



RESEARCH ARTICLE / ARAŞTIRMA YAZISI

The Mediating Role of Self-Control and Goal Striving in the Relationship Between Need Satisfaction, Life Goals and Internet Addiction

İhtiyaç Doyumu, Yaşam Amaçları ve İnternet Bağımlılığı Arasındaki İlişkide Öz-Kontrol ve Amaçlar için Mücadelenin Aracı Rolü

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Abstract:

This study examined the mediating role of self-control and goal striving in the relationship between need satisfaction, life goals and Internet addiction. A total number of 320 university students participated in this cross-sectional study. Participants completed the Need Satisfaction Scale, The Scale of Setting Life Goals with Respect to Positive Psychotherapy, Brief Self-Control Scale, Goal Striving Scale, Internet Addiction Test and Personal Information Form. Structural equation modeling and bootstrapping were used to test the hypothesized model. Structural equation modeling results provide evidence for indirect effects of need satisfaction on Internet addiction fully mediated by self-control and goal striving. Besides, goal striving and self-control fully mediated the relationship between life goals and Internet addiction. The findings emphasized the role of self-control and goal striving in explaining the relationship between life goals, need satisfaction and Internet addiction. The findings of the research were discussed in the light of the literature and research, and suggestions were presented.

Keywords: Internet addiction, Life goals, Self-control, Need satisfaction, Goal striving

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Öz:

Bu araştırmada, üniversite öğrencilerinin ihtiyaç doyumu ve yaşam amaçları ile internet bağımlılığı arasındaki ilişkide, öz-kontrol ve amaçlarla mücadelenin aracılık rolü incelenmiştir. Araştırmaya, 320 üniversite öğrencisi (274 kadın ve 46 erkek) katılmıştır. Araştırmada, “İhtiyaç Doyumu Ölçeği”, “Pozitif Psikoterapi Bağlamında Yaşam Amaçları Belirleme Ölçeği”, “Kısa Öz-Kontrol Ölçeği”, “Amaçlar İçin Mücadele Ölçeği”, “İnternet Bağımlılığı Testi” ve “Kişisel Bilgi Formu” kullanılmıştır. Öngörülen modeli test etmek için yapısal eşitlik modeli ve bootstrapping kullanılmıştır. Yapısal eşitlik modeli sonucunda ihtiyaç doyumu ile internet bağımlılığı arasında öz-kontrol ve amaçlarla mücadelenin tam aracılık, yine yaşam amaçları ile internet bağımlılığı arasında öz-kontrol ve amaçlarla mücadelenin tam aracılık etkisi olduğu bulunmuştur. Araştırmanın bulguları, alanyazın ve araştırmalar ışığında tartışılarak öneriler sunulmuştur.

Anahtar Kelimeler: İnternet Bağımlılığı, Yaşam Amaçları, Öz-Kontrol, İhtiyaç Doyumu, Amaçlar İçin Mücadele

Introduction

The Internet, whose origins date back to the 1960s and early 1970s, has gone through many stages since its development and is now widely used all over the world (Weis, 2010). In parallel to the speed of technological developments, the rate of Internet usage has continued to increase significantly. The increase in Internet use has led to the emergence of a new clinical disorder that is described with different terms such as Internet addiction (Jiang, 2014), problematic Internet use (Shapira et al., 2003), pathological Internet use (Davis, 2001), and Internet behavior dependence (Hall & Parsons, 2001).

According to Young (2004), Internet addiction (IA) is defined as the inability of a person to resist the desire to use the Internet, becoming irritable and aggressive when deprived of it, progressive deterioration of the family, work, and social life, feeling insignificant when not connecting to the Internet, and the emergence of behavioral problems. It is also associated with problems such as depression (Takahira et al., 2008), social phobia (Weinstein et al., 2015), sleep problems (Tokiya et al., 2020), loneliness (Costa et al., 2019) and shyness (Tian et al., 2021).

Individual needs play a key role in online behavior (Greitemeyer et al., 2014; Li et al., 2016). Individuals may turn to Internet activities for compensation if their psychological needs aren't met in real life (Karddefelt-Winther, 2014). To be more precise, social networking sites can satisfy the need for belonging (Nadkarni & Hofmann, 2012), and also video games can fulfill the need for autonomy, competence, and relatedness (Ryan et al., 2006). Self-determination theory focuses on three basic psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000). Basic psychological needs are structures that need to be satisfied for the goals that individuals want to achieve and value (Hennessey, 2000). When a person's psychological needs are unfulfilled and his/her well-being or psychological health is jeopardized, he/she may suffer from mental disorders (Ryan & Deci, 2000). Previous research shows that the Internet is a potential venue to meet psychological needs (Greitemeyer et al., 2014; Nadkarni & Hofmann, 2012). Those who are satisfied with their needs on the Internet but do not have a high level of satisfaction in their daily lives tend to use the Internet excessively (Leung, 2003). Wong et al. (2015) found that IA is more prevalent in those who don't meet their basic psychological needs. On the other

hand, Li et al. (2016) found the mediating effect of need satisfaction between IA and stressful events.

According to the self-determination theory, an individual who acts in the direction of growth and development is committed to certain goals. Need satisfaction plays an important role in maintaining and achieving these goals (Deci & Ryan, 2000). Setting goals and striving for them are important factors that influence individuals' adaptation to life (Myers & Diener, 1995). For that reason, individuals with set goals are claimed more resilient to mental disorders (Klinger, 2012). Moreover, individuals with set goals are likely to live meaningful lives and possessing this positively impacts their mental health (Baumeister & Vohs, 2002).

Life goals, also defined as the desired states that individuals try to achieve and maintain through cognitive and behavioral strategies (Emmons, 1999), are considered an important component of happiness (Ryff & Keyes, 1995). Previous studies have shown a significant relationship between purpose in life and need satisfaction (DeWitz et al., 2009; Ryff, 1989). Purposes can buffer the negative effects of psychological instability and distress (McKnight & Kashdan, 2009; Van Dyke & Elias, 2007), thus making the person less susceptible to addictive behaviors (Newcomb & Harlow, 1986). Both cross-sectional and longitudinal studies have shown a negative relationship between life goals and substance abuse such as nicotine and alcohol (Marsh et al., 2003; Newcomb & Harlow, 1986).

Whether people can achieve their goals depends on their self-control power (Blachnio & Przepiorka, 2016). Self-control failure makes it difficult for individuals to make decisions and act in ways that are consistent with their goals and values. Self-control is an individual's ability to repress or adjust their internal reactions, as well as to stop undesirable behavioral inclinations and avoid exhibiting them (Tangney et al., 2004). According to Gottfredson and Hirschi (1990), the behaviors of individuals with low self-control are primarily governed by immediate gratification and short-term goals. High self-control provides a more effective planning for the future, impulse control, the capacity to cope with negative thoughts and control behaviors (Heatheron, 2011; Hofmann et al., 2009). Low self-control, on the other hand, is associated with behaviors such as impulsivity, risk-taking, addiction and overeating (Gottfredson & Hirschi, 1990; Niemi et al., 2005; Trimmel & Köpke, 2000). Low self-control has been

found to be associated with IA (Muusses et al., 2015; Özdemir et al., 2014).

The Present Study

Internet usage rate is increasing rapidly in Turkey and among the top 20 countries with the highest rate of Internet usage, Turkey is ranked 13th according to Internet World Stats (2019). It can be claimed that the Internet has become more important and used more frequently as a result of the increased social distance with the COVID-19 pandemic. According to the results of the Household Information Technologies Usage Survey (Turkish Statistical Institute, 2020), 98.5% of the participants are regular Internet users, while 91.2% of these people spend time on the Internet almost every day. It has become even more important at

what point to define Internet use, which has benefits such as establishing relationships and continuing our education, as addiction during the pandemic period. Scrutinizing the studies in the literature and to our best knowledge no prior studies have ever examined the relationships between IA, self-control, life goals, goal striving, and need satisfaction. Considering the prevalent use of the Internet, this research is expected to contribute to the literature on preventing IA by offering a better understanding of the mechanisms that underpin it. In this direction, this study investigated the mediating effect of self-control and goal striving in the relationship between university students' need satisfaction, life goals, and IA. Figure 1 shows the proposed model to explain Internet addiction.

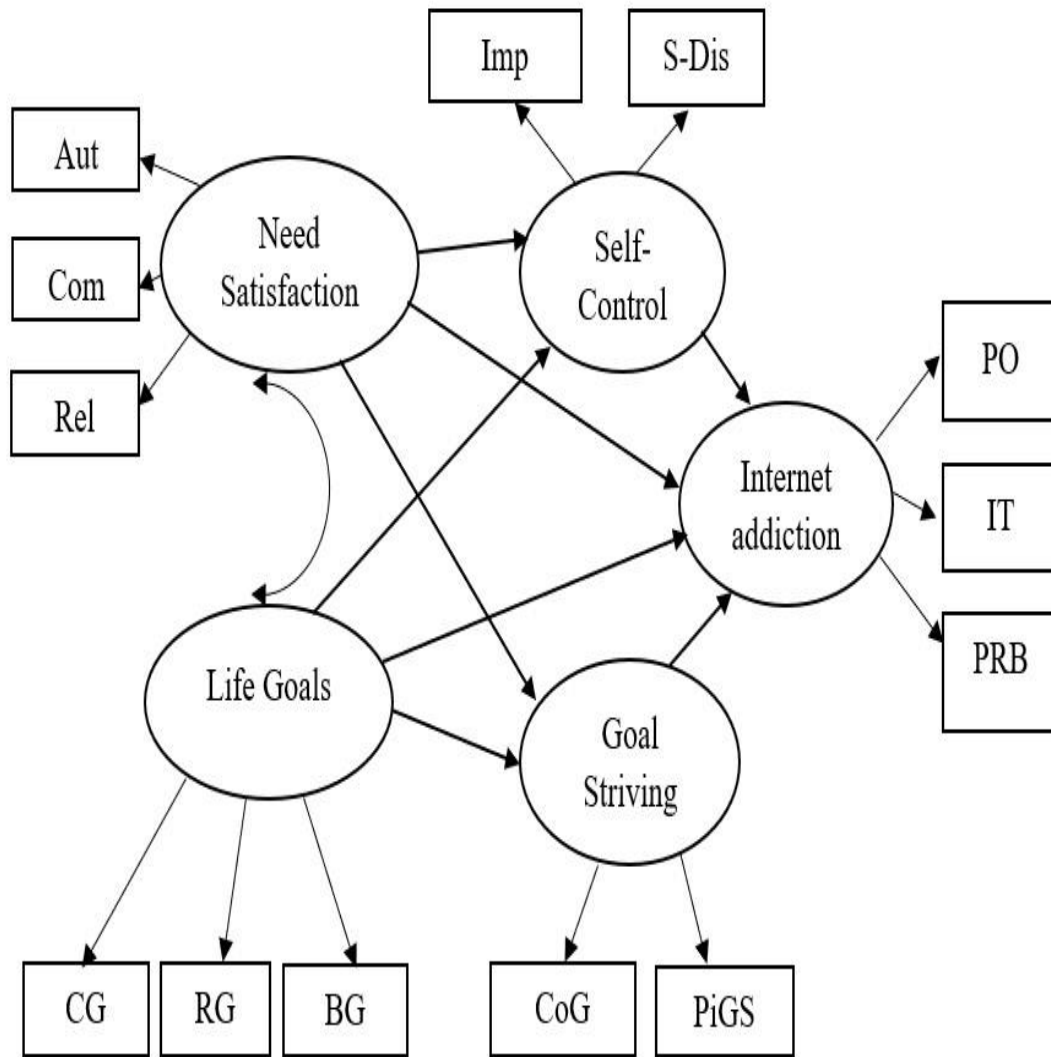


Fig. 1 Proposed model. Note. Aut autonomy; BG body goals; CG career goals; CoG commitment of goals; Com competence; Imp impulsivity; IT wanting to increase the time to be online; PiGS persistence in goal striving; PO preferring to be online to daily life; PRB problems arising from being online; Rel relatedness; RG relationship goals; S-Dis self-discipline

Methods

Participants

The sample consisted of 320 students studying at the faculty of education of two state and two foundation universities in Turkey. Among the respondents, 274 were female and 46 were male. Table 1 shows the detailed characteristics of the participants.

Table 1 Characteristics of the participants

	f	%
Gender		
Female	274	85.6
Male	46	14.4
University		
State	149	46.6
Foundation	171	53.4
Purpose of using the internet		
Social network and communication	173	54.1
Film, series and music	110	34.4
Game	15	4.7
Information and news	22	6.9
Outside of online class, internet use per day		
0-2 hours	51	15.9
3-5 hours	186	58.1
6-8 hours	66	20.6
9-11 hours	10	3.1
More than 11 hours	7	2.2

Measurement Tools

Need Satisfaction Scale: The scale was developed by Deci and Ryan (1991) and adapted into Turkish by Bacanlı and Cihangir Çankaya (2003). This 7-point Likert-type scale consists of three subdimensions including autonomy, competence and relatedness with a total number of 21 items. The results obtained by confirmatory factor analysis of the scale as RMSEA: 0.07, GFI: 0.86, AGFI: 0.82, CFI: 0.82, NNFI: 0.80. The Cronbach's α of the subscales in this study were 0.78 (autonomy), 0.64 (competence), and 0.78 (relatedness).

Brief Self-Control Scale: The scale was developed to identify situations involving self-control by Tangney et al. (2004). The short form of the scale consists of 13 items and is a Likert-type scale rated from 1 to 5. The Turkish adaptation of the scale was carried out by Nebioğlu et al. (2012). Some items in the original scale were removed in the Turkish adaptation of the BSCS, and a 9-item form was obtained, four of which were in the self-discipline while the remaining 5 were in the impulsivity sub-dimension. The Cronbach's α values in this study were 0.47 (self-discipline), and 0.70 (impulsivity).

The Scale of Setting Life Goals with Respect to Positive Psychotherapy: The scale developed by Eryılmaz (2012) measures whether individuals set life goals in three areas. The explained variance of the three-dimensional scale, including career goals, relationship goals, and body-sense goals, is 65.32%. The Cronbach's α of the subscales in this study were 0.77 (career goals), 0.76 (relationship goals), and 0.62 (body-sense goals).

Goal Striving Scale: The scale developed by Eryılmaz (2015) consists of 17 items in 5-point Likert type. The scale consists of three sub-dimensions: commitment of goals, persistence of goal striving and goal give up. According to the results of the exploratory factor analysis, the total explained variance of the scale was found to be

61.05%. The factor loads of this scale vary between 0.55 and 0.81. Confirmatory factor analysis was performed for construct validity. According to the analysis results, the scale were found to have good construct validity (CFA: $\chi^2/df = 2.07$, NFI = .97, NNFI = .98, IFI = .98, CFI = .098, GFI = .94, AGFI = .92 and RMSEA = .051). The Cronbach's α values in this study were 0.88 (commitment of goals), and 0.83 (persistence of goal striving).

Internet Addiction Test: The scale was developed by Young (1998). The Turkish adaptation of the scale was carried out by Çakır Balta and Horzum (2008). As a result of the analysis, one item was removed from the 20-item scale because it reduced reliability, and it was determined that the remaining 19-item scale had a 3-factor structure. The lowest score to be obtained from the 5-point Likert scale is 19 and the highest score is 95. Those with a score of 19-48 are defined as "average Internet user", between 49-78 "occasionally problematic Internet use" and those with a score of 79 and above are described as "frequent problematic Internet use". The scale consists of three sub-dimensions: preferring to be online to daily life, wanting to increase the time to be online, and problems arising from being online. The Cronbach's α of the subscales in this study were 0.76, 0.70, and 0.54 respectively.

Procedures

Data Collection: The measurement tools were turned into a booklet, which includes informed consent and presented in electronic form through Google Forms. All data were collected through online measures owing to pandemic restrictions. The data collection process covers the months of December 2020 and January 2021. It took approximately 15 minutes to fill in the data collection tools. The present study has been carried out in accordance with the Helsinki Declaration and has been approved with the decree by the Istanbul Medipol University Ethics Council dated 19/12/2019.

Data Analysis: Data were analyzed using two-step structural equation modeling. The measurement model was tested in the first stage. The structural model was tested using maximum likelihood estimation after the measurement model was satisfactory. For structural equation modeling, the AMOS 21 computer software was used. IBM SPSS 21 was also used to conduct descriptive and correlation analyses. Sample size, multivariate normality, and multicollinearity were examined to evaluate the suitability of the data for structural equation modeling.

The following criteria were used for model fit values: χ^2 : (χ^2/df) <3, root mean square error of approximation (RMSEA): ≤ 0.08 , GFI (goodness fit of index) ≥ 0.90 , normed fit index (NFI) ≥ 0.90 , comparative fit index (CFI) ≥ 0.90 , and adjusted goodness of fit index (AGFI) ≥ 0.90 (Tabachnick & Fidell, 2013).

Baron and Kenny's (1986) approach was used to test the mediation effect of goal striving and self-control in the relationship between need satisfaction, life goals, and IA. Also, it was further examined by the bootstrapping method. A statistical significance interval is generated in this method by acquiring a certain number of samples from the sample within the scope of the research using the software (Shrout & Bolger, 2002). In this study, 1000 bootstraps were performed to calculate the bootstrap

coefficient and confidence intervals. The confidence intervals should not contain zero to evaluate the indirect effect is significant (Hayes, 2013).

Results

Descriptive Statistics

The skewness and Kurtosis values of the variables were examined for multivariate normality in the data set. Skewness coefficients between-.077 and 1.04, and Kurtosis coefficients between-.046 and 1.27. The mean, standard deviation values and correlation coefficients of the variables are presented in Table 2. Life goals, need satisfaction, goal striving, and self-control are positively correlated with each other, while all are negatively correlated with Internet addiction.

Measurement Model

The measurement model was first put to the test to evaluate if the indicators accurately represented each of the latent variables. The model consists of five latent factors (Internet addiction, life goals, need satisfaction, goal striving, and self-control) and 13 observed variables. The measurement model test indicated a good model fit: $\chi^2/df = 2.317$, $p < .05$; CFI = .93; AGFI = .90; GFI = .94; NFI = .90; RMSEA = .064 C.I. [.050, .079]. Factor loadings of all observed variables were significant (ranged .41 and .86, $p < .001$).

Table 2 Means, standard deviations and bivariate correlations among variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Autonomy	29.40	6.27													
2. Competence	28.11	5.69	.63*												
3. Relatedness	48.00	7.92	.42*	.48*											
4. Career goals	8.41	1.77	.15*	.25*	.16*										
5. Body goals	8.47	1.91	.14*	.15*	.08	.29*									
6. Relationship goals	7.74	2.28	.05	.10	.03	.30*	.23*								
7. Impulsivity	16.18	4.00	.35*	.37*	.12**	.13**	.19*	.02							
8. Self-discipline	13.57	2.60	.40*	.51*	.24*	.22*	.19*	.09	.47*						
9. CoG	19.55	3.65	.13**	.20*	.17*	.28*	.25*	.13**	.19*	.19*					
10. PiGS	15.98	2.60	.23*	.34*	.27*	.32*	.21*	.11**	.18*	.29*	.54*				
11. PRB	8.53	2.58	-.39*	-.29*	-.17*	-.14*	-.07	-.04	-.38*	-.25*	-.24*	-.32*			
12. IT	16.62	4.57	-.34*	-.23*	-.10	-.10	-.06	-.01	-.35*	-.31*	-.12*	-.26*	.66*		
13. PO	13.85	4.59	-.28*	-.18*	-.28*	-.09	-.007	-.12**	-.19*	-.17*	-.15*	-.22*	.56*	.52*	

Note. * $p < .01$; ** $p < .05$.; CoGS commitment of goals; IT wanting to increase the time to be online; PiGS persistence in goal striving; PO preferring to be online to daily life; PRB problems arising from being online

Structural Model

In the structural model, paths were established to reveal the statistical relationship, and the significance of the paths and the model's goodness-of-fit indices were examined at this stage, the model in which the mediating role of goal striving and self-control in the relationship between needs satisfaction, life goals, and IA was tested. Considering the goodness of fit indices of the structural model, it can be stated that all values are at an acceptable level; $\chi^2/df = 2.28$, $p < .05$; GFI = .94; CFI = .94; NFI = .90; AGFI = .90; RMSEA = .063.

As seen in Figure 2, the path from need satisfaction to IA and from life goals to IA were not found significant

($p > .05$). As a result of the analysis, it was found that there is a full mediation effect of self-control and goal striving between need satisfaction and IA. The direct effect of need satisfaction on IA was-.44 ($p < .001$). As a result of including self-control and goal striving as mediator variables in the model, this effect decreases to-.05 and the p-value becomes statistically insignificant ($p > .05$). Also, it was found that there is a full mediation effect of self-control and goal striving between life goals and IA. The direct effect of life goals on IA is-.20 ($p < .05$). As a result of including self-control and goal striving as mediator variables in the model, this effect becomes .17 and the p-value becomes statistically insignificant ($p > .05$).

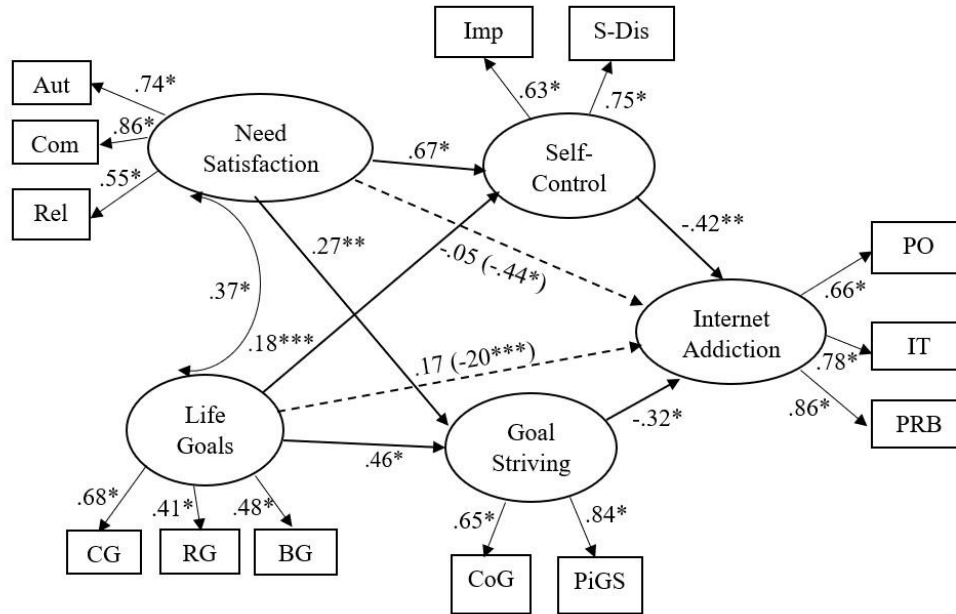


Fig. 2 Standardized factor loading for the structural model. Note. N = 320; *p<.001., **p<.01, ***p<.05; Aut autonomy; BG body goals; CG career goals; CoG commitment of goals; Com competence; Imp impulsivity; IT wanting to increase the time to be online; PiGS persistence in goal striving; PO preferring to be online to daily life; PRB problems arising from being online; Rel relatedness; RG relationship goals; S-Dis self-discipline.

Table 3 Direct, indirect and total effects

Dependent Variable	Independent Variable											
	Need Satisfaction			Life Goals			Self-Control			Goal Striving		
	1	2	3	1	2	3	1	2	3	1	2	3
Internet Addiction	-.05	-.37	-.42	.17	-.22	-.04	-.42	.00	-.42	-.32	.00	-.32
Self-Control	.67	.00	.66	.18	.00	.18	.00	.00	.00	.00	.00	.00
Goal Striving	.27	.00	.26	.46	.00	.46	.00	.00	.00	.00	.00	.00

1: Direct Effect; 2: Indirect Effect; 3: Total Effect

Bootstrapping

For the significance of the indirect effects in the structural model, we made 1000 bootstraps (resampling) and created the confidence intervals with lower and upper limits and the bootstrap coefficient. We found that self-control and goal striving both provided significant mediating pathways between need satisfaction and life goals to IA [effect = -.37; CI = (-.692, -.101); effect = -.22; CI = -.530, -.046].

The bootstrapping coefficients and the confidence intervals are shown in Table 4.

All indirect effects in the model are statistically significant at the .05 level, according to the bootstrapping coefficients and confidence intervals in the table 4. As a result, goal-setting and self-control were found to have full mediation effects in the relationship between need satisfaction and IA, as well as life goals and IA.

Table 4 Bootstrapping Results

Dependent Variable	Mediator	Independent Variable	Bootstrap coefficient	%95 CI
Internet Addiction	Self-Control Goal Striving	Need Satisfaction	-.37*	[-.692, -.101.]
Internet Addiction	Self-Control Goal Striving	Life Goals	-.22*	[-.530, -.046]

Discussion

In this study, the relationships between self-control, goal striving, Internet addiction, need satisfaction and life goals of university students were examined and findings showed that the association between IA, need satisfaction and life goals were fully mediated by self-control and goal striving. In other words, it has been statistically supported that university students who have life goals and satisfied basic psychological needs have higher levels of self-control and goal striving and that they are less likely to develop IA. The current research is the first to examine whether goal-striving and self-control play a role in the relationship between IA, life goals, and need satisfaction among university students.

First, it was established that goal striving and self-control were fully mediating the relationship between IA and need satisfaction. Need satisfaction had a negative indirect effect on IA via goal striving and self-control as mediators. The essential point in the impacts of striving and obtaining goals, according to self-determination theory, is to what extent individuals can satisfy their basic psychological needs while pursuing these goals (Deci & Ryan, 2000). It is important whether they choose the goals autonomously or under the influence of external circumstances in order to achieve their goals. Individuals who set goals autonomously strive until they reach them (Deci & Ryan, 2000). Previous studies show that goals and need satisfaction are related, in line with our results (Olčar et al., 2019; Ryan & Deci, 2000). Furthermore, it is recognized that individuals who have intrinsic goals that can satisfy their basic psychological needs have higher subjective well-being (Schmuck et al., 2000), which could be a protective factor against IA. When basic psychological needs are not met, individuals engage in maladaptive compensatory behaviors such as smoking, overeating, and self-harming (Schüler & Kuster, 2011; Vansteenkiste & Ryan, 2013; Williams et al., 2009). Vansteenkiste and Ryan (2013) suggest that these compensatory behaviors are caused by lack of self-control. In this direction, individuals experiencing need frustration may develop IA as a result of poor self-control abilities in online environments. Previous research showed that a low capacity for self-control is closely associated with symptoms of IA (Song & Park, 2019). Self-control failure in social networks, on the other hand, was revealed to be a mediator between need frustration and social networking site addiction by Chen et al. (2021), which is consistent with our findings.

Second, the findings confirmed the hypothesis by demonstrating that goal striving and self-control fully mediated the association between IA and life goals. Goal striving and self-control are crucial underlying mechanisms that explain why IA is linked to having life objectives. The function of the self-control system is to pursue the intended goals of individuals. It enables an individual to make purposeful choices, persist in challenging tasks and perform at an optimal level (Tangney et al., 2004). In addition, self-control can be improved by setting, monitoring and implementing goals (Inzlicht et al., 2014). Our findings, like those of Anić and

Tončić (2013), show that life goals positively impact on self-control in the sense that individuals with goals are more successful in self-control. The literature shows that life goals are one of the protective factors against addiction. Crumbaugh and Carr (1979) noted that alcoholics have a high prevalence of a loss of meaning and purpose in life, and concluded that increased life goals are effective in inpatient treatment for alcoholism (Crumbaugh & Carr, 1979). A low level of life goal has been found to predict future alcohol addiction and drug use (Carroll, 1993; Katsogianni & Kleftharas, 2015). The presence of life goals has been demonstrated to be a protective factor against Internet gaming disorder (Zhang et al., 2019). Life goals and IA had a negative relationship in our study, which is consistent with the literature. It might also be claimed that university students with life goals demonstrate high levels of self-control and goal striving, which reduces their potential to become addicted to the internet.

Although it is aimed to provide empirical evidence on the relationship between IA, need satisfaction, and life goals among Turkish university students through self-control and goal striving, there are numerous limitations to this study that should be noted. The sample's characteristics were the first limitation. The current study focused on Turkish university students, which limits the generalizability of the findings. Using diverse populations to promote generalizability could thus be beneficial. The data collection process was the second limitation. Different data collection methods may be used instead of self-report measures. The study's cross-sectional design, which makes causal inferences impossible, was the final shortcoming. Future research may use different designs for clarification of causal pathways.

Conclusion

To summarize, the present study revealed that both self-control and goal striving fully mediate the relationship between IA, need satisfaction, and life goals, allowing for a clearer understanding of the mediating mechanisms that underlie these relationships. This study is the first to propose a quantitative model which describes the relationship between need satisfaction, life goals, self-control, goal striving, and IA among university students. This article will contribute significantly to the literature regarding Internet usage in Turkey especially when the number of internet users are considered. As a result of understanding the mechanism underlying internet addiction, prevention and intervention studies can be carried out by preparing appropriate psychoeducational programs. To summarize, the present study revealed that both self-control and goal striving fully mediate the relationship between IA, need satisfaction, and life goals, allowing for a clearer understanding of the mediating mechanisms that underlie these relationships. This study is the first to propose a quantitative model which describes the relationship between need satisfaction, life goals, self-control, goal striving, and IA among university students. This article will contribute significantly to the literature regarding Internet usage in Turkey especially when the number of internet users are considered. As a result of understanding the mechanism underlying internet addiction, prevention and intervention studies can be

carried out by preparing appropriate psychoeducational programs.

Declarations

Ethics Approval and Consent to Participate

Ethics Committee Approval for the present study was obtained from Istanbul Medipol University Ethics Committee on the date of 19/12/2019. Informed consent of the students was obtained online before the application of the online questionnaire.

Consent for Publication

Not applicable.

Availability of Data and Materials

Data sets used and / or analyzed during the study can be obtained from the relevant author upon appropriate request.

Competing Interests

The author declares that no competing interests in this manuscript.

Funding

Not applicable.

Authors' Contributions

SG, developed the study's conceptual framework and hypotheses, participated in its design and coordination, collected the data, performed the statistical analysis, and drafted the manuscript. AE, helped conceptualize the study's aims and structure data collection, supervised the statistical analysis, participated in data interpretation, and helped write, review, and edit the article. All authors have read and approved the final version of the article.

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