The Relationships Between Internet Addiction, Subjective Vitality, and Subjective Happiness

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Abstract

The aim of the present study is to examine the relationships between Internet addiction, subjective vitality, and subjective happiness. The participants were 328 university students who completed a questionnaire package that included the Online Cognition Scale, the Subjective Vitality Scale, and the Subjective Happiness Scale. According to the results, subjective vitality and subjective happiness were negatively predicted by Internet addiction. On the other hand, subjective happiness was positively predicted by subjective vitality. In addition, subjective vitality mediated the relationship between Internet addiction and subjective happiness. Results were discussed in light of the literature.

Introduction

WORLDWIDE INTERNET ACCESS has dramatically increased over the past decade.[1] The rapid growth of Internet usage has spawned research on both the benefits and dangers of online activities.[1] Despite the widely perceived merits of the Internet, specialists are aware of the negative impacts of (its) overuse or misuse and the Internet-related physical and psychological problems.[2,3] One of the most common of these problems is Internet addiction,[4–7] which leads to neurological complications, psychological disturbances, and relational chaos.[8] Internet addiction is also widely seen around the world and has produced negative impacts on the academic, relationship, financial, and occupational aspects of many lives.[7,9,10]

Nowadays, the importance of the effect of research on Internet addiction has grown.[11,12] A plethora of research has utilized various methods that identify Internet addicts and used numerous terms such as Internet dependents,[13,14] problematic Internet users,[6,15] or pathological Internet users[16–19] (these terms were used interchangeably in the present study). In these studies, a wide range of symptoms of Internet addiction have been described, such as intense preoccupation with using the Internet,[20,21] excessive amounts of time spent online, compulsive use of the Internet, difficulty in managing the time spent on the Internet, feeling that the world outside of the Internet is boring, becoming irritated if disturbed while online, decreased social interaction, and face-to-face communication.[22] In this study, Internet addiction is operationalized as any online-related, compulsive behavior that interferes with normal living and causes severe stress to family, friends, loved ones, and one's study or work environment.

Internet addiction has been characterized by psychomotor agitation, anxiety, craving,[23] hostility,[24] substance experience,[25,26] loss of control, intolerance, withdrawal, impairment of function, reduced decision-making ability,[27] and constant online surfing, despite the negative effects on social and psychological welfare. Generally, it has been proved that the greater use of the Internet is associated with some social and psychological variables, such as declines in the size of the social circle, depression,[24,28] personality traits such as neuroticism and extraversion,[29] emotional states such as loneliness and anxiety,[22,30–35] inadequate social support networks,[36,37] specific types of Internet activities,[38] lower self-esteem and life satisfaction,[27] sensation seeking,[17] poor mental health,[28,39] parent-adolescent conflict,[26] and low family function.[40]

Subjective vitality

The concept of vitality was developed within the framework of the self-determination theory[41,42] and has been defined as the subjective experience of being full of energy and alive.[43] Subjective vitality is considered an aspect of both physical and eudaimonic well-being;[44] it is derived from an internal source, not from specific threats in the environment, and differs from mania in that vitality is not driven or compelled.[45] Therefore, it is expected that the experience of subjective vitality specifically refers to energy that is perceived to emanate from the self, that is, it has, in attributional terms, an internal perceived locus of causality.[43]

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Subjective vitality has been found to be negatively related to depressive symptoms,[46] anxiety, negative affectivity, neuroticism, somatic distress, physical symptoms, physical pain, and external locus of control.[43] In contrast to this finding, Ryan and Frederick[43] found that subjective vitality was positively related to body functioning self-esteem, perceived physical ability, self-actualization, satisfaction with life, positive affectivity, extraversion, conscientiousness, and physical self-presentation confidence. Similarly, it was found that subjective vitality was positively associated with emotional well-being, social well-being, psychological well-being, and satisfaction with life and was negatively associated with psychological distress.

Subjective happiness

Subjective happiness, evolved from the positive psychology movement, is defined as the psychological state of well-being, joy, and contentment.[47] Due to the question of why some people are happier than others or why some seem to have the capacity to be happy in the face of distress, which is remarkable,[48] subjective happiness has been viewed as a popular concept in psychology research and is noted to be a significant part of human life.[47] In addition, it is well known that the pursuit of happiness is an important goal for every human being.[49] Subjective happiness is a construct that is relatively consistent over time and across situations, and it has an impact on how people perceive, interpret, recall, and actually experience life events in a positive or negative way.[50]

Studies have shown that subjective happiness is associated with self-perceptions of well-being, satisfaction with life,[51,52] satisfying relationships, positive emotions,[53] emotional intelligence,[54] and self-enhancing bias.[55] It has also been proved that people who are subjectively happy think more positively about themselves,[55,56] feel more personal control,[57] evaluate recent experiences in their lives as more pleasant,[58] and their emotional reactions are more intense to positive events, but less long lasting to negative events.[59]

The present study

The aim of the present study is to examine the relationships between Internet addiction, subjective vitality, and subjective happiness. The potential mediating effect of subjective vitality on the relationship between Internet addiction and subjective happiness will also be examined. Early research warned of the negative social and psychological consequences of Internet use[1] and indicated that the potential for negative psychological and social consequences increased, as society has become more addicted to using the Internet. Internet use may be beneficial when it is maintained at "normal" levels; however, Internet addiction that interferes with daily life has been linked to a range of problems, including decreased psychosocial well-being, relationship breakdown, and neglect of responsibilities.[38,60]

Moreover, Internet addiction makes people spend their time on-line instead of making real social relationships, and this might weaken their social bonds and socio-emotional support.[11] Similarly, it is well known that low self-esteem, loneliness, depression, and poor family function are related to Internet addiction.[26,34] Thus, higher Internet addiction may decrease subjective vitality and subjective happiness. On the other hand, as a construct that has psychological and social dimensions, subjective vitality refers to more than being merely active, aroused, or even having stored caloric reserves and is concerned with a specific psychological experience of possessing enthusiasm and spirit. Due to its phenomenological centrality and its seeming covariance with psychological circumstances, subjective vitality potentially represents a significant indicator of subjective happiness. Based on previous but limited research on the relationships of Internet addiction,[11,22–24,27,28,30,32–34,39] subjective vitality,[43,46] and subjective happiness[51–54,57] with psychological constructs, this study poses the following hypotheses:

> H1: Internet addiction is negatively associated with subjective vitality.
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> H2: Internet addiction is negatively associated with subjective happiness.
>
> H3: Subjective vitality is positively associated with subjective happiness.
>
> H4: Subjective vitality mediates the link between Internet addiction and subjective happiness.

Method

Participants

The participants were 328 university students (198 [60 percent] were women, and 130 [40 percent] were men) enrolled in various undergraduate programs at the Sakarya University Faculty of Education, Turkey. Of the participants, 74 (23 percent) were first-year students, 81 (25 percent) were second-year students, 90 (27 percent) were third-year students, and 83 (25 percent) were fourth-year students. Their ages ranged from 17 to 30 (20.65 ± 1.18), and grade point average scores ranged from 1.64 to 3.75. The average time spent on the Internet on a typical weekday was reported to be 73 minutes (standard deviation [SD] = 102.11), while their typical weekend day use was 88 minutes (SD = 111.22). Eighty-seven percent of the participants (n = 285) have access to the Internet in their current residence, and 74 percent (n = 243) have broadband Internet access (either cable or ADSL).

Measures

Internet addiction was measured by the Turkish version of the Online Cognition Scale.[15,61] The scale was translated into Turkish by seven perfect bilinguals who speak English and Turkish equally well. After that, they back translated the scale into English and examined the consistency between the Turkish and English versions of the scale. This scale contains 36 items on a 7-point Likert-type scale (1 = strongly disagree to 7 = strongly agree). It has four sub-dimensions: diminished impulse control (10 items), loneliness/depression (6 items), social comfort (13 items), and distraction (7 items). A sum of all scores yields a total score that ranges from 36 to 252; a higher score indicates a higher Internet addiction level. The Internet-related diminished impulse control dimension involves obsessive cognitions about the Internet and an inability to reduce Internet use despite the desire to do so. The loneliness/depression dimension involves feelings of worthlessness and depressive cognitions related to the Internet. The social comfort dimension involves feelings of safety and security in being a part of that social network, despite the fact that it is a virtual network. The distraction dimension

involves using the Internet as an activity of avoidance. The Cronbach alpha internal consistency coefficients of the adapted Turkish form were 0.79 for diminished impulse control, 0.60 for loneliness/depression, 0.84 for social comfort, 0.73 for distraction, and 0.91 for the entire scale. For test–retest reliability the scale was administered to 148 undergraduate students twice in 4 weeks. The Pearson correlation coefficients were 0.89, 0.76, 0.87, 0.85, and 0.90, respectively.[60]

Subjective vitality was measured using the Turkish version of the Subjective Vitality Scale.[43,62] The scale was first translated into Turkish by three perfect bilinguals; then, 10 experts agreed on the expressions of items and the suitability of the items in terms of their aim and adequacy. The Subjective Vitality Scale measures vitality (seven items; e.g., In general, I feel alive and vital). Responses were made on a 7-point scale from 1 (not at all true) to 7 (very true). The Cronbach alpha coefficients of the English form ranged from 0.80 to 0.89[43,44] and in the Turkish sample, the Cronbach alpha coefficient was 0.84.[62]

Subjective happiness was measured using the translated Turkish version of the Subjective Happiness Scale.[63,64] The back-translation method was used to perform the translation. The translation was done by two bilingual translators. First, the original version was translated into Turkish by a native Turkish bilingual translator who was competent in both languages. Then, the translated copy was back translated to English by an American native-English speaker cum bilingual translator who was competent in both languages. These three copies (original English, Turkish, and back-translated English copies) were assessed by three specialists in the psychological measurement and evaluation field, and the original and back-translated versions were compared by them. The scale consists of four items (e.g., I think I am a happy person), and each item was presented on a seven-point Likert scale (1 = very unhappy, 7 = very happy). The total scores ranged from 4 to 28, with a higher score indicating higher subjective happiness. The Cronbach alpha coefficient was 0.86, and the test–retest reliability with a 3-week time interval was 0.72.[63] The Cronbach alpha internal consistency coefficient of the adapted Turkish form was 0.86.[64]

Procedure and data analysis

Convenience sampling was used in the selection of participants. Convenience sampling is a nonprobability sampling technique in which the participants are selected because of their convenient accessibility and proximity to the researcher.[65] For this reason, the results of this study did not make inferences from the population, which led to a decrease in external validity. Participants voluntarily participated and were free to fill out the questionnaires without pressure. Completion of the questionnaires was anonymous, and there was a guarantee of confidentiality. The instruments were administered to the students in groups in the classrooms. The measures were counterbalanced in administration. Before the administration of measures, all participants were told about the purposes of the study.

Three hundred and sixty-three students participated in the study. However, 35 students were excluded from the study, because 21 of them did not respond to the instruments as required, and 14 were found to produce extreme scores. Therefore, the data obtained from 328 students were statistically analyzed.

To determine the relationships among Internet addiction, subjective vitality, and subjective happiness, the Pearson correlation coefficient and hierarchical regression analyses were used. In order to test whether subjective vitality mediated the link between Internet addiction and subjective happiness with hierarchical regression analyses, Baron and Kenny's[66] recommendations were followed. According to their recommendations, first, a significant relationship between the independent variable and the hypothesized mediating variable is required. Second, a significant relationship between the hypothesized mediating variable and the dependent variable is required. Third, a significant relationship between the independent variable and dependent variable is needed. Finally, the coefficient relating the independent variable to the dependent variable should be larger (in absolute value) than the coefficient relating the independent variable to the dependent variable in the regression model, with both the independent variable and the mediating variable predicting the dependent variable. These analyses were carried out via SPSS 11.5.

Results

Descriptive data and inter-correlations

Table 1 shows the means, descriptive statistics, intercorrelations, and internal consistency coefficients of the variables used.

When Table 1 is examined, it is seen that there are significant correlations between Internet addiction, subjective vitality, and subjective happiness. Internet addiction was negatively related to subjective vitality ($r = -0.51$) and subjective happiness ($r = -0.35$). On the other hand, subjective vitality was found to be positively ($r = 0.41$) related to subjective happiness.

Testing the mediating role of subjective vitality in the relationship between Internet addiction and subjective happiness

Following the steps of the mediation procedure, first, it was verified that Internet addiction and subjective vitality were negatively related ($\beta = -0.51$, $t = -9.89$, $p < 0.01$). The results are shown in Table 2.

Then, it was verified that subjective vitality and subjective happiness revealed a positive relationship ($\beta = 0.41$, $t = 7.45$, $p < 0.01$). The results are presented in Table 3.

TABLE 1. DESCRIPTIVE STATISTICS, CRONBACH'S ALPHA COEFFICIENTS, AND INTERCORRELATIONS OF THE VARIABLES

Variables	1	2	3
1. Internet addiction	1.00		
2. Subjective vitality	−0.51**	1.00	
3. Subjective happiness	−0.35**	0.41**	1.00
Mean	67.82	34.87	19.01
Standard deviation	32.22	8.24	4.71
Range	36–191	10–49	4–28
Cronbach's α	0.93	0.84	0.87

**$p < 0.01$.

TABLE 2. THE REGRESSION RESULTS OF THE RELATIONSHIP BETWEEN SUBJECTIVE VITALITY AND INTERNET ADDICTION

Variable	B	Standard error of B	β	t	p
Internet addiction	−0.131	0.013	−0.513	−9.89	0.000

Dependent variable: subjective vitality. $R^2 = 0.26$, adjusted $R^2 = 0.26$ ($p < 0.01$).

To test the third and last steps of mediation procedure, hierarchical regression analysis was done. The results of the hierarchical regression analysis demonstrated that Internet addiction was negatively associated with subjective happiness ($\beta = -0.35$, $t = -6.23$, $p = 0.000$). However, when subjective vitality and Internet addiction were taken together in the regression analysis, the significance of the relationship between Internet addiction and subjective happiness ($\beta = -0.19$, $t = -3.051$, $p = 0.003$) decreased, yet the relationship between Internet addiction and subjective happiness was significant. According to Baron and Kenny,[66] this result indicated a partial mediation. Therefore, it can be said that subjective vitality partially explains the relationship between Internet addiction and subjective happiness. The results are presented in Table 4.

The present model was tested using the Sobel z test.[67] The purpose of this test is to verify whether a mediator carries the influence of an interdependent variable to a dependent variable. The Sobel z test is characterized as being a restrictive test, and as such, assures that the verified results are not derived from collinearity issues. In the present study, the test value verified was $Z = 7.05545294$; $p = 0.000$.

Discussion

The aim of this study was to investigate the relationships between Internet addiction, subjective vitality, and subjective happiness. First, as hypothesized, Internet addiction has negatively predicted subjective vitality. This finding suggests that a more problematic Internet use is associated with a lower subjective vitality. Although subjective vitality has been positively related to body functioning self-esteem, satisfaction with life, and positive affectivity[43] and negatively to depressive symptoms,[45] anxiety, and negative affectivity,[43] Internet addiction has been positively related to a decrease in social interactions, depression, loneliness, and lower self-esteem.[22,27] In addition, subjective vitality is a "positive feeling of aliveness and energy[43]" and this psychological energy is available to an individual; it reflects psycho-social well-being and enhances behaviors that support a healthy lifestyle.[68] On the contrary, Internet addiction is associated

TABLE 3. THE REGRESSION RESULTS OF THE RELATIONSHIP BETWEEN SUBJECTIVE VITALITY AND SUBJECTIVE HAPPINESS

Variable	B	Standard error of B	β	t	p
Subjective vitality	0.235	0.032	0.410	7.45	0.000

Dependent variable: subjective happiness. $R^2 = 0.16$, adjusted $R^2 = 0.16$ ($p < 0.01$).

TABLE 4. THE HIERARCHICAL REGRESSION RESULTS OF TESTING THE MEDIATIONAL ROLE OF SUBJECTIVE VITALITY IN THE RELATIONSHIP BETWEEN INTERNET ADDICTION AND SUBJECTIVE VITALITY

Variable	B	Standard error of B	β	t	p
Step 1					
Internet addiction	−0.052	0.008	−0.353	−6.23	0.000
Step 2					
Internet addiction	−0.028	0.009	−0.193	−3.051	0.003
Subjective vitality	0.178	0.036	0.311	4.92	0.000

Dependent variable: subjective happiness. $R^2 = 0.12$, adjusted $R^2 = 0.12$ ($p < 0.05$) for Step 1; $R^2 = 0.19$, $\Delta R^2 = 0.07$, adjusted $R^2 = 0.19$ ($p < 0.05$) for Step 2.

with greater loneliness, poorer social adaptation, and emotional skills[69] and those with the most severe social interaction anxiety spent the most time online.[70] Therefore, and consistent with the results of the present study, it appears that if individuals can enhance their subjective vitality, they may decrease their Internet addiction.

Second, as anticipated, subjective happiness, a state of mind or feeling characterized by pleasure or satisfaction,[71] was negatively related to Internet addiction. Since subjective happiness is associated with satisfying relationships, positive emotions,[53] self-perceptions of well-being, satisfaction with life[51,52] and self-enhancing bias[55] and Internet addiction related to a plethora of maladaptive variables such as anxiety,[23] depression,[24,28] neuroticism,[29] loneliness,[22,30,31] lower self-esteem and life satisfaction,[27] and poor mental health,[28,39] the negative effect of Internet addiction on subjective happiness seems very reasonable. This finding is consistent with previous research,[23,28,39] which found that a greater dependent use of the Internet was negatively linked to psychological well-being.

Third, subjective vitality partially mediated the relationship between Internet addiction and subjective happiness. This result is important for several reasons. The study extends what is known about Internet addiction and its link to subjective happiness. Although studies have suggested that Internet addiction can substantially influence subjective happiness,[1] no research has addressed the factors that might mediate these relationships. In other words, Internet addiction literature is unclear about how Internet addiction decreases subjective happiness. The results of this study are particularly interesting, because they suggested that Internet addiction influences subjective happiness through subjective vitality.

It is also important to underline the average general score for Internet addiction. In the present study, the average general score for the Online Cognition Scale was found to be 67.82 ($SD = 32.22$), indicating that most participants can be classified as having a low level of Internet addiction. The level of the relationship between Internet addiction, subjective vitality, and subjective happiness may be affected by the level of students' problematic Internet use.

For future research, this study has several implications. Further research investigating the relationships between Internet addiction and other psychological constructs are needed to reinforce the findings of this study. This study also has

several implications for the prevention of Internet addiction. Since students who are addicted to the Internet usually suffer from problems in their daily routine, school performance, family relationships, and mood,[28] it is important for mental health professionals to develop interventional strategies that prevent Internet addiction. Hence, it is necessary to examine both protective and risk factors for Internet addiction in students in order to develop such preventative strategies. Furthermore, a family-based preventive approach for Internet addiction should be implemented for students with negative family factors.[26] This prevention should include skills training for parents to improve communication skills in helping adolescents to develop social skills, helping family members reduce maladaptive family function, fostering skills for healthy family interactions, and effective family monitoring and discipline focusing on Internet addiction.[26,72]

Being a new type of pathology, Internet addiction is not a trivial or transitional problem that can be overlooked and naturally healed as time goes on.[8] Therefore, clinicians need to prepare for and be aware of the new difficulties that result from this problematic behavior. It is a reality that the more time spent on-line and the more extensive the Internet, the greater the possibility for Internet addiction. Thus, in a therapeutic sense, it is critical to support the ability to stop being on-line, to reduce the amount of time spent on-line, and to be strict on the use of the Internet.[8] In addition, students should be encouraged to make healthy and timely use of the Internet as an invaluable tool for enhancing their academic skills and worldwide communication.[73]

Although the results of the present study are interesting and have implications for interventions that could reduce Internet addiction, the limitations of the study should be acknowledged. First, participants were university students, and a 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, since correlational statistics were utilized, no definitive statements can be made about causality. Third, the data reported here for Internet addiction, subjective vitality, and subjective happiness are limited to self-reported data. Last, since the proportions of variance explained were very low, it is difficult to make any firm conclusions about the findings.

In conclusion, this investigation shows that Internet addiction affects subjective vitality and subjective happiness directly. Students high in Internet addiction are more likely to be low in subjective vitality and subjective happiness. Therefore, the current findings increase our understanding of the relationships between subjective vitality, subjective happiness, and Internet addiction. We hope that our results may help educational agencies in designing suitable Internet addiction prevention programs geared toward the college population.

Author Disclosure Statement

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