



**Problematic Internet Usage: Personality Traits, Gender, Age and Effect of Dispositional Hope Level\***

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**ARTICLE INFO**

**Article History:**

Received: 03 January 2017

Received in revised form: 21 March 2017

Accepted: 06 July 2017

DOI: <http://dx.doi.org/10.14689/ejer.2017.70.4>

**Keywords**

Internet addiction, personality, hope, excessive internet usage

**ABSTRACT**

**Purpose:** The aim of this study is to examine the effect of personality traits, gender, age and effects of dispositional hope level in problematic internet usage of university students. **Research Methods:** This paper is an example of a descriptive study, which presents the relationship between problematic internet usage of university students considering personality traits, gender, age and dispositional hope level. The study group consists of 376 students from different universities. Research data was collected by using the Problematic Internet Usage Scale, The Big Five Inventory, and the Dispositional Hope Scale. In the analysis of data, parametric tests were used.

**Findings:** It has been observed that as neuroticism increases, excessive usage also increases; as conscientiousness increases, excessive usage of the internet decreases. As openness, extraversion and neuroticism increase, the effects of negative results of internet usage increase; as conscientiousness increases, the effects of negative results of internet usage decrease. At the same time, it can be said that as hope levels increase, the negative effects of internet usage decrease. All of these results can be interpreted as variables, except being an extravert does not have a practical value. **Implications for Research and Practice:** Based on the results, it was suggested that evaluation of results related to the studies made with high school students and adults will contribute to the field. In future studies, relationships between different usage fields of internet and problematic internet usage can be examined. The results would be helpful for prevention and intervention programs.

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## Introduction

The internet is extensively used throughout the world. It has become an essential part of our lives today, especially among adolescents and youth (Panicker & Sachdev, 2014). Children and adolescents use the internet for socializing and for leisure activities (watching movies and television programs, listening to music and playing online games). The negative impact of the internet usage on individuals and their lives is often underestimated (Chang & Hung, 2012). Internet usage can be evaluated as individuals' mechanism for stating their emotions, being the person that they want to be, acting as a mediator to reach several opportunities, learning about the world and opening up to the world. However, it can transform into an addictive instrument in excessive usage situations. Internet addiction has become a health problem throughout the world (Wang et al., 2013). Increasingly, the problem status of individuals on different developmental periods are identified more in relation with the increasing usage of internet and related tools. Thus, the need for research on problematic internet usage becomes significant with regard to the prevention and intervention programmes.

There is no standard in the literature for the concepts of internet addiction or problematic internet usage. Significant behaviours related to internet usage present such concepts as internet addiction, internet addiction deformity and pathological internet usage (Chou, Condron, & Belland, 2005). The term "internet addiction" is used in some of studies (Breslau, Aharoni, Pedersen, & Miller, 2015). Internet addiction was first recognized by Goldberg (1995) and Young (1996) and is defined as compulsiveness related to excessive internet usage and establishment of a nervous and pessimistic emotion situation in case of not having internet (as cited in Mitchell, 2000). While silence, change in emotion situation, tolerance (increasing period of usage ) deprivation symptoms, conflict and recurrence elements draw attention in internet addiction (Griffiths, 2000a; Griffiths, 2000b), pathological internet usage should include at least three factors, such as excessive game playing, online sexual activities, sending e-mails and texting behaviours (Young, 1999).

As defined by Beard (2005) and Kim and Davis (2009), internet addiction is uncontrolled usage of the internet to create psychological, social or/and working problems in the life of the individual. Similar to this definition, problematic internet usage is defined as not being able to control internet usage, resulting in stress problems in daily life and experiencing functional defects (as cited in Shapira, Goldsmith, Keek Jr, Khosla, & McElroy, 2000). Problematic internet usage can be seen as an impulse control defect that displays itself with an increasing tension and excitation situation before the activity and a relaxing situation after completing the behaviour (Shapira et al., 2003). Individuals with stories of addiction or impulse control in their past are in the risk group for problematic internet usage (Yellowlees & Marks, 2007). This can exist at any age, social, economic or educational level (Beard, 2005; Beard & Wolf, 2001). In this context, problematic internet usage has an important effect on one's life.

It has been found that problematic internet usage correlates with variables such as depression (Chen & Lin, 2016; Ga´mez-Guadix, 2014; Moreno, Jelenchick, & Christakis,

2013; Moreno, Jelenchick, & Breland, 2015; Ostovar et al., 2016; Van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008; Shapira, Goldsmith, Keck, Khosla, & McElroy, 2000), cognitive distortion between individual and life satisfaction, (Odaci & Berber Celik 2013; Cao, Sun, Wan, Hao, & Tao, 2011), loneliness (Ang, Chong, Chye, & Huan, 2012; Kraut et al., 1998; Ostovar et al., 2016; Skues, Williams, Oldmeadow, & Wise, 2016), well being (Chen, 2012; Mei, Yau, Chai, Guo, & Potenza, 2016), online gambling (Tsitsika, Critselis, Janikian, Kormas, & Kafetzis, 2011; Yau et al., 2014), substance use (Rücker, Akre, Berchtold, & Suris, 2015), and low empathy (Melchers, Chen, Zhang, & Montag, 2015). Furthermore, according to Lanchman et al. (2016), gender is a significant variable in terms of problematic internet usage. Internet addiction has been studied using several variables.

While one study conducted among female university students points out a relationship between depression and problematic internet usage (Moreno et.al. 2015), another study presents a relationship between low well-being and problematic internet usage (Casale, Lecchi and Fioravanti, 2015). Yu and Shek (2013) stated in their longitudinal study that problematic internet usage by male adolescents is more commonplace than among female adolescents. Tsitsika et al. (2011) stated that the most meaningful independent variable related to problematic internet usage is online gambling. When studies with problematic internet usage in Turkey were examined, Ceyhan and Ceyhan (2008) in a study conducted among 283 undergraduate students found that individuals whose loneliness level was high used the internet and e-mail more than other students. Oktan (2015a) examined the relationship between doing harm to oneself and engaging in risk behaviour with problematic internet usage in his study. He studied 736 high school students and found a meaningful relationship between problematic internet usage and risk taking and harming oneself.

According to the conducted research, while the internet usage period, grade and school type have been important predictors of problematic internet usage for high school students (Ceyhan, 2011), the most important predictor of problematic internet usage for university students is internet usage with the aim of “building social relationships with the people they do not know” (Ceyhan, 2010). Moreover, belonging, life-satisfaction, achievement and identity issues are significant predictors for problematic internet usage in adolescents (Balkaya Cetin & Ceyhan, 2015). Such variables as the use of the internet for social and entertainment purposes and gender predict problematic internet use (Babacan Gumus, Sipkin, Tuna, & Keskin, 2015). Furthermore, while problematic internet use is predicted positively by impulsivity (Eroğlu, 2016), students’ departments, using the internet for social interaction and emotional intelligence are also predictors of problematic internet use (Ansel, Acikgoz, & Yavas Ayhan, 2015). At the same time, there are studies emphasizing the relationships with identity status (Ceyhan, 2010), attitude related to internet usage (Sargin, 2013), time spent on the internet (Durak & Senol-Durak, 2013; Oktan, 2015b), emotional intelligence, self-respect, (Reisoglu, Gedik, & Goktas, 2013), having a computer (Sevindik, 2011; Sirakaya & Seferoglu, 2013) anger stating styles (Ata, Akpinarr, & Kelleci, 2011), loneliness (Cagir, 2010; Odaci & Kalkan, 2010), social anxiety (Cuhadar, 2012; Zorbaz, 2013), depression (Alparslan, Soylyu, Kocak, & Guzel,

2015; Odaci & Cikrikci, 2017; Tekinarslan, 2017) perceived social support, loneliness (Oktan, 2015b), life satisfaction (Berber Çelik & Odaci, 2013) psychological well-being and perceived social support of friends (Meral & Bahar, 2016; Uz Bas, Oz Soysal, & Aysan, 2016). In addition, it is observed that there is a significant relationship between problematic internet use level and gender (Ancel, Acikgoz, & Yavas Ayhan, 2015; (Berber Çelik & Odaci, 2013; Esitti, 2015; Oktan, 2015b).

When the literature was examined, a study searching for the relationship between problematic internet usage and personality features with hope has not been found. For this reason, the study findings are expected to provide information and shed light on the studies made on problematic internet usage. In this study, the relationship between problematic internet usage of university students with personality features, gender, age and dispositional hope level has been examined.

## Method

### *Research Design*

This study has been conducted using a descriptive method with the aim of presenting the relationship between problematic internet usage of university students with personality traits, gender, age and dispositional hope level.

### *Research Sample*

The study group in this research consists of 376 students studying for their bachelor's degree in the 2014-2015 academic years at Nevsehir Haci Bektas Veli University, Sakarya University and Bartin University. Of the participants, 250 (66.5%) were female, and 115 of the participants (30.6%) were male; 2.9% of the participants did not state their gender. Age ranges of the students were between 18-25, and 40.2% of them were in their first year (n= 151); 12.5% (n= 47) in their second year; 33.2% (n= 125) in their third year; and 14.1% (n= 53) in their fourth year.

### *Research Instruments and Procedure*

Research data was conducted by using demographical information form, problematic internet usage scale (Ceyhan, Ceyhan, & Gurcan, 2007), The Big Five Inventory (Sumer & Sumer, 2005), and the Dispositional Hope Scale (Tarhan & Bacanli, 2015). A demographical information form was prepared by the researcher.

*The Problematic Internet Usage Scale* aims to determine problematic internet usage of university students. The scale was developed by Ceyhan, Ceyhan and Gurcan (2007). This scale contains negative effects of internet, social benefit/social conformity, and excess usage sub-scales. It is in the form of 5 Likert-type scales and includes 33 items. Inner coherency coefficient of the scale has been determined as ( $\alpha$ ) 0.95; inner coherency coefficient for the negative effects of internet as 0.94; for social benefit/social conformity, 0.85, and for excess usage, 0.75.

*The Big Five Inventory* was developed by Benet-Martinez and John (1998) and it includes 44 items. The scale provides information of the sub-divisions of neuroticism,

extraversion, openness, agreeableness and conscientiousness. A Turkish version of the scale was developed by Sumer and Sumer (2005) in Turkey (as cited in Basim, Cetin, & Tabak, 2009). Cronbach alpha reliability values have been calculated as .79 for neurotic, .77 for extraversion, .76 for development, .70 for agreeableness and .78 for conscientiousness (as cited in Basim, Cetin, & Tabak, 2009). A five item Likert-type scale was used including “absolutely not participate”, “not participate”, “indecisive”, “participate” and “absolutely participate” (Sumer, Lajunen and Ozkan, 2005).

*Dispositional Hope Scale.* This scale was developed by C.R. Snyder et al. (1991) with the aim of determining dispositional hope levels of individuals at 15 years old and above. The first Turkish version of the scale was adopted by Akman and Korkut (1993) (as cited in Tarhan & Bacanli, 2015). In this study, the Dispositional Hope Scale (DHS) adapted to Turkish by Tarhan and Bacanli (2015) has been used. Four of the twelve items in the scale relate to the dimensions of Alternative Ways of Thinking Dimension of hope (There are lots of ways around any problem) and Actuating Thinking Dimension (I meet the goals that I set for myself). One of these items belongs to the past, one to the moment we live in and one to the future. An additional four items are formed with fillers (I worry about my health). The individuals are requested to mark their reflection levels of their own situations in the items using an eight-item Likert type grading scale. While the scale is being scored, the points taken from Alternative Ways Thinking dimension and Actuating Thinking dimension sub-scales are summed up and the total score from the Dispositional Hope Scale is gathered. The lowest score from the scale is 8 and the highest is 64. It has been determined that the Cronbach alpha value of the Actuating Thinking component is .71-.76 and Cronbach alpha value of Alternative Ways of Thinking component is .63-.80. The total Cronbach alpha value is .74-.84.

#### *Data Analysis*

SPSS 22 was used in the analysis of the data. Before making hierarchic regression analysis, whether the variables have met the assumptions and scattering diagram of normal distributions, the Mahalanobis distance and the Cook’s distance were examined by looking at z values. In addition, relationships between predicted variables (excessive usage which are sub-dimensions of problematic internet usage, negative effects of internet and social benefit/social conformity) and predictor variables (personality traits, gender, age and dispositional hope), and distributions of the scores were examined. It was observed that all scores were distributed normally in all scales. Missing data was examined before making the data analysis. Blank items were examined by EM algorithms and average value assignments were made.

As the first step of the analysis, personality traits, followed by gender and age variables and lastly the hope variable were added to the analysis. Predictor variables for every sub-dimension of problematic internet usage were attempted. At the end of the hierarchic regression, partial effect magnitude values for determining whether free variables have a practical meaning or not were determined. Information related to effect magnitudes can be provided by using partial correlation coefficients in regression analysis. (Berberoglu & Tansel, 2014). In addition, the power of predicting

the addictive variable of the models was evaluated by commenting on R<sup>2</sup> values of every model. R<sup>2</sup> (as cited in Ozsoy & Ozsoy, 2013), which is the regression coefficient for effect magnitudes of the models, was calculated.

## Results

### *Prediction of Excessive Usage Sub-Dimension of Problematic Internet Usage Scale*

Correlation coefficients between average, standard deviation and variables related to predicted and predictor variables taking place in the research are given in Table 1.

**Table 1**

Correlation Matrix Showing the Relationships between Variables and Mean and Standard Deviation of the Dependent and Independent Variables

	M	SS	Excessive Usage	1	2	3	4	5	6	7	8
<i>Excessive Usage</i>	18.93	5.00									
<i>Personality characteristics</i>											
1 <i>Openness</i>	36.01	7.15	-.10**								
2 <i>Neuroticism</i>	23.90	6.31	.22*	-.15*							
3 <i>Extraversion</i>	27.28	6.12	-.03	.40*	-.25*						
4 <i>Agreeableness</i>	34.17	5.50	-.10**	.22*	-.19*	.06					
5 <i>Conscientiousness</i>	31.99	5.84	-.35*	.29*	-.29*	.13**	.26*				
6 <i>Sex</i>	1.34	.47	.10	-.05	-.12*	.09**	-.14**	-.16*			
7 <i>Age</i>	20.93	2.06	-.07	.07	-.14*	.08**	.02	.04	.20*		
8 <i>Dispositional hope</i>	47.75	9.76	-.14*	.42*	-.25*	.33*	.17*	.32*	-.03	.00	

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

When Table 1 is examined, there is a negative correlation between the excessive usage sub-dimension of problematic internet usage scale and openness ( $r = -.10$ ,  $p < .05$ ), agreeableness ( $r = -.10$ ,  $p < .05$ ), dispositional hope level ( $r = -.14$ ,  $p < .01$ ), low correlation towards positive relationship between neuroticism ( $r = .22$ ,  $p < .01$ ), and a negative correlation at medium level with conscientiousness ( $r = -.35$ ,  $p < .01$ ). Findings related to hierarchic regression analysis are shown in Table 2.

**Table 2**

*Variables Predicting Excessive Usage Variable*

	R	R <sup>2</sup>	R <sup>2</sup> ch	F	DF	B	β	P
<b>Block 1</b>								
(Constant)	.369	.136	.136	13.232	5/420	23.728		
Openness						-.006	-.009	.862
Neuroticism						.109	.137	.005
Extraversion						.042	.051	.312
Agreeableness						.006	.007	.887
Conscientiousness						-.267	-.312	.000
<b>Block 2</b>								
(Constant)	.372	.138	.002	9.564	7/418	26.167		
Openness						-.006	-.008	.880
Neuroticism						.103	.130	.009
Extraversion						.044	.054	.292
Agreeableness						.005	.005	.915
Conscientiousness						-.268	-.314	.000
Sex						-.109	-.010	.833
Age						-.102	-.042	.370
<b>Block 3</b>								
(Constant)	.373	.139	.001	8.419	8/417	26.632		
Openness						.002	.002	.964
Neuroticism						.100	.126	.012
Extraversion						.049	.060	.246
Agreeableness						.006	.006	.894
Conscientiousness						-.263	-.307	.000
Sex						-.108	-.010	.834
Age						-.107	-.044	.348
Dispositional hope						-.019	-.037	.488

When Table 2 is examined, it is apparent that openness, extraversion and agreeableness variables, which are personality features entering into the model at the first step, are not meaningful in their authentic contributions in the model  $R^2 = .136$ ,  $F(5,420) = 13,232$ ,  $p > .05$ . When the contribution of the neurotics variable to the model was examined, ( $\beta = .137$ ,  $p < .05$ ) excessive usage predicted positively and at a low level whereas conscientiousness ( $\beta = -.312$ ,  $p < .01$ ) predicted negatively at a medium level. In other words, it has been observed that as neuroticism in individuals increases, excessive usage also increases; as conscientiousness increases, excessive usage decreases. The contributions of variables to the variance was determined at 13.6%.

Upon examination of the authentic contributions of gender and age variables, which are entered in the second step, it was seen that none were meaningful ( $R^2 = .138$ ,  $F(7,418) = 9,567$ ,  $p > .05$ ). The hope variable was added into the model in the third step. The authentic contribution of the hope variable to the model was not found to be meaningful ( $R^2 = .139$ ,  $F(8,417) = 8,419$ ,  $p > .05$ ). A partial effect magnitude for being neurotic as a meaningful predictor in the model was  $sr^2 = .02$ ; and for conscientiousness,  $sr^2 = .09$ . In other words, when the effect of other variables is considered, the explanation rate of excessive internet usage to neurotics is 2%, and the explanation rate of conscientiousness is 9%.

Cohen (1988) indicated that the reference values for small effect magnitude was 0.02; for medium, 0.13; and for big ones, 0.26 in regression analysis (as cited in Berberoglu & Tansel, 2014). According to this partial effect magnitude, it can be said that partial effect magnitude of neuroticism and self-discipline have a small value. In this situation, the effect of variables does not have a practical value. When the effect magnitude of models is evaluated, an explanation of predicted variable power of variables can be accepted as small ( $R^2 = .136, .138, .139$ ). According to Cohen (1988), these effect magnitude results can be stated as: ( $R^2 = .0196$  as small;  $.1300$  as medium; and  $.2600$  as big effect (as cited in Ozsoy & Ozsoy, 2013). In addition, when the  $R^2$  ch values of the model are examined, whereas explanation rate of addictive variable of the first model is  $R^2$  ch =  $.136$ , the second and third ones are  $.002$  and  $.001$ . In this case, it can be seen that the variables that have been added in the model in the second and third steps do not have practical meaning. The contributions of all variables to the variance was found to be 13.8%. When generally evaluated, it is observed that the contribution of the first model is higher than the other two models ( $R^2$  ch =  $.136$ ).

#### *Prediction of Negative Results of Internet Sub-Scale of Problematic Internet Usage Scale*

Correlation coefficients between average, standard deviation and variables related to predicted and predictor variables are shown in Table 3.



**Table 3**

*Correlation Matrix Showing the Relationships between Variables and Mean and Standard Deviation of the Dependent and Independent Variables*

	M	SS	Negati ve Result	1	2	3	4	5	6	7	8
<i>Negative Results of Internet</i>	16.32	3.55									
<i>Personality characteristics</i>											
1 <i>Openness</i>	36.02	6.14	.20*								
2 <i>Neuroticism</i>	23.79	5.69	.20*	-.21*							
3 <i>Extraversion</i>	27.32	5.99	.35*	.45*	.30*						
4 <i>Agreeableness</i>	34.04	4.71	-.05	.28*	.21*	.11					
5 <i>Conscientiousnes</i>	32.25	5.41	-.26*	.28*	-.35*	.12	.31				
6 <i>Sex</i>	1.32	.46	.13*	-.01	-.13**	.12	-.16	-.14*			
7 <i>Age</i>	20.71	1.51	.09*	.09*	-.04	.13*	-.09	.05	.20*		
8 <i>Dispositional hope</i>	48.79	8.34	-.06	.52*	.30*	.37*	.30	.39*	.03	.00	

\* $p < .01$

\*\* $p < .05$

When Table 3 is examined, it is found that there is a relationship between negative results of internet sub-scale and openness ( $r = .20$ ,  $p < .01$ ), neurotic ( $r = .20$ ,  $p < .01$ ), gender ( $r = .13$ ,  $p < .05$ ) and age ( $r = .09$ ,  $p < .05$ ) at a positive low level; additionally, there is a relationship at a positive medium level between extraversion ( $r = .35$ ,  $p < .01$ ) and openness, as well as its negative correlation at low a level with conscientiousness ( $r = -.26$ ,  $p < .01$ ). Findings related to hierarchic regression analysis are provided in Table 4.

**Table 4.***Variables Predicting the Internet's Negative Results Variable*

	R	R <sup>2</sup>	R <sup>2</sup> ch	F	DF	B	β	P
<b>Block 1</b>								
(Constant)	.529	.280	.280	28.806	5/370			
Openness						.093	.160	.002
Neuroticism						.158	.253	.000
Extraversion						.226	.381	.000
Agreeableness						-.002	-.003	.946
Conscientiousness						-.169	-.257	.000
<b>Block 2</b>								
(Constant)	.537	.289	.009	21.352	7/368			
Openness						.091	.158	.003
Neuroticism						.168	.269	.000
Extraversion						.219	.369	.000
Agreeableness						.011	.015	.754
Conscientiousness						-.161	-.245	.000
Sex						.644	.083	.077
Age						.086	.037	.422
<b>Block 3</b>								
(Constant)	.554	.307	.018	20.285	8/367			
Openness						.126	.217	.000
Neuroticism						.160	.256	.000
Extraversion						.234	.394	.000
Agreeableness						.024	.032	.506
Conscientiousness						-.136	-.207	.000
Sex						.723	.093	.045
Age						.059	.025	.576
Dispositional hope						-.072	-.169	.002

When Table 4 is examined, it is seen that openness to development, neuroticism, extraversion and conscientiousness variables, which are entering in the model at the first step, are meaningful in their authentic contributions in the model  $R^2 = .280$ ,  $F(5,370) = 28,806$   $p < .01$ . Coherence variety has no authentic contribution to the model ( $\beta = -.003$ ,  $p > .05$ ). Openness ( $\beta = .160$ ,  $p < .01$ ) and neuroticism ( $\beta = .253$ ,  $p < .01$ ) predict negative effects of internet positively at a low level, and extraversion ( $\beta = .381$ ,  $p < .01$ ) predicts positively at a medium level. Conscientiousness ( $\beta = -.257$ ,  $p < .01$ ) predicts negatively at a medium level. The total contribution of variables to the variance has been found to be 28%.

It has been seen that gender and age variables, which are entered into the model in the second step, do not show a meaningful relationship with the predicted variable ( $R^2 = .289$ ,  $F(7,368) = 21,352$ ,  $p > .05$ ). An authentic contribution of the hope variable, which was entered into the model in the third step, has been found meaningful ( $r R^2 = .307$ ,  $F(8,367) = 20,285$   $p < .01$ ). There is a negative relationship between dispositional hope level and negative results of internet at a low level ( $\beta = -.169$ ,  $p < .01$ ). Whereas the contribution of all variables to the model was 28.9% in the second step, the contribution of all variables to the model in the third step was found to be 30.7%. When

summarized, as openness, extraversion and neuroticism increase, the effects of negative results of the internet increase. As conscientiousness increases, the effects of negative results of the internet decrease. At the same time, it can be said that as the hope level increases, the effects of negative results of the internet decreases. When partial effect magnitudes of the predictors are examined, openness has been found as  $sr^2 = .03$ ; neuroticism as  $sr^2 = .07$ ; extravert as  $sr^2 = .13$ ; and conscientiousness as  $sr^2 = .05$ . In other words, when all variables are considered, 3% of negative results of the internet are explained by openness; 7% by neuroticism; 13% by extraversion; and 5% by conscientiousness.

When partial effect magnitudes are evaluated, they are found to be at a low level for openness to development, neuroticism and conscientiousness; and at a medium level for extraversion. All variables except extraversion have no practical value. When effect magnitudes of these models are viewed, the power of models in explaining the predicted variable can be accepted as low ( $R^2 = .280, .289, .307$ ) (as cited in Ozsoy and Ozsoy, 2013). In addition, the model, which is conducted at the first step, was the highest predictor ( $R^2 \text{ ch} = .280$ ). When  $R^2 \text{ ch}$  values of the models are examined, whereas explanation rate of addictive variable of the first model was  $R^2 \text{ ch} = .280$ , the contribution of the second model was  $R^2 \text{ ch} = .009$ , and the contribution of the third model was  $R^2 \text{ ch} = .018$ . The most effective model in explaining the addictive variable is the first model.

**Prediction of social benefit/social comfort sub-scale of problematic internet usage scale:** Correlation coefficients between average, standard deviation and variables related to predicted and predictor variables taking place in the research are given in Table 5.

**Table 5**

*Correlation Matrix Showing The Relationships Between Variables And Mean And Standard Deviation of the Dependent And Independent Variables*

	M	SS	Social Benefit	1	2	3	4	5	6	7	8
<i>Social Benefit</i>	19.06	7,71									
<i>Personality characteristics</i>											
1 <i>Openness</i>	36.02	6.14	-.22*								
2 <i>Neuroticism</i>	23.79	5.69	.24*	-.21*							
3 <i>Extraversion</i>	27.32	5.99	-.19*	.45*	-.30*						
4 <i>Agreeableness</i>	34.04	4.71	-.31*	.28*	-.21*	.11					
5 <i>Conscientiousness</i>	32.25	5.41	-.29*	.28*	-.35*	.12	.31*				
6 <i>Sex</i>	36.02	.46	.11	-.01	-.13**	.12	.16*	-.14*			
7 <i>Age</i>	23.79	1.51	.13**	.09	-.04	.13**	-.09**	.05	.20*		
8 <i>Dispositional hope</i>	27.32	8.34	-.34*	.52*	-.30*	.37*	.30*	.39*	.03	.00	

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

According to Table 5, there is a negative relationship at a low level between social benefit/social comfort sub-scale of problematic internet usage scale and openness ( $r = -.22, p < .01$ ), extraversion ( $r = -.19, p < .01$ ), and conscientiousness ( $r = -.29, p < .01$ ). There is a negative relationship at a medium level between dispositional hope ( $r = -.34, p < .01$ ) and coherence ( $r = -.31, p < .01$ ). Positive and low level relationships have been found between neuroticism ( $r = .24, p < .01$ ) and age ( $r = .13, p < .05$ ). Findings related to hierarchic regression analysis are shown in Table 6.

**Table 6**

*Variables Predicting Social Benefits/Social Comfort Variable*

	R	R <sup>2</sup>	R <sup>2</sup> ch	F	DF	B	$\beta$	P
<b>Block 1</b>								
(Constant)	.410 <sup>a</sup>	.168	.168	14.912	5/370			
Openness						-.062	-.050	.376
Neuroticism						.126	.093	.081
Extraversion						-.126	-.098	.075
Agreeableness						-.355	-.217	.000
Conscientiousness						-.236	-.166	.002
<b>Block 2</b>								
(Constant)	.436	.190	.023	12.350	7/368			
Openness						-.073	-.058	.294
Neuroticism						.142	.104	.050
Extraversion						-.151	-.118	.032
Conscientiousness						-.310	-.190	.000
Agreeableness						-.233	-.163	.002
Sex						.986	.059	.241
Age						.672	.132	.007
<b>Block 3</b>								
(Constant)	.461	.213	.023	12.411	8/367			
Openness						.012	.009	.874
Neuroticism						.121	.089	.091
Extraversion						-.115	-.089	.104
Conscientiousness						-.279	-.171	.001
Agreeableness						-.172	-.121	.028
Sex						1.182	.070	.156
Age						.607	.119	.014
Dispositional hope						-.177	-.191	.001

When Table 6 is examined, it is seen that openness, neuroticism and extraversion variables, which are entering in the model at the first step, are not meaningful in their authentic contributions in the model ( $R^2 = .168, F(5,370) = 14,912, p > .05$ ). The authentic contributions of coherence and conscientiousness variables are meaningful ( $R^2 = .168, F(5,370) = 14,912, p < .05$ ). Agreeableness ( $\beta = -.217, p < .01$ ) and conscientiousness ( $\beta = -.166, p < .01$ ) predict social benefit/social comfort sub-dimension negatively and at a low level. In other words, as agreeableness and conscientiousness increase in individuals, usage of internet with the aim of social

benefit/social comforts decreases. The contribution of variables to total variance has been found to be 17%.

The gender variable, which was entered into the model in the second step, does not show a meaningful relationship with the predicted variable ( $R^2 = .190$ ,  $F(7,368) = 12,350$ ,  $p > .05$ ). The authentic contribution of age variable to the model is meaningful ( $\beta = .132$ ,  $p < .05$ ) and positive and there is a low level predictor. The authentic contribution of the hope variable, which was entered into the model in the third step, has been found meaningful ( $R^2 = .213$ ,  $F(8,367) = 12,411$ ,  $p < .05$ ). There is a negative relationship between dispositional hope level and negative results of internet at a low level ( $\beta = -.191$ ,  $p < .01$ ). While the contribution of all variables to the model was 19% in the second step, the contribution of all variables to the model in the third step was 21.3%. Partial effect magnitudes for coherence are  $sr^2 = .05$ ; for self-discipline  $sr^2 = .08$ ; for age  $sr^2 = .02$ ; and for dispositional hope  $sr^2 = .03$ . These values can be interpreted as partial effect magnitudes, for all free variables are small and practical values are nonexistent. When effect magnitudes are evaluated, the explanation power of predicted variables can be accepted at a medium level. ( $R^2 = .168, .190, .213$ ) (as cited in Ozsoy & Ozsoy, 2013). In addition, when  $R^2$  ch values of the model are examined, whereas the explanation rate of addictive variables of the first model were  $R^2$  ch = .168, the contribution of the second and third models were .023. In this situation, the variables that were added in the model in the second and third steps do not have a practical value.

## Discussion and Conclusion

This study has searched for the relationship between problematic internet usage behaviours of university students and personality features, i.e., age, gender and dispositional hope level. Every sub-dimension of problematic internet usage has been used as predicted variables (excessive usage as sub-dimension of problematic internet usage, negative results of internet and social benefit/social comfort) and hierarchic regression analysis has been done for every predicted variable in three blocks.

The results of the analysis show that whereas neuroticism as a personality trait predicts excessive internet usage positively and at low level, self-discipline predicts usage negatively at a medium level. In other words, as neuroticism increases, excessive internet usage also increases; while conscientiousness increases, excessive internet usage decreases. When findings related to negative results of the internet are analyzed, openness, extraversion and neuroticism increase as the negative effects of the internet increase. As conscientiousness increases, the negative effects of the internet decrease. When findings are evaluated in light of the literature, several studies indicate that personality traits are related to internet usage behaviours (Amichai-Hamburger & Ben-Artzi, 2003, Kayis et al., 2016; Laconi et al., 2016; Laconi, Vigouroux, Lafuente, & Chabrol, 2017; Truzoli, Osborne, Romano, & Reed, 2016; Wolfradt & Doll, 2001). Many people turn to the internet in order to manage stress, loneliness, depression, and anxiety (Panicker & Sachdev, 2014). There is a meaningful relationship

between shyness, internet use, personality traits and problematic internet use (Ebeling Witte, Frank, & Lester, 2007) Extraversion and neuroticism in women are related to the use of social websites (Hamburger & Ben-Artzi, 2000). Likewise, Hardie and Tee (2007) and Eksi (2012) found that neuroticism was a predictor of excessive internet usage. Consistent with this research, internet addiction was linked positively to anxiety and stress. (Panicker & Sachdev, 2014). Similarly, Kayis et al. (2016) emphasize the relationship between problematic internet use and openness, conscientiousness, extraversion, agreeableness and neuroticism. Zhou, Li, Li, Wang and Zhao, (2017) indicate that personality traits have a role in problematic internet use. On the other hand, Odaci and Berber Celik (2013) did not find a meaningful relationship between problematic internet usage and narcissism.

When findings related to social benefit/comfort are evaluated, agreeableness and conscientiousness predict the social benefit/comfort sub-dimension negatively and at a low level. In other words, as agreeableness and conscientiousness increase in individuals, usage of internet with the aim of providing social benefit/comfort decreases. Shi, Chen and Tian (2011) found that internet self-efficacy and sensation-seeking positively predicted problematic internet use.

As the hope level increases, the level of being affected from negative results of the internet decreases. At the same time, there is a negative relationship between the dispositional hope level and negative results of internet usage at a low level. In the literature, studies related to problematic internet usage and dispositional hope level were not found, while the number of studies conducted about well-being in relation to positive psychology has drawn attention (Chen, 2012; Mei et al., 2016).

When the results are evaluated in the frame of age and gender, age predicts positively at a low level. On the other hand, gender was not found to be meaningful as a predictor variable in the three dimensions of problematic internet usage. The findings provided in this context show a consistency with the studies stating that there is not a difference (Hardie and Yi- Tee, 2007, Panicker & Sachdev, 2014) in the frame of internet usage style and time period between genders (Wolfradt & Doll, 2001). On the other hand, there are studies presenting that problematic internet usage is affected by gender (Mei et al., 2016; Ostovar, et al., 2016; Sariyska, Reuter, Lachmann, & Montag, 2015). In a study conducted among university students, they found that problematic internet usage was higher among males than females (Ancel, Acikgoz, & Yavas Ayhan, 2015; Esitti, 2015; Odaci & Kalkan, 2010; Oktan, 2015b). Likewise, Sargin (2013) found a difference at a meaningful level in favour of males and problematic internet usage sub-dimensions, such as loneliness, decreased instinct control, social support and distracted attention total scores and attitude towards internet usage. Likewise Durak and Senol-Durak (2013) demonstrated that gender (being male) and spending time with internet was meaningful on the effect of related cognitions about problematic internet usage.

In addition, many studies indicated that the level of males' problematic internet usage was higher than for females (Zorbaz, 2013; Zorbaz & Tuzgol Dost, 2014; Durmus & Basarmak, 2014; Cagir, 2010). However, these results based on gender on

problematic internet usage can differ according to the research method and selected study group, especially in recent years among those who are defined as “digital natives” (Prensky, 2001) and have continuous access to the internet via smart phones. However, this is true for both genders.

There are differences between internet usage periods and activities conducted on the internet. For example, Fernández-Villa et al. (2015) found that weekly internet usage was found more in females than males. In addition, differences in problematic internet usage between males and females emerged according to the areas in which they are interested. While males exhibit problematic internet usage online playing games and shopping, females use it for chatting and using social websites. Yu and Shek (2013) stated that male adolescents have more problematic internet usage than the females in their studies with adolescents. Wang et al. (2013) and Li, Dang, Zhang, Zhang and Guo (2014) presented that in a similar way gender was a predictor of internet addiction during adolescence. In addition to this, Gross (2004) indicated no difference in the frame of internet addiction according to the gender among 7th and 10th grade students; he states that older adolescents spend more time on the internet.

When the results are evaluated, it is seen that especially self-discipline as a personality feature has been a predictor variable in all sub-dimensions of problematic internet usage and it has relationship with problematic internet usage at low levels. In this frame, when increased internet usage is considered, it is important to research the elements that provide self-discipline in individual development. Neuroticism predicts problematic internet usage positively. It is seen that the hope concept, which has an important place in the positive psychology has been a predictor variable in problematic internet usage. Age variables were not found as a predictor variable in problematic internet usage.

In the context of this study, university students were selected as a study group. Evaluation of results related to the studies made with high school students and adults make a contribution to the field. In addition, relationships between internet usage fields and gender have not been evaluated. In future studies, relationships between different usage fields of internet and problematic internet usage can be examined. It is also important to evaluate the general situation of problematic internet usage developmentally in individuals in the frame of preventing studies. Qualitative studies will provide detailed evaluation of problematic internet usage behaviours of the individuals.

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**Problemlİ İnternet Kullanımı: Kişilik Özellikleri, Cinsiyet, Yaş ve Sürekli Umud Düzeyinin Etkisi****Özet****Atıf:**

Gunduz, H. C., Eksioğlu, S. & Tarhan, S. (2017). Problematic internet usage: Personality traits, gender, age and effect of dispositional hope level. *Eurasian Journal of Educational Research*, 70, 57-82, DOI: <http://dx.doi.org/10.14689/ejer.2017.70.4>

*Problem Durumu:* Bireylerin kimi zaman duygularını ifade etme, istedikleri kişi olma aracı olarak kullandıkları, kimi zamansa çeşitli fırsatlara ulaşmaya aracılık eden, dünyayı tanıma ve dünyaya açılma aracı olarak değerlendirilebilecek olan internet kullanımı, aşırı kullanım durumlarında bağımlılığa dönüşebilmektedir. İnternetle ilişkili belirli davranışlar internet bağımlılığı, internet bağımlılık bozukluğu, patolojik internet kullanımı gibi kavramlarla karşımıza çıkmaktadır. İnternet bağımlılığında sessizlik, duygu durumunda değişim, tolerans (kullanılan sürenin giderek artması), yoksunluk belirtileri, çatışma ve nüks etme öğelerine dikkat çekilirken, patolojik internet kullanımının aşırı derece oyun oynama, online cinsel etkinlikler, e-mail atma ve yazışma davranışlarından en az üçünü içermesi gerekmektedir. Problemlİ internet kullanımı ise internet kullanımının kontrol edilememesi ve bu nedenle de günlük yaşamda stres bozuklukları ve işlev bozuklukları yaşanması hali olarak tanımlanmaktadır. Geçmişinde bağımlılık ya da dürtü kontrolüyle ilgili hikayesi olan kişiler internetin problemlİ kullanımında risk grubunda yer almaktadır. Problemlİ internet kullanımı herhangi bir yaşta, sosyal, ekonomik ve eğitimsel düzeyde ortaya çıkabilmektedir.

*Araştırmanın Amacı:* Literatür incelendiğinde problemlİ internet kullanımı ile kişilik özellikleri ve umut arasındaki ilişkiyi araştıran bir çalışmaya rastlanmamıştır. Bu nedenle çalışmanın bulgularının problemlİ internet kullanımı konusunda yapılan çalışmalara ışık tutması ve literatüre bilgi sağlaması beklenmektedir. Bu amaçla bu çalışmada üniversite öğrencilerinin problemlİ internet kullanımları ile kişilik özellikleri, cinsiyet, yaş ve sürekli umud düzeyi arasındaki ilişki araştırılmıştır.

*Araştırmanın Yöntemi:* Bu çalışma üniversite öğrencilerinin problemlİ internet kullanımları ile kişilik özellikleri, cinsiyet, yaş ve sürekli umud arasındaki ilişkiyi ortaya koyabilmek amacıyla yapılan betimsel bir çalışmadır. Araştırmanın çalışma grubu Nevşehir Hacı Bektaş Veli Üniversitesi, Sakarya Üniversitesi ve Bartın Üniversitesinde 2014-2015 akademik yılında lisans eğitimine devam eden 376 öğrenciden oluşmaktadır. Katılımcıların 250'si kadın, 115'i erkektir. Öğrencilerin yaş aralıkları 18-25 arasındadır ve 151'i birinci sınıfa, 47'si ikinci sınıfa, 125'i üçüncü sınıfa ve 53'ü dördüncü sınıfa devam etmektedir. Araştırma verilerinin toplanmasında demografik bilgi formu, "Problemlİ İnternet Kullanımı Ölçeği", "Beş Faktör Kişilik Ölçeği" ve "Sürekli Umud Ölçeği" kullanılmıştır. Verilerin analizinde SPSS 22 kullanılmıştır. Hiyerarşik regresyon analizi yapılmadan önce değişkenlerin varsayımları karşılayıp karşılamadığı ve dağılımın normalliği saçılma diyagramı,



mahalonobis, cook'a distance, z değerlerine bakılarak incelenmiştir. Ayrıca yordanan değişkenler (Problemler internet kullanımının alt boyutları olan aşırı kullanım, internetin olumsuz sonuçları ve sosyal fayda/ sosyal rahatlık) ve yordayıcı değişkenler (kişilik özellikleri, cinsiyet, yaş ve sürekli umut) arasındaki ilişkiler ve puanların dağılımları incelenmiş ve puanların tüm ölçeklerde normal dağıldığı görülmüştür. Veriler ile analiz yapılmadan önce eksik veriler incelenmiş, boş bırakılan maddeler EM algoritması yoluyla incelenerek ortalama değer ataması yapılmıştır. Analizlerin birinci adımında kişilik özellikleri, ardından cinsiyet ve yaş değişkenleri ve en son olarak umut değişkeni analize dahil edilmiş, problemler internet kullanımının her bir alt boyutu için yordayıcı değişkenler belirlenmeye çalışılmıştır. Hiyerarşik regresyon sonunda bağımsız değişkenlerin pratik anlamı olup olmadığını belirlemek için kısmi etki büyüklükleri değerleri belirlenmiştir. Ayrıca her bir modelin R<sup>2</sup> değerleri yorumlanarak da modellerin bağımlı değişkeni yordama güçleri değerlendirilmiştir. Modellerin etki büyüklükleri için regresyon katsayısı olan R<sup>2</sup> hesaplanmıştır.

*Araştırmanın Bulguları:* Problemler internet kullanımı ölçeği *aşırı kullanım* alt boyutu ile gelişime açıklık, uyumluluk, sürekli umut düzeyi arasında negatif, nörotiklik arasında pozitif yönde düşük korelasyon, öz disiplin ile orta düzeyde negatif yönde korelasyon bulunmuştur. problemler internet kullanımı ölçeği *internetin olumsuz sonuçları* alt boyutu ile gelişime açıklık, nörotiklik, cinsiyet ve yaş arasında pozitif düşük düzeyde, dışa dönüklük ile arasında pozitif orta düzeyde ilişki bulunurken, öz disiplin ile düşük düzeyde negatif korelasyon bulunmuştur. Problemler internet kullanımı ölçeği sosyal fayda/ sosyal rahatlık alt boyutu ile gelişime açıklık, dışa dönüklük, öz disiplin arasında düşük düzeyde ve negatif bir ilişki görülürken, sürekli umut ve uyumluluk ile arasında negatif orta düzeyde bir ilişki görülmüştür. Nörotiklik ve yaş arasında ise pozitif ve düşük düzeyde ilişki bulunmuştur.

*Araştırmanın Sonuç ve Önerileri:* Bu çalışmada üniversite öğrencilerinin problemler internet kullanım davranışları ile kişilik özellikleri, cinsiyet, yaş ve sürekli umut düzeyi arasındaki ilişki araştırılmıştır. Yapılan analizler sonucunda kişilik özelliklerinden nörotiklik, aşırı internet kullanımını pozitif ve düşük yönde yordarken, özdisiplinin negatif yönde orta düzeyde yordadığı görülmüştür. Bir diğer deyişle bireylerde nörotiklik arttıkça aşırı internet kullanımı artarken, özdisiplin arttıkça aşırı internet kullanımı azalmaktadır. İnternetin olumsuz sonuçları ile ilgili bulgulara bakınca, gelişime açıklık, dışa dönüklük ve nörotiklik arttıkça internetin olumsuz sonuçlarından etkilenme artarken, öz disiplin arttıkça internetin olumsuz sonuçlarından etkilenme azalmaktadır. Aynı zamanda umut düzeyi arttıkça internetin olumsuz sonuçlarından etkilenme düzeyinin de azaldığı söylenebilir. Sosyal fayda/rahatlık ile ilgili bulgular değerlendirildiğinde, uyumluluk ve özdisiplin sosyal fayda/ sosyal rahatlık alt boyutunu negatif yönde ve düşük düzeyde yordamaktadır. Bir diğer deyişle bireylerde uyumluluk ve öz disiplin arttıkça internetin sosyal fayda/rahatlık sağlamak amacıyla kullanımı azalmaktadır. Yaş değişkeni de pozitif yönde düşük düzeyde yordamaktadır. Aynı zamanda sürekli umut düzeyi ile internetin olumsuz sonuçları arasında negatif düşük düzeyde ilişki bulunmaktadır. Sonuçlar cinsiyet açısından değerlendirildiğinde, problemler internet kullanımının üç

boyutunda da cinsiyet yordayıcı deęişken olarak anlamlı bulunmamıştır. Bulgular deęerlendirildięinde, özellikle kişilik özelliklerinden öz disiplinin problemlı internet kullanımının tüm alt boyutlarında yordayıcı bir deęişken olduęu ve problemlı internet kullanımının düşük düzeyleri ile ilişkisi olduęu görölmüştür. Bu çerçevede özellikle son yıllarda internet kullanımının yaygınlığının giderek arttıęı düşünöldüęünde, bireylerin gelişiminde öz disiplin sağlayabilecekleri unsurların araştırılması ve desteklenmesi önemli görölmektedir. Son yıllarda pozitif psikolojide önemli bir yer bulmaya başlayan umut kavramının da problemlı internet kullanımında yordayıcı bir deęişken olduęu görölmektedir. Bu çalışma kapsamında çalışma grubu olarak üniversite öğrencileri seçilmiştir. Lise grupları ve yetişkin grupları ile yapılan çalışmalarda çıkan sonuçların deęerlendirilmesi de alana katkı sağlayacaktır. Ayrıca bu çalışmada internetin kullanım alanları ile cinsiyet arasındaki ilişkiler deęerlendirilmemiştir. Gelecek çalışmalarda internetin farklı kullanım alanları ve problemlı internet kullanımı arasındaki ilişkiler incelenebilir. Nitel veriler ile çalışmanın desteklenmesi de bireylerin problemlı internet kullanım davranışlarını ayrıntılı olarak deęerlendirilmesini sağlayacaktır.

*Anahtar Kelimeler:* İnternet Baęımlılığı, kişilik, umut, internetin aşırı kullanımı.