive use leads to negative consequences is considered an important criterion (Caplan, 2005; Davis, 2001; Young

& Rodgers, 1998). Compulsive use of the Internet means that the individual cannot achieve the desired control over his/her use of Internet, and failure to achieve this control results in major trouble in his/her real life (Padwa & Cunningham, 2010).

The Internet is used for different purposes, and more widely by university students in particular. Fast and easy access to the Internet at universities, responsibility for homework and contacts in courses, following the course statuses, and the need to conduct research ensure that even university students who didn't use the Internet become Internet users. The social and academic difficulties, and, particularly, the health problems suffered by an individual as a result of problematic Internet use exhibiting itself during the university period may lay the groundwork for suffering, loneliness and social isolation, and may lead to difficulties in business and family life in later years (Young, 2004; Young, Yue & Ying, 2011).

A great majority of university students use the Internet for academic and social reasons at least once a week: doing homework, conducting research, and communicating with family and friends (Niemz et al., 2005). While the Internet and computer games are considered technological miracles that support the young in accessing information, conducting research, and developing skills such as problem solving, creativity and critical thinking (Kubey, Lavin & Barrows, 2001; Wright, 2001), they also cause anxiety and fear with excessive, uncontrolled, misuse and unconscious use, and are thought to affect development of personal skills negatively (Mathy & Cooper 2003; Scherer, 1997; Young, 2000).

In addition to this, computer and Internet use have negative physical effects on individuals, which have been revealed in the results of many studies (Attewell, Suazo-Garcia & Battle, 2003; Mendoza, Zimmerman & Christakis, 2007). One of these negative effects is the health problem called excessive weight gain or obesity. All people need to take adequate and balanced nourishment to be developed, healthy and productive physically, spiritually and socially (Stunkard, Sorenson & Haris, 1986). Obesity, the most serious health problem caused by unbalanced nutrition, is a pathological condition characterized by storage of more fat than is needed for optimal body function (Seidell, 1995). Studies reported that obesity has increased throughout the world as an epidemic. Researchers focused on the role of physical activity and exercise in prevention of obesity and other health associated problems (Chakraborty, Bose, Khongsdier & Bisai 2009; Prentice, 1997; Vandewater, Shim & Caplovitz, 2004). Obesity occurs when the ratio of height to weight exceeds the optimal level due to the excessive increase in the ratio of the fatty mass of the body to the muscle mass (Deurenberg, Deurenberg-Yap & Guricci 2002). The World Health Organization (WHO) uses the Body Mass Index (BMI) defined by Garrow to identify obesity (Garrow & Webster, 1985). BMI is the ratio of weight in kilograms to the square of height in meters. BMI is a good indirect indicator of weight problems. The measure has been proven to show the amount of fat in the body with accuracy higher than 90%. It is a useful index, since it is relatively independent of height. Because of this, it is used for comparison of individuals of different height. (Flier & Folder, 1998).

The primary reason for the increase in the incidence of obesity within the last 10 to 20 years seems to be the transition from a lifestyle based on physical strength to a lifestyle based on inactivity, industrialization, and consumption of calorie-intensive food (World Health Organization, 2011). Many studies have revealed significant a relationship between weight gain and immobility (Buchowski & Sun, 1996; Dennison, Erb, & Jenkins, 2002; Mendoza, et al., 2007; Shannon, Peacock & Brown 1991). Immobility is one of the greatest problems for individuals spending a lot of time on the Internet (Attewell, et al., 2003; Fotheringham, Wonnacott & Owen, 2000; Matusitz & McGormick, 2012). Inactivity results in less energy being expended than required for good health. Immobility is considered a cause of being overweight, and being overweight creates a vicious cycle by leading to further lack of mobility (Fitzgerald, Kriska, Pereira & Courten, 2001).

Due to these reasons, the belief that PIU may have a negative effect on the physical health of the individual has emerged. Research has demonstrated the accuracy of this belief (Robinson & Killen 1995; Wake, Hesketh & Waters 2003). Particularly, studies on children and adolescents reveal that the pathologic use of the Internet at an addiction scale affects the health negatively (Jackson, Eye, Fitzgerald, Witt & Zhao 2011; Kim, Lau, Cheuk, Kan, Hui & Griffiths, 2010). Consequently, it is suggested that this problem may be prevalent among the university students, especially when university students' wider access (Young, 2004; Young, et al., 2011) to the Internet is taken into account.

On the basis of conclusions drawn from the related literature, PIU among university students is thought to have a negative effect on their BMI. This study aims to determine what kind of relationship exists between university students' level of PIU and their BMI. The following hypotheses will be tested within the aim of the study;

- a. There is a significant relationship between problematic Internet use (PIU) and body mass index (BMI) in university students.
- b. Problematic Internet use (PIU) in university students varies according to their body mass index (BMI).

## Methods

### *Participants and Procedure*

The study sample consists of 525 university students studying at different departments (Elementary, Fine Arts and Turkish Language Education) of Fatih Faculty of Education at Karadeniz Technical University during the 2010-2011 academic year. Participants were selected through stratified sampling. This sampling method is used for examining sub-populations of a sample, of which limits were determined (Şahin, 2009). Accordingly, in this study the departments from Faculty of Education were chosen randomly. Distribution of the sample by gender was 234 males (44.6%) and 291 females (55.4%). The mean age of the students was 21.8 (SD=0.72). 294 (56%) of participants had their own computers while 231 (44%) did

not. Racial distribution of participants was homogenous. Questionnaires were administered to students in groups, in a class environment, by the author. Before administration of the questionnaires, students were given the requisite information about the aim of the research and how the measurement scales should be answered. Required permissions were obtained. Participation was voluntary. In total, 600 students participated in this study. Seventy five of them had to be excluded for not responding properly to all questionnaires, so the final sample consisted of 525 participants.

Table 1.

*Distribution of Students in Terms of Departments*

		N	%
Elementary Education	School	245	46.6
Fine Arts Education		154	29.4
Turkish Language Education		126	24
Total		525	100

#### *Data Collection Tools*

*Demographic list:* First, the information comprising the demographic characteristics (gender, department, height and weight values) of the students participating in the study was collected from a demographic list.

*Online cognition scale (OCS)\*:* This scale was used to measure the level of problematic use among the participants. The original scale, drawn up by Keser-Özcan and Buzlu (2005) to study validity and reliability in university-student sampling with the aim of determining problematic Internet use, was developed by Davis, Flett, and Beser (2002). The OCS consists of 36 statements (e.g., “the Internet represents an important part of my life”; “I feel helpless when not online”; “I can escape my worries when I am online”) to which responses are given on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). During testing of the scale’s test-repeat test reliability, .90 was significant for Pearson product-moment correlation co-efficient total scale scores, .87 for social support sub-group scores, .76 for loneliness/depression sub-group scores, .89 for reduced impulse control sub-group scores and .85 for distraction sub-groups cores at a level of  $p < 0.001$ . In this study, to determine problematic Internet use, a loneliness/depression sub-scale was used. OCS has an internal consistency coefficient of .91 and items’ total reliability

\* Online cognition scale 2002 ©Copyright, developed by Richard A Davis, Gordon L Flett, and Avi Besser. All

coefficients range between .17 and .66. High scores taken from this scale indicate that problematic Internet use level is rising.

*Body mass index (BMI):* The height and weight values were initially taken to calculate the BMI of the participants. The BMI was calculated ( $BMI = \text{weight (lb)} / \text{height}^2 \text{ (ft)}$ ) (Frankenfield, Rowe, Cooney, Smith & Becker 2001).

#### *Analysis*

The SPSS software (Statistical Package for the Social Sciences, version 15.0, SPSS Inc., Chicago, USA) was used for data analysis. Firstly, mean and standard deviation values were calculated for variables with statistical techniques (Table 2). It is determined that the data were distributed normally by using Kolmogorov Smirnov test. Statistical analysis was performed using the Pearson product-moment correlation co-efficient, one-way analysis of variance and LSD tests.

## Results

In this section, the findings and results relating to PIU, BMI and demographic variables are presented.

#### *Descriptive Statistics*

Table 2.

*Descriptive Statistics for Body Mass Index, Body Weight, Height, Problematic Use of Internet.*

	<i>M</i>	<i>SD</i>	<i>N</i>	Minimum	Maximum
PIU	10.83	6.18	525	6.00	38.00
BMI	21.61	2.93	525	15.02	33.33
BW	60.60	11.24	525	43.00	103.00
Height	167.78	8.03	525	150.00	190.00

Note: PIU = Problematic Internet Use. *SD*= Standard Deviation. BMI = Body mass index. BW = Body weight. BMI = weight (lb)/ height (ft)<sup>2</sup>.

Descriptive statistics for the three body size measures – body weight (lb), height (ft) and the BMI (computed as follows:  $BMI = \text{weight (lb)} / \text{height}^2 \text{ (ft)}$ ) are presented in Table 2.

*Correlation Between Problematic Internet Use (PIU) By University Students And Body Mass Index (BMI).*

Table 3.  
*Correlations Between Variables*

	1	2
1.PIU	1	.39(**)
2.BMI		1
SD	0.59	6.02
M	2.08	10.72

Note: \*\* Correlation is significant at the 0.01 level. PIU = Problematic Internet Use. SD= Standard Deviation. BMI = Body mass index. BMI coded as moderate and severe weakness=1 (BMI= 0- 18.4); normal= 2 (BMI= 18.5- 24.9); semi-obese= 3 (BMI= 25- 29.9); obese= 4 (BMI=30 and higher) .

The correlation between PIU and BMI among university students was tested using Pearson product-moment correlation co-efficient, and the results are shown in Table 3. Pearson correlation analysis results reveal significant and positive relationship between PIU and BMI ( $r= 0.39$ ,  $p< 0.01$ ). This result validates hypothesis a.

#### *Variability of PIU In Terms of BMI*

Table 4.  
*Problematic Internet Use and Body Mass Index*

	Factor	Ss	df	MS	F
PUI and BMI	Between groups	299.69	2	149.84	3.91*
	Within group	10721.72	523	38.29	
	Total	11021.42	525		

Note: \* p value is significant at the 0.05 level. PIU = Problematic Internet Use. BMI = Body mass index. BMI coded as moderate and severe weakness=1 (BMI= 0- 18.4); normal= 2 (BMI= 18.5- 24.9); semi-obese= 3 (BMI= 25- 29.9); obese= 4 (BMI=30 and higher) . Ss= Sum of squares, df=degree of freedom, MS= Mean of squares

Table 5.  
*LSD Test Results for Multiple Comparisons*

(I) BMI	(J) BMI	Mean Difference (I-J)	SE
0- 18,4	18,5-24,9	-,32	,87
	25-29,9	-4,36(*)	1,08
	30 and higher	-20,69(*)	1,81
18,5-24,9	0- 18,4	,32	,87
	25-29,9	-4,04(*)	,78
	30 and higher	-20,37(*)	1,65
25-29,9	0- 18,4	4,36(*)	1,08
	18,5-24,9	4,04(*)	,78
	30 and higher	-16,32(*)	1,77
30 and higher	0- 18,4	20,69(*)	1,81
	18,5-24,9	20,37(*)	1,65
	25-29,9	16,32(*)	1,77

Note: \* p value is significant at the 0.05 level. BMI coded as moderate and severe weakness=1 (BMI= 0- 18.4); normal= 2 (BMI= 18.5- 24.9); semi-obese= 3 (BMI= 25- 29.9); obese= 4 (BMI=30 and higher) .

One-way analysis of variance was used to determine whether PIU varied in terms of BMI. One-way analysis of variance indicates significant differences between groups ( $F= 3.91$ ,  $p<0.05$ ) (Table 4 and 5). Post-hoc analysis (the LSD test) was used to determine those groups between which there was a difference. The LSD test results reveal that levels of PIU among university students whose BMI scores are 30 and over were determined as meaningfully higher than university students whose BMIs are between 0- 18,4; 18,5-24,9 and 25-29,9. Moreover, PIU levels of the university students with a BMI of 25 to 29.9 were found to be significantly higher than those with a BMI of 0 to 18.4 and those with a BMI of 18.5 to 24.9. These results validates hypothesis b.

### Discussion and Conclusions

With the results of this study, it was concluded that there was a positive relationship between the levels of students' PUI and BMI, and there also were significant differences between the BMI groups (being obese, semi-obese, normal, medium-weight or weak) in terms of PIU. Therefore, the results proved hypotheses (a) there is a significant relationship between the levels of PIU by students and BMI; (b) Problematic Internet use (PIU) in university students varies according to their body mass indexes.

In recent years, an increase in time spent on the Internet led to the investigation of the effects on people of the Internet and communication media carrying on its development (Young, 1996a; Young, 1996b; Young & Rodgers, 1998; Goldberg, 1999). The studies conducted were concentrated mainly on the negative effects of the Internet. One of these effects is the problem caused by excessive Internet use in physical terms. These studies usually were conducted among children and adolescents (Attewell et al., 2003; Marshall, Biddle, Gorely, Cameron & Murdey 2004; Mendoza et al., 2007; Vandewater et al., 2004; Yen et al., 2010). The common conclusion of these studies is that when children and adolescents spend more than the normal amount of time with computers, Internet and video games, it has a negative effect on their physical health. People tend to stay immobile while using such technologies, resulting in the expenditure of less energy in a day than the amount required to stay healthy. So, the individuals tend to gain excessive weight (Durant, Baranowski, Johnson & Thompson 1994). Other studies also point out a relationship between the use of technology and BMI, or body weight, and are available in the literature (Buchowski & Sun, 1996; Dennison et al., 2002; Kautiainen, Koivusilta, Lintonen, Virtanen & Rimpelä, 2005; Mendoza et al., 2007). These studies have revealed that misuse of technology had a direct effect on the health of the individuals studied.

If the matter is considered in terms of Turkey, according to the data of Turkish Statistics Institute (TSI) 2010, computer and the Internet use continue to increase in the country. Computer and Internet usage rates in people ages 16 and 74 was 53.4% and 51.8% , for the males, 33.2% and 31.7%, respectively for the females. During the period between January and March 2010, 60.8% of those surveyed used a computer, and 59.3 of the respondents used the Internet. The increase in the Internet user



population, particularly in Turkey, took place by means of Internet cafes. Even those who had not used a computer or the Internet before met the virtual world thanks to the cafes, which ensure making use of the technology may lead to social deviation of the young (Gurol & Sevindik 2006). These data reveal that the tendency to PIU increases along with increase of the Internet usage rate. Individuals showing indications of PIU are usually seen alone, and live in social isolation. As a result of their evaluation using Scheduled Interview for DSM Disorders (SCID) in the study conducted by Shapira, Goldsmith, Keck, Khosla, and McElroy (2000) were diagnosed with "Impulse Control Disorder Not Otherwise Specified". The individuals in that study did not seem disturbed by the idea, impulse or desire to use the Internet, but did have difficulty resisting excessive Internet use.

The university students may exhibit the behavior of excessive Internet use to cope with various factors involving developmental problems, or their inability to establish close relationships with peers of the opposite sex may result in Internet addiction. The social and academic difficulties that may be suffered by the individual as a result of PUI, which exhibits itself in the university study period, may constitute grounds for suffering, loneliness and social isolation, and may result in difficulties in business and family life in later years. This seems to be significant from the aspect of immobility and weight gain. Several studies addressing the relationship between the duration of Internet use by individuals and PUI have been conducted (Keser- Ozcan & Buzlu, 2005; Morahan-Martin 1992; Odaci & Kalkan, 2010). The common conclusion of these studies is that Internet use poses a problem for the individuals after a certain point.

These results reveal that use of communication technologies such as the Internet has a number of negative consequences for the children, adolescents and young adults. The contribution of this study to the literature is disclosing the relationship between problematic Internet use and body mass index in university students who have wide access to the Internet. The Internet is the common communication infrastructure which enables people worldwide to communicate and share information with each other with very broad purpose and content. Technologies that can be used individually, such as Internet, give people the chance to feel free. People can socialize, do shopping, and experience romantic relationships in such environments. Such factors make people more dependent on the Internet. This tendency may sometimes affect the physical health of people as well as their emotional well-being. Prevention of this is important for protection of the health of the young and of society as a whole.

Finally, the study makes the following recommendations, to guide future studies: With respect to the duration of students' daily Internet use, they may benefit from having to plan how and when they will use the Internet, in order to limit how frequently they use the Internet and to use it effectively. Thus, it may be ensured that students enjoy their lives beyond the Internet and live more active lives. Several social projects and events may be held to prevent particularly those students experiencing their first years in the university from looking excessively to the Internet to make up for their difficulties in adapting to their new social environments

and establishing new friendships. Students could be informed about the physical health risks of excessive Internet use, especially, and in addition to this, seminars could be held about proper use of technology and dangers of misuse. Media campaigns, especially public service broadcasts, could be used to attract the attention of young adults to the relationship between obesity and technology use. With these activities, young adults can be helped to be physically and psychologically more healthy, as well as academically and vocationally more successful.

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## Üniversite Öğrencilerinde Problemlı İnternet Kullanımı ve Vücut Kitle İndeksi

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### Özet

*Problem Durumu:* Teknolojinin hızla ilerlemesi ile bilgisayar ve internet kullanımı hayatın vazgeçilmez gereklilikleri haline gelmiştir. Yapılan arařtırmalarda öğrencilerin büyük bir çoğunluğunun rahatlıkla ulaşabilecekleri bilgisayar ve internet imkanlarına sahip olduđu görölmektedir. Gelişen dünyada iletişimi arttırmak ve bilgi paylaşımını kolaylaştırarak, arařtırmacıların olanaklarını arttırmak internetin temel işlevleri arasında olsa da, internetin tahmin edildiğinden daha hızlı yaygınlaşması, beraberinde bir takım problemleri de ortaya çıkarmaya başlamıştır. Bazı bireyler internet kullanımını gereksinim duydukları miktarla sınırlarken, bazılarının bu sınırlamayı yapamadığı için okul ve sosyal yaşamlarında aşırı kullanım nedeniyle sorunlar yaşadığı görölmüştür. Yapılan arařtırmaların ardından, internetin mi bağımlılığa yol açtığı yoksa aşırı internet kullanımının var olan psikolojik sorunların davranışsal bir göstergesi olup, kendini bağımlılık yoluyla mı gösterdiği tartışmaları başlamıştır. Bireylere sorun yaşatan davranış örüntüsü, zarar verici olması nedeniyle “patolojik” ya da “problemlı” olarak tanımlanmaya başlanmış, aşırı internet kullanımı için de çeşitli tanımlamalar yapılmıştır. Yapılan arařtırmalarda; “internet bağımlılığı”, “problemlı internet kullanımı”, “patolojik internet kullanımı” ve “siber bağımlılık” gibi pek çok kavramın kullanıldığı gözlenmektedir. İnternetin bahsedilen bu olumsuz kullanımının en önemli etkilerinden birisi de beden sağlığı üzerinde olanlarıdır. Bilgi ve iletişim teknolojilerinin bireyler üzerindeki olumsuz bedensel etkilerini ortaya koyan bazı arařtırmalarda, teknolojinin yanlış ve aşırı kullanımı insanoğlunun beden sağlığı üzerinde olumsuz etkilere sahip olduđu ortaya konmuştur. Bu bağlamda günümüzde gençlerin en büyük sorunlarından birini internetin doğru kullanılmamasından kaynaklanan hareketsizlik ve kilo alma problemleri oluşturmaktadır. Uzun süre internet başında zaman harcayan bireylerin yaşadıkları en büyük sorun hareketsiz kalmaktır. Bu da bireylerin günlük yakmaları gereken enerji miktarından daha azını harcamalarına neden olmaktadır. Hareketsizlik şişmanlık nedeni olarak görölmekte, şişmanlık ise hareket eksikliğine yol açarak kısır bir döngü oluşturmaktadır. İnternet, özellikle üniversite öğrencileri tarafından

yaygın bir biçimde kullanılmaktadır. Üniversitelerde internete ulaşımın hızlı ve kolay olması, ödevler ve ders sorumlusu ile bağlantılar, ders durumlarının takibi, araştırma yapma ihtiyacı gibi durumlar interneti kullanmayan üniversite öğrencilerinin de, internet kullanıcısı olmasını sağlamaktadır. Literatürde yer alan ilgili araştırmaların sonuçları, üniversite öğrencilerinin problemleri internet kullanımlarının onların vücut kitle indeksleri üzerinde olumsuz bir etkisi olabileceği fikrini vermektedir. Bu bağlamda bu araştırma, üniversite öğrencilerinde problemleri internet kullanımı ile vücut kitle indeksi arasındaki ilişkiyi belirlemeyi amaçlamaktadır.

*Araştırmanın Amacı:* Bu araştırmanın amacı üniversite öğrencilerinin problemleri internet kullanım düzeyleri ile vücut kitle indeksleri arasındaki ilişkiyi incelemektir. Bu bağlamda araştırmada iki hipotez sınanmıştır. Bunlar;

- 1.Öğrencilerin problemleri internet kullanım düzeyleri ile vücut kitle indeksleri arasında anlamlı bir ilişki vardır.
- 2.Öğrencilerin problemleri internet kullanım düzeyleri vücut kitle indekslerine göre anlamlı şekilde farklılaşmaktadır.

*Araştırmanın Yöntemi:*Araştırmanın katılımcıları Karadeniz Teknik Üniversitesi Eğitim Fakültesinde 2010- 2011 akademik yılında farklı bölümlere (İlköğretim, Güzel Sanatlar ve Türkçe Eğitimi bölümleri) devam etmekte olan, tabakalı örnekleme yöntemi ile seçilen 525 üniversite öğrencisinden oluşmaktadır. Örneklemin cinsiyete göre dağılımı 234 erkek ve 291 kız şeklindedir. Öğrencilerin yaş ortalaması 21.8'dir. Araştırmaya katılan bireylerden 294'ü (%59.7) kendi bilgisayarlarına sahipken, 231'i (%40.3) değildir. Katılımcıların ırksal dağılımı homojendir. Katılımcıların çoğu (n=363, %69.1) orta sosyoekonomik gelir düzeyine sahip ailelere mensupturlar. Araştırmanın verileri araştırmacı tarafından geliştirilen bilgi toplama formu ve "İnternette Bilişsel Durum Ölçeği" kullanılarak elde edilmiştir. Bilgi toplama formunda araştırmaya katılan öğrencilerin sosyo - demografik özelliklerini (yaş, cinsiyet, bilgisayar sahibi olma, boy ve kilo değerleri) içeren bilgileri alınmıştır. Ayrıca katılımcıların vücut kitle indekslerinin hesaplanması için son bir hafta içindeki boy ve kilo değerleri alınmıştır. Araştırma kapsamında toplanan verilerin analizinde SPSS 15.0 programı kullanılmıştır. Araştırma verilerinin normal dağılıma uygunluğunun test edilmesinde Kolmogorov Smirnov testi kullanılmıştır. Verilerin analizinde Pearson product momentler çarpımı korelasyon analizi, tek yönlü varyans analizi (One- way ANOVA) ve çoklu karşılaştırmalar için LSD testi kullanılmıştır.

*Araştırmanın Bulguları:*Araştırmada ulaşılan bulgulara göre öğrencilerin problemleri internet kullanım düzeyleri ile vücut kitle indeksleri arasında pozitif yönde anlamlı bir ilişki vardır. Öğrencilerin problemleri internet kullanım düzeyleri ile vücut kitle indeksleri düzeyleri arasındaki ilişki temel alındığında gruplar arasında anlamlı farklılıkların olduğu belirlenmiştir. Buna göre vücut kitle indeksleri 30 ve üzerinde

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olan üniversite öğrencilerinin problemleri internet kullanım düzeyleri vücut kitle indeksleri 0- 18,4; 18,5-24,9 ve 25-29,9 arasında olan öğrencilerden anlamlı düzeyde yüksek olarak bulunmuştur.

*Araştırmanın Sonuç ve Önerileri:* Genç yetişkinler için internet gibi bilgi ve iletişim teknolojilerinin kullanılmasının bazı olumsuz sonuçları bulunmaktadır. İnternet gibi bireysel kullanılabilen teknolojiler insanlara daha özgür olma şansı vermektedir. İnsanlar bu gibi ortamlarda sosyalleşebilmekte, alış - veriş yapabilmekte, romantik ilişkiler yaşayabilmektedir. Bu gibi unsurlar bazı insanları internete daha eğilimli hale getirmektedir. Bu eğilim zaman zaman insanların psikolojisi üzerinde etkili olduğu kadar beden sağlıkları üzerinde de etkili olabilmektedir. Bu durumun önüne geçilmesi gençlerin ve toplumun sağlığının korunması için önemlidir. Bu bağlamda bazı öneriler geliştirilmiştir. Öncelikle öğrencilerin günlük internet kullanım sürelerine yönelik; interneti ne sıklıkta ve ne amaçla kullandıklarının planını yapmaları konusunda eğitim programları geliştirilebilir. Özellikle üniversitede ilk yılını yaşayan öğrencilerin yeni sosyal ortamlarına uyum sağlama ve yeni arkadaşlıklar kurma konularındaki eksiklikleri için internete aşırı düzeyde başvurmalarını önlemek adına çeşitli sosyal proje ve etkinlikler düzenlenebilir.

*Anahtar Sözcükler:* Problemleri internet kullanımı, vücut kitle indeksi, üniversite öğrencisi