PSYCHOLOGICAL WELL-BEING AND INTERNET ADDICTION AMONG UNIVERSITY STUDENTS

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ABSTRACT
The purpose of this research is to examine the relationship between Internet addiction and psychological well-being. Participants were 479 university students who completed a questionnaire package that included the Online Cognition Scale and the Scales of Psychological Well-Being. The relationships between Internet addiction and psychological well-being were examined using correlation and multiple regression analysis. According to results, psychological well-being was predicted negatively by diminished impulse control, loneliness/depression, social comfort, and distraction. Students with higher levels of Internet addiction are more likely to be low in psychological well-being. The results indicated that psychological well-being was affected by Internet addiction negatively; and provided a better understanding on the relationship between psychological well-being and Internet addiction.
Keywords: Psychological well-being, Internet addiction, multiple regression analysis

INTRODUCTION
Internet is a technological tool which makes our life easier and has become an indispensable part of it while its number of user population increases faster each day (Isman and Dabaj, 2004; Yapici, and Akbayin, 2012). Internet delivers some practical tools like entertainment, shopping, social sharing applications which enable accessing knowledge easier and faster Young, 1998) together with physical and psychological harms like tiredness (Akın and Iskender, 2011; Griffiths, 1998), hostility, depression (Yen, Ko, Yen et al., 2007), loneliness (Morahan-Martin and Schumacher, 2003). Along with these there are also some educational harms like wasting of time (Griffiths, 2000), decrease in academic performance (Aboujaoude, 2010; Kubey, Lavin, and Barrows, 2001), communication problems with peers (Gross et al., 2002; Morahan-Martin and Schumacher, 2000). Although internet plays an indirect role on these issues, internet addiction affects these issues directly (Akın, 2012**;** Young, 1998).

Internet Addiction
Addiction is defined as person's or being's feeling of necessity for something (like another person, substance, internet, sex, etc.) in order to sustain her/his existence and continue her/his way of existence as she/he desires (West, 2005). DSM IV codes contain the phrase "very strong need or compulsion towards taking a substance" for addiction (APA, 1994). Concept of internet addiction was first coined by Goldberg (1996) and by following DSM IV addiction criteria it was defined as "very strong desire or urge for using the internet" (Aboujaoude et al., 2006; Block, 2008; Korkeila et al.i 2009). There are noticeable differences between normal internet usage and addicted / problematic internet usage (Aboujaoude, 2010; Petersen et al., 2009; Lin et al., 2012; Young, 1998). Normal users of internet use this technology for their daily needs and/or other necessities within reason (Kesici and Şahin, 2009), they can control themselves while using it (Davis, 2000), and they show normal behaviors when they don't have access to internet (DiNicola, 2004; Young, 1998). On the other hand, problematic or pathological users of internet (Milani et al., 2009) are in excessive mental activity (thinking continuously about internet, dreaming about the activities done in the internet, thinking about the next planned activity in the internet, etc.) about internet (Greenfield, 1999; Koç, 2011; Young, 1998); feel the necessity for using the internet in an increased proportion in order to get the satisfaction they desire (Lee and Shin, 2004); fail in their attempts to control, reduce or give up their internet usage (Widyanto and Griffiths, 2007); feel uneasiness, exhaustion, anger when their internet usage is decreased or completely cut off (Petersen et al., 2009); spend more time than planned on the internet, have problems with their family, school, work and friends (Aboujaoude, 2010; Caplan, 2002; Hur, 2006; Smahel et al., 2012) risk or lose opportunities of education or carrier (Ko et al., 2010; Smahel et al., 2012); tell lies to others (family members, friends, therapist, etc.) about the duration of their internet usage (Johansson and Götestam, 2004; Milani et al., 2009); use internet to escape from problems or negative feelings (like desperation, guilt, exhaustion, worry) (Korkeila et al., 2009; Whang et al., 2003). Studies about the reasons for internet addiction showed that characteristics like shyness, depressive signs and low self-esteem (Aydin and Sari, 2011) attributed with inclination towards internet addiction (Yang and Tung, 2007). Furthermore social sharing sites like Facebook, Twitter, online games and online gambling causes an increase in the number of internet addiction cases and it is stated that internet addiction will become a serious problem in the near future (Andreassen et al., 2012; Herrera et al., 2010; Teke, 2011).

Psychological well-being

Since the beginning, human beings have always questioned the things that make them happy, and on what basically happiness of people depends. The concept of happiness has always been the focus of interest of human beings; they have searched for the source of happiness since the day they existed. For this reason, the concept of happiness took place in different definitions. For Socrates, being virtuous is happiness. Happiness is the realization of one's own nature, own potential; and, all men desire to be happy by their nature. Happiness is the absolute goal of all humane desires and passions; it is the highest target of human existence (Yıldız, 2002). According to Epicurus, ethic teaches the essence of happiness and the ways to reach happiness. For him, the sole good, the absolute value is pleasure. Pleasure should be the goal of all actions. For Plato, the highest good is "happiness". The only way to possess happiness is virtue. According to Aristotle, happiness is the highest goal of all our actions and efforts (Özgen, 1997). In this sense, the term happiness shows that the goal and value of life are in human soul (Türer, 1992). Along with all these definitions, the science of psychology focused on individual's happiness and the concept of well-being. In a major part of history, psychology had associated itself with the disorders of human mind: anxiety, depression, neurosis, obsessions, paranoia, and delusions. The aim of doctors had been to render patients from negative disorders to neuter conditions (Wallis, 2004).

Ongoing research in psychology for many years concentrated on individuals' mental disorders like depression and fear. The positive sides of experiments were disregarded; the well-being of human was generally ignored in studies. The science of psychology focused on totally problematic, abnormal, and regular cases. Psychologist Martin Seligman, from University of Pennsylvania, is famous for his studies about optimism. He is the pioneer of a new and rapidly developing scientific trend called as "optimistic psychology", which is basically about happiness, peace, and optimistic human behaviors. Optimistic psychology will serve to extend the scientific perspective by setting a higher standard for the limits of human optimism (Goleman, 2003).

The goal of optimistic psychology is to make psychology as a discipline, concentrate on structuring the positive qualities; rather than only fixing disorders (Seligman and Csikszentmihalyi, 2000). Optimistic psychology is about subjective life values. These are, well-being; satisfaction; satisfaction from the past; to be hopeful for the future; flow; and present happiness. Individually, optimistic psychology is about positive individual characteristics like loving and working capacity; courage; interpersonal relations; aesthetical sensitivity; perseverance; forgiveness; creativity; farsightedness; spirituality; ability; and virtue. At the group level, it is about civil values and qualities rendering individuals better citizens; these qualities are responsibility; altruism; kindness; mildness; toleration; and work ethic (Seligman and Csikszentmihalyi, 2000).

Referring to current studies about well-being it is seen that there are various concepts along with the general concept of well-being, like subjective well-being; psychological well-being; life satisfaction; quality of life; wellness; and positive sensation. The meanings of these concepts are not totally the same; yet they are substantially interrelated; for all these concepts are about conditions making an individual function positively and happiness (Dost, 2005). Today it is begun to be understood that lack of disorder is a necessary but insufficient scale for individual well-being. Psychology has started to concentrate on well-being, which was a neglected topic for years, and the number of studies about that topic has increased (Dost, 2005). Emotions are irrevocable elements of human beings' evaluations of psychological states. Emotions are precursors informing us about our souls. In order to understand the states of our self and soul we can pay attention to our emotions (Navaro, 2000).

Well-being is a way of life. Especially in terms of life ideally inclined to health and wellness; unifying body, mind, and soul; individually full of purposeful attitude and aim to live life more fully; and a functional life in all social, personal, and environmental aspects (Myers et al., 2003). Health and well-being, and life style of an individual are closely related. Well-being aims to determine factors strengthening health and change individuals' life styles in that direction. The life styles of individual are not their fate (Doğan, 2006).

Optimistic psychology literature accepts that there are two basic perspectives regarding well-being. First is the concept of eudemonic well-being and the second is the concept of hedonic well-being (Keyes et al., 2002; Ryan and Deci, 2001). Subjective well-being and psychological well-being emerged respectively as a result of the scientific conceptualization of these different paradigms. Subjective well-being is the equivalent of hedonic point of view, while psychological well-being equals to eudemonic perspective.

Subjective well-being generally refers to happiness, relief, and relatively lack of problems; on the other hand, psychological well-being is defined as challenge; making effort; personal development; and striving to grow (Waterman, 1993). Developmental and preventive interventions like development groups, psycho-educational programs; and career development work groups aim the skills increasing efficiency in certain life spaces (Lent,

2004). That is, psychological well-being means individual's construction of concepts to develop himself in order to be able to feel happy. In this context, individual should be able to delay his pain, he should be able to do that and struggle even though psychological well-being hurts. Subjective well-being can be defined as postponing things that hurt or giving up these things for pleasure.

According to psychological well-being theory, individual's psychological health depends on his positive functioning in certain aspects of his life. Individual should have in positive relationship with others; should be dominant over the environment; should accept himself and his past; should has a goal and meaning in his life; should have personal development and the ability to make his own decisions (Özen, 2005). For this reason, there is a potential tension between psychological well-being, happiness, and development (Ryff and Singer, 1998).

Psychological well-being takes an important part in personality and development theories both theoretically and practically. Psychological well-being, which guides clinical studies that will help advisors to make their advisees reach their goals, informs about the goals and purposes regarding psychology consulting (Christopher, 1999). The concept of subjective well-being generally refers to individual's delight in life, in other words, happiness; psychological happiness points to self-development and obstacles in this sense that life brings about. Extensive analysis of psychological well-being includes individual's relationship with life goals; if he is aware of his potential; the quality of his relationship with others; and what he feels about his own life (Ryff and Keyes, 1995).

The present study
In this study we utilized Internet addiction as indicator of psychological maladjustment. We hypothesized that Internet addiction would be associated negatively with psychological well-being. It is also hypothesized that sub-dimensions of Internet addiction (diminished impulse control, loneliness/depression, social comfort, and distraction) would predict psychological well-being negatively.

METHOD
Participants
Participants were 479 university students enrolled in various undergraduate programs at the Sakarya University, Turkey. Of the participants, 100 were first-year students, 150 were second-year students, 129 were third-year students, and 100 were fourth-year students. Two hundred and seventy nine one of the participants were females and two hundred were males. A large majority of the students (93%) were between 18 and 25 years of age (21.12 ± 1.09).

Measures
The Turkish type of Online Cognition Scale (OCS) was used in order to measure internet addiction (Davis et al., 2002; Ozcan and Buzlu, 2005). Referred scale includes 36 items on a 7-point Likert-type scale (1=strongly disagree to 7=strongly agree). Sub-dimensions are composed of, Diminished impulse control (10 items, e.g., I use the Internet more than I ought to), loneliness/depression (6 items, e.g., I am bothered by my inability to stop using the Internet so much), social comfort (13 items, e.g., When I am online, I can be carefree), and distraction (7 items, e.g., I often use Internet to avoid doing unpleasant things). According to the sum of scores, the range of total score is from 36 to 252, in which the higher score proves higher level of Internet addiction. Within the framework of the Internet use, diminished impulse control contains obsessive cognition of Internet and the inability to decrease internet use despite of the opposite desire. Feeling worthless and depressive cognitions regarding the Internet are the elements of loneliness/depression. When a person is a part of a social network, the social comfort offers him a safe and secure environment, even though it is a virtual network. In this distraction Internet is used as a tool of avoidance. Regarding the Turkish type OCS, the Cronbach alpha internal consistency coefficients are as follows; .79 for diminished impulse control, .60 for loneliness/depression, .84 for social comfort, .73 for distraction, and .91 for the entire scale. Twice in four weeks, the test-retest reliability scale was conducted with 148 undergraduate students. As for the Pearson correlation coefficients, .89, .76, .87, .85, and .90 were found respectively (Ozcan and Buzlu, 2005).

Scales of Psychological Well-Being (SPWB)
Scale of Psychological Well-Being was developed by Ryff (1989) in order to evaluate individual's psychological well-being. Ryff based his model on positive functioning, and alternative and multi model of psychological well-being, which stem from theoretical discussions about normal personality development. The model provides a holistic definition to psychological well-being.

There are six factors, each of which is composed of 14 items, in the scale of psychological well-being, which was developed to measure autonomy, environmental dominance, personal development, positive relations with

others, purposes of life, and self-acceptance dimensions. Internal coefficient of consistence (Cronbach Alpha) was calculated for each factor; the findings are as follows, self-acceptance is .93; positive relations with others is .91; autonomy is .86; environmental dominance is .90; purpose of life is .90; and, personal development is .87. In order to determine the criterion referenced validity of each one, 20-item family form and correlation were analyzed. The correlation between family form and 14-item form was listed between .97 and .98. For more than six weeks, the test-retest reliability coefficient was listed between .81 and .88 for six factors.

Cenkseven (2004) adapted the scale into Turkish. Reliability studies were conducted on 475 university students. It is found that total score of 84 items obtained from Psychological Well-Being Scale and their correlations vary between .25 and .57. Considering the correlations of total score of each item's factor, the values varied as follows, for positive relations with others, .42 -.70; autonomy, .38 -.60; environmental mastery, .32 -.63; personal growth, .38 -.61; purpose in life, .30 -.58; and, self-acceptance, .37 -.63. Internal coefficients of consistence of scale (Cronbach Alpha) were calculated as, positive relations with others, .83; autonomy, .78; environmental dominance, .77; personal development, .74; purpose of life, .76; and, self-acceptance, .79. The total internal coefficient of consistence for the Scale of Psychological Well-Being was determined as, .93. Correlation coefficients for test-retest reliability were found, positive relations with others, .74; autonomy, .77; environmental dominance, .77; personal development, .74; purpose of life, .75; and, self-acceptance, .76. In addition, the correlation coefficient for test-retest total score was determined as, .84.

Procedure and Data Analysis

Convenience sapling was the method used while selecting the participants. As a non-probability sampling technique, convenience sampling is used to select participants in terms of their accessibility and closeness to the researcher (Bryman, 2004). Therefore, in this study no inference was made based on population that causes to decrease in external validity.

No pressure was put on the participants; they filled out questionnaires voluntarily. Participants were not asked to put their personal information on questionnaires; confidentiality was guaranteed. Students were grouped in classrooms and survey instruments were distributed. While applying, measures were counterbalanced. Before questionnaires, participants were all informed about the purpose of the study.

In this research, the relation between Internet addiction and psychological well-being was determined by Pearson correlation coefficient and multiple regression analysis. SPSS 11.5 was used in the analysis of the study.

RESULTS

Descriptive Data and Inter-correlations

Descriptive statistics and inter-correlations of the relationship between psychological well-being and Internet addiction are given Table 1.

Table 1. Descriptive Statistics and Inter-correlations of the Variables

Variables	1	2	3	4	5
1. Diminished impulse control	1.00				
2. Distraction	.58[**]	1.00			
3. Loneliness/depression	.73[**]	.45[**]	1.00		
4. Social comfort	.67[**]	.44[**]	.81[**]	1.00	
5. Psychological Well-Being	-.22[**]	.16	-.40[**]	-.50[**]	1.00

[**]p<.001

When Table 1 is examined, it is seen that there are significant correlations between Internet addiction and psychological well-being. Psychological well-being related negatively to diminished impulse control (r= -.22), loneliness/depression (r= -.45), and social comfort (r= -.50) dimensions of Internet addiction. There is not significant correlations between Internet addiction and distraction (r= .16)

Multiple Regression Analysis

A stepwise multiple regression analysis has applied to determine which dimensions of Internet addiction were the best predictors of psychological well-being. Table 2 showed the results of multiple regression analysis where the independent variables were dimensions of Internet addiction and the dependent variable was psychological well-being.

Table 2. Summary of Stepwise Multiple Regression Analysis for Variable Predicting Psychological well-being

Variables	B	Standard Error of B	F	t
Step 1				
Diminished impulse control	-.22	.41	17,386	-4.170*
Step 2				
Diminished impulse control	-.47	.46	37,568	-7.957*
Distraction	.44	.60		7.416
Step 3				
Diminished impulse control	-.07	.56		-1.055*
Distraction	.46	.54	53,847	8.468
Loneliness/depression	-.55	.73		-8.423
Step 4				
Diminished impulse control	.01	.51		.156
Distraction	.49	.49	69,045	9.955*
Loneliness/depression	-.12	.85		-1.606*
Social comfort	-.62	.39		-8.830*

*p<.01

Diminished impulse control entered the equation first, accounting for 5% of the variance in predicting Internet addiction (ΔR^2= .05). Distraction entered on the second step accounting for an additional 13% variance (ΔR^2= .13). Loneliness/depression entered on the third step accounting for an additional 15% variance (ΔR^2= .15). Social comfort entered last, accounting for an additional 14 % variance (ΔR^2= .14). The last regression models involved diminished impulse control, distraction, loneliness/depression, and social comfort as predictors of social safeness and accounted for 47% of the variance in psychological well-being.

DISCUSSION
The aim of this study was to investigate the relationships between Internet addiction, and psychological well-being. Mainly, as hypothesized, Internet addiction has negatively predicted psychological well-being. This finding suggests that higher levels of pathological Internet use is associated with lower levels of well-being. Internet addiction has been shown to be positively related to a decrease in social interactions (Smahel et al., 2012), depression (Yen, et al., 2007), loneliness (Morahan-Martin and Schumacher, 2003), and lower self-esteem (Akın and Iskender, 2011; Kraut et al., 1998). Although subjective well-being and psychological well-being has been shown to be in negative relation with depressive symptoms, anxiety, and negative affectivity (Ryan, and Frederick, 1997), and in negative relation with body functioning self-esteem, satisfaction with life, positive affectivity, and subjective vitality (Akın, 2012; Ryff and Singer, 1996; Ryan and Frederick, 1997). Subjective vitality is a ''positive feeling of aliveness and energy''(Ryan, and Frederick, 1997) and this psychological energy is available to an individual; it reflects psycho-social well-being and enhances behaviors that support a healthy lifestyle (Niemiec et al., 2010). In contrast, Internet addiction is associated with greater levels of loneliness, poorer social adaptation, and emotional skills (Engelberg, and Sjoberg, 2004) and those with the most severe social interaction anxiety spent the most time online (Erwin et al., 2004; Wolfradt, and Doll, 2001). Therefore, and consistent with the results of the present study, it appears that if individuals can enhance their psychological well-being, they may decrease their internet addiction.

Another finding was that the construct subjective well-being, denoting a state of mind which is characterized by pleasure or sense of satisfaction (Diener, 2000), was negatively related to Internet addiction. This may be due to the fact that subjective well-being encompasses satisfaction with life (Diener, 2000; Diener, and Seligman, 2002), self-perceptions of well-being (Lyubomirsky, 2001), satisfying relationships and positive emotions (Diener, and Seligman, 2002). On the other hand Internet addiction has been shown to be associated with a range of variables, like neuroticism level, loneliness (Moody, 2001), anxiety, depression (Young, and Rogers, 1998) hindering the individual's adaptivity and coping skills. Internet addiction has also shown to be connected with lower levels of self-esteem (Caplan, 2003) and life satisfaction (Ferraro et al., 2007), and poor mental health (Nalwa, and Anand, 2003; Young, and Rogers, 1998). Within the framework of the body of research on the concepts, negative effect of Internet addiction on subjective happiness, as also illustrated by the present study can be plausible (Akın, 2012; Nalwa, and Anand, 2003). The present findings connoting that, greater levels of dependent Internet use was negatively associated with psychological well-being is consistent with previous research (Akın, 2012; Caplan, 2003; Ferraro, Caci, D'Amico, et al. 2007).

Limitations of the study may be acknowledged. First, participants were university students and replication of this study for targeting other student populations should be made in order to generate a more solid relationship among the constructs examined in this study, because generalization of the results is somewhat limited. Second, the data reported here for Internet addiction and psychological well-being are limited to self-reported data which can have the positivity bias problem.

In conclusion, this investigation argued that Internet addiction may have a direct affect on psychological well-being. Students high in Internet addiction are more likely to be low in psychological well-being.. Therefore, the current findings increase our understanding on the relationships between psychological well-being and Internet addiction. In addition, enhancing psychological well-being levels of students may also have a preventive function for Internet addiction.

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