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Social-emotional model of internet addiction

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ABSTRACT

Objective: The purpose of this study is to test the social-emotional model of internet addiction which was built by considering theoretical explanations and study results. For this general purpose, the following hypotheses have been tested: willingness to self-censor significantly, positively, and directly affects social anxiety, self-monitoring significantly, negatively, and directly affects social anxiety, social anxiety significantly, positively, and directly affects negative affection, negative affection significantly, positively, and directly affects daily internet use duration and internet addiction, daily internet use duration significantly, positively, and directly affects internet addiction.

Methods: The social-emotional model of internet addiction was applied on 330 university students. The Revised Self-Monitoring Scale, Willingness to Self-censor Scale, Social Anxiety Scale for Adolescents, Positive and Negative Affect Scale, Young Internet Addiction Test-Short Form, and Personal Information Form were used as data collection instruments. The covariance matrix and Maximum Likelihood method were conducted in testing the model.

Results: As a result of the analysis suggested hypotheses were confirmed and the proposed hypothetical model showed good fit [$\chi^2 = 100.435$, $df = 25$, $\chi^2/df = 4.017$, RMSEA = 0.096, GFI = 0.94, AGFI = 0.90, CFI = 0.94, IFI = 0.94, TLI (NNFI) = 0.91].

Conclusion: Willingness to self-censor and unable to self-monitoring causes social anxiety. Social anxiety increases negative affect. Negative affection causes Internet addiction through daily Internet use duration. Negative affection and the daily Internet use duration directly affect Internet addiction.

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KEYWORDS

Internet addiction; negative affection; social anxiety; self-monitoring; willingness to self-censor

Introduction

Although it has been 20 years since internet addiction has been considered conceptually, it has been the subject of many studies. While initial studies on internet addiction have been oriented to defining internet addiction and determining the differences between normal internet use and compulsive internet use, later studies have focused on the aetiology of internet addiction and the disorders related to internet addiction [1]. Today, meta-analytical, empirical, and theory testing based studies are being conducted. In the literature, internet addiction has been defined as pathological internet use [2], compulsive internet use [3], internet addiction disorder [4], problematic internet use [5,6], and excessive internet use [7].

Classifications of internet addiction have paved the way for various definitions. Kraut et al. define internet addiction as wasting too much time on the internet, using the internet compulsively, failing to manage the time spent while on the internet, feeling bored in times when not on the internet, decrease in real social interactions due to excessive internet use and being angry, and tense when failing to access the internet [8]. In a different definition, internet addiction is

referred to as the individual using the internet uncontrollably and as this use damaging the individual's functionality [9]. Another definition emphasizes that internet addiction is the state failing to control the internet use which causes damages in mental and social functioning [10,11]. The common feature underlined in the definitions of internet addiction is excessive internet use. The duration of internet use is considered as a crucial criterion in understanding internet addiction. The duration of internet use is underlined in six items of Young's eight item internet addiction diagnosis criteria list and in three items of Griffith's [12] six item internet addiction diagnosis criteria list [13]. Therefore, the time spent on the internet is crucial in understanding internet addiction. In the literature, it is emphasized that the time spent on the internet is a crucial factor affecting internet addiction [5,8,9,14]. The fifth hypothesis of this study was structured by considering the effects of internet use duration on internet addiction (H_5 : Daily internet use duration significantly, positively, and directly affects internet addiction).

Internet addicts use the internet to cope with depressive symptoms and to palliate psychological tension [15]. In other words, internet is used as a tool

in coping with emotional problems [16]. Weinstein et al. state that internet is used as a tool in coping with fear and anxiety [17]. With this respect, it can be said that daily life stress and negative affection directs the individual to virtual environments and the time spent on virtual environments cause internet addiction. However, two of Young's eight internet addiction diagnosis criteria are about emotions. These two diagnostic criteria [Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?; Do you use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g. feelings of helplessness, guilt, anxiety, depression?)] indicate that internet is used as a means for escaping from negative affections and that emotional problems such as feeling restless, moody, depressed, or irritable will occur when internet use is decreased or ceased [13]. The fourth hypothesis of this study was structured by considering study results which examined the relationship between internet addiction and negative affection and the theoretical explanations in the literature (H₄: Negative affection significantly, positively, and directly affects daily internet use duration and internet addiction).

There are many sources of negative affection. One of these is social anxiety [18]. Social anxiety causes the individual to feel a certain fear or anxiety in one or more social environments where he or she can be judged by others such as while having a conversation, coming across someone unfamiliar, during observation and making a presentation in front of others. A socially anxious individual fears from social environments due to thoughts such as being negatively judged by others, being humiliated, being degraded, being excluded, or because of upsetting someone [19]. Hence, social anxiety leads to stress reactions and negative affections in the individual [20]. Serious disorders occur in the functioning of an individual who is experiencing excessive social anxiety symptoms. Social incidences evoke anxiety, embarrassment, and in fact panic in socially anxious individuals. Thus, socially anxious individuals avoid social environments. Socially anxious individuals tend to display psychological symptoms such as fear, shyness, and panic along with physiological reactions such as sweating, nausea, blushing, shivering, fast heartbeat, and headache when they go into a social environment [19,20].

Kashdan and Roberts state that socially anxious individuals have high level of negative affection and low level of positive affection [18]. Social environments, conditions, and events are considered as crucial negative affection sources for socially anxious individuals [19,20]. Dilbaz emphasizes that social anxiety causes negative affections on individuals such as constantly fearing from situations where they can be judged by others, being insulted, embarrassment or fearing from being humiliated. Hence, socially anxious people have

excessive fear from being negatively criticized or insulted in social environments or situations where performance is required [21]. Accordingly, social anxiety can be considered as a crucial source of negative affection. The fourth hypothesis of this study was structured by considering study results which examined the relationship between negative affection and social anxiety and the theoretical explanations in the literature (H₃: Social anxiety significantly, positively, and directly affects negative affection).

Tomarelli and Shaffer underline that social anxiety is crucially affected by the self-monitoring skill. According Tomarelli and Shaffer, individuals with self-monitoring skills can easily adjust to the social environment and develop social relationships with other individuals [22]. This helps decreasing the symptoms of social anxiety. Similarly Wolfe et al. [23] emphasize that self-monitoring skills are an effective factor in decreasing the level of social anxiety. Lennox and Wolfe also state that social anxiety is highly and negatively related to self-monitoring. Findings of this first study examining the relationship between social anxiety and self-monitoring indicate that individuals with self-monitoring skills have low level of social anxiety symptoms [24]. Today, the treatment of social anxiety is carried out by increasing self-monitoring skills [25,26]. Hence, self-monitoring can be said to be a preventive factor for social anxiety. The third hypothesis of this study was structured by considering the relationship between self-monitoring and social anxiety (H₂: Self-monitoring significantly, negatively, and directly affects social anxiety).

It has been underlined that individuals who refrain from discriminatingly expressing their opinions in public are a risk group for social anxiety [27,28]. Thus, willingness to self-censor can be said to cause social anxiety. Willingness to self-censor is defined withholding of one's true opinion from an audience perceived to disagree with that opinion. A specific feature of willingness to self-censor is that when individuals discriminatingly remain quiet although there is a convenient environment for them to express their opinion. Avoiding arguments, anxiety about their feelings being hurt, losing their job, and being attacked are considered as abnormal cause self-censoring behaviours. When these behaviours become persistent the individual discriminatingly self-censors his or her own opinions [27,28]. Characteristics of willingness to self-censor cause social anxiety symptoms [27]. Socially anxious individuals may consciously chose not to express their opinions due to the fear of being degraded, being humiliated, being excluded by others, or because of upsetting someone [19]. These cognitions related to social anxiety indicate that social anxiety is critically affected by willingness to self-censor. It is emphasized in the literature that self-censorship is related to social anxiety [29,30]. The first hypothesis

of this study was structured by considering the effects of willingness to self-censor on social anxiety (H_1 : Willingness to self-censor significantly, positively and directly affects social anxiety).

There are various models in the literature that explain internet addiction. LaRose and Eastin's Social Cognitive Model [31], Kwon et al.'s Escape from Self Model [32], LaRose et al.'s Unregulated Internet Use Model [33], Davis's Cognitive Behavioral Model of Pathological Internet Use [34], Caplan's Cognitive-Behavioral Model [35], China Youth Association for Network Development's Neuropsychological Model [36], Greenfield's Compulsive Internet Use Model [37], Tokunaga and Rains's Problematic Internet Use Model [14], and Griffith's Biopsychosocial Model [12] are examples of models that explain problematic/pathological/compulsive internet use, internet addiction, or problematic internet use. The social-emotional model of internet addiction carries these complementary features. However, no studies on the concepts of self-monitoring, willingness to self-censor, social anxiety, negative affection, duration of internet use, and internet addiction have been found. It is considered that the social-emotional model of internet addiction will offer new perspectives for preventive and intervention studies on internet addiction. The social-emotional model of internet addiction suggests that internet addiction can be explained through the relationships between social-emotional structures. According to the model, internet addiction emerges due to the increase in daily internet use and in negative affection. Negative affection can also cause internet addiction by increasing the amount of daily internet use. According to the model, social anxiety is a crucial source of negative affection. Social anxiety is affected by self-monitoring and willingness to self-censor. The internet addiction social-emotional model is displayed in Figure 1 and the hypotheses (H) of the model are given below:

H_1 : Willingness to self-censor significantly, positively, and directly affects social anxiety.

H_2 : Self-monitoring significantly, negatively, and directly affects social anxiety.

H_3 : Social anxiety significantly, positively, and directly affects negative affection.

H_4 : Negative affection significantly, positively, and directly affects daily internet use duration and internet addiction.

H_5 : Daily internet use duration significantly, positively, and directly affects internet addiction.

Methods

Model of the study

This study is a descriptive study examining the relationships between self-monitoring, willingness to self-censor, social anxiety, negative affection, internet use, and internet addiction levels of adolescents. Authors declared that the research was conducted according to the principles of the World Medical Association Declaration of Helsinki "Ethical Principles for Medical Research Involving Human Subjects." In this study, Informed Consent was performed with reading Informed Consent Form by the researchers in the class environment.

Study sample

This study was carried out on university students at Firat University in 2015–2016 academic year. Research data were gathered in the classrooms where students were taught in with the Convenience Sampling method. The implementation was carried out by the researcher by explaining the purpose of the research, the method of implementation and the privacy-volunteering principles. Students who have used the internet for the last year have been included in the study. Non-volunteer students are excluded. Data were collected from 361 students at the end of the implementation. Sixteen subjects, which were filled in incomplete, wrong or inattentively in the revised forms and 15 subjects stating they never use the internet were excluded from the study. The data collected from 330 students were evaluated and the analyses were conducted on

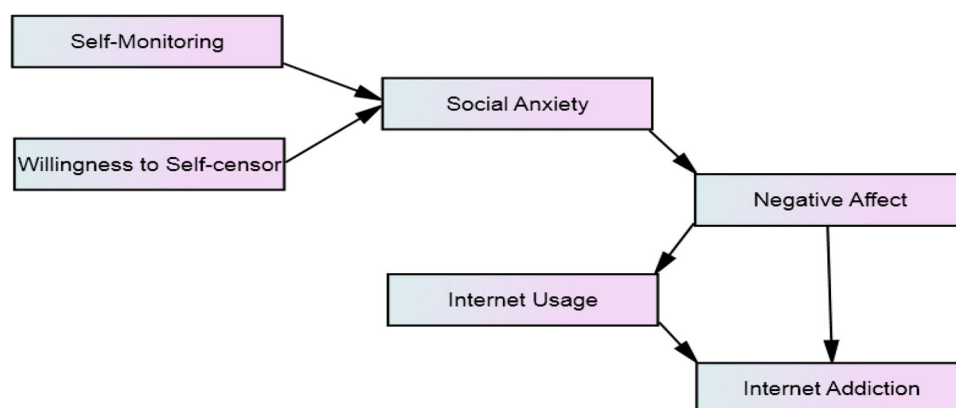


Figure 1. Social-emotional model of internet addiction.

this group. In the creation of the sample the number of variables observed is taken into account. According to this, five times of the observed variable was included in the research. It has been observed that the implementation lasts 25–30 minutes. This study was conducted on 252 (76.4%) female and 78 (23.6%) male, a total of 330 university students. The participants' age ranged between 18 and 22. One hundred and eighty-five (56.1%) participants study in year 1, 24 (7.3%) in year 2, 89 (27%) in year 3, and 32 (9.7%) in year 4. When the average daily internet use durations of the participants are considered, 45 (13.6%) participants use the internet less than one hour, 161 (48.8%) use it between 1–3 hours, 90 (27.3%) use it between 4–6 hours, and 34 (10.3%) use it 7 hours and over.

Measurements

In this study participants' self-monitoring, willingness to self-censor, social anxiety, positive and negative affect, and internet addiction level were measured respectively with Revised Self-Monitoring Scale (R-SM), Willingness to Self-Censor Scale (WTSC), Social Anxiety Scale for Adolescents (SAS-A), Positive and Negative Affect Scale (PANAS), and Young Internet Addiction Test-Short Form (YIAT-SF). These measurement tools are introduced below. In this study, each latent variable was measured on a scale.

Revised Self-Monitoring Scale

Self-monitoring in this study was measured with R-SM. R-SM which was developed by Lennox and Wolfe [24] and adapted into Turkish by Özalp-Türetgen and Cesur [38], consists of 12 items and two sub-scales titled ability to modify self-presentation and sensitivity to other people's expressive behaviours. R-SM is scored with a 6-point rating. According to the Exploratory Factor Analysis, the two factor structure of the 12 item R-SM accounts for 48.3% of the total variance. It was observed that the Cronbach Alpha coefficient of the scale was 0.80 and the test–retest reliability coefficient was 0.74. One item (I have difficulty in putting up a good front even if it is for my advantage) in the scale was reverse scored. High scores in the total score obtained from the R-SM scale and also the sub-scales indicate a high level of self-monitoring skill [38].

Willingness to Self-Censor Scale

Willingness to self-censor in this study was measured with WTSC. WTSC scale, which was developed by Hayes et al. [27] to measure the individual's willingness to self-censor, was adapted into Turkish by Coşkun et al. [39]. The Turkish Form of WTSC scale consists of eight items and one dimension. The WTSC scale has a 5-point Likert type grading. The one-factor structure of WTSC accounts for 44.94% of the total variance. The one-factor structure of WTSC was

examined through confirmatory factor analysis (CFA). Results related to the CFA ($\chi^2 = 55.91$, $df = 20$, $p = .00003$, $RMSEA = 0.09$, $RMR = 0.05$, $GFI = 0.95$, $AGFI = 0.90$, $NFI = 0.90$, and $CFI = 0.93$) show that the scale has a good fit. The internal consistency coefficient of the scale was observed to be 0.82 and the test–retest reliability coefficient 0.75. High scores obtained from the scale indicate high level of willingness to self-censor [39].

Social Anxiety Scale for Adolescents

Social Anxiety in this study was measured with SAS-A. SAS-A which adapted into Turkish by Aydın and Tekinsav-Sütçü [40], consists of a total of 22 items 4 of which are filler items. According to the factor analysis conducted by Aydın and Tekinsav-Sütçü, SAS-A consists of three factors, Fear for Negative Evaluation, Social Avoidance and Distress in New Situations, and General Social Avoidance and Distress, which account for 48% of the total variance. Reliability of SAS-A was examined through internal consistency and split-half methods. The internal consistency (Cronbach Alpha) coefficient of SAS-A was observed to be 0.88 and the split-half reliability coefficient 0.85. There are reverse scored items in the SAS-A scale. Four filler items were excluded from the scale during the analyses. High scores in the total score obtained from the SAS-A scale and also the sub-scales indicate a high level of social anxiety [40].

Positive and Negative Affect Scale

Negative affection in this study was measured with PANAS. PANAS which adapted into Turkish by Gençöz [41], consists of two sub-dimensions evaluating the positive and negative emotions of individuals. The scale consists of 20 items indicating 10 positive and 10 negative emotions. The internal consistency coefficient of the positive affect sub-scale was observed to be 0.83 and 0.86 for the negative affect sub-scale. The scores that can be obtained from the sub-scale range between 10 and 50. High scores obtained from the positive affect sub-scale indicate high level of positive affection; high scores obtained from the negative affect sub-scale indicate a high level of negative affection [41]. The 10-item negative affection sub-scale of the PANAS was used in this scale.

Young Internet Addiction Test-Short Form

Internet addiction in this study was measured with YIAT-SF. YIAT-SF is a 5-point Likert type scale consisting of 12 items. The Turkish adaptation of the YIAT-SF was applied on both adolescents and university students by Kutlu et al. [42]. According to the exploratory factor analysis, it was observed that the scale has a single factor for both adolescents and university students. The one-factor structures of the scale were tested through the CFA. It was observed that fit

index values related to the CFA have a good fit for both university students ($\chi^2 = 144.930$, $df = 52$, $RMSEA = 0.072$, $RMR = 0.70$, $GFI = 0.93$, $AGFI = 0.90$, $CFI = 0.95$, and $IFI = 0.91$) and adolescents ($\chi^2 = 141.934$, $df = 51$, $RMSEA = 0.080$, $GFI = 0.90$, $CFI = 0.90$, and $IFI = 0.90$). The Cronbach Alpha reliability coefficient was observed to be 0.91 for university students and 0.86 for adolescents. The test-retest reliability values were observed to be 0.93 for university students and 0.86 for adolescents. High scores obtained from the scale indicate high level of internet addiction. There are no reverse score items in the scale [42].

Statistical analysis

Study data were analysed through the AMOS 20.0 and SPSS version 20.0 for Windows. Before the analyses, the prerequisites multicollinearity, normality, outliers, and sample size of the structural models were examined. According to the analyses, it was evident that the skewness and kurtosis coefficients were at acceptable ranges (+1, -1) in social sciences, that there were no outliers in the data set, that the correlation values (must be less than 0.90) do not lead to multicollinearity problems, that VIF (must be less than 10) and tolerance values (must be greater than 0.10) do not lead to a multicollinearity problem and that the sample consisting of 330 participants is at a sufficient size [43]. With respect to these indicators, the covariance matrix and Maximum Likelihood methods were used in testing the proposed hypothetical model. Relations between variables in the structural equation model (SEM) are tested with a causal approach. SEM is a combination of factor analysis and regression analysis. SEM consists of two parts as measurement model and structural model [44]. According to Anderson and Gerbing, measurement models are the initial stages of SEM. Before structural model testing, each latent variable must be tested with the measurement model and well-fitting latent variables should be included in the structural model [45]. Structural models are used to test of the theoretical models or to test hypotheses of the proposed hypothetical model [44]. Whether or not the proposed hypothetical model is confirmed was examined

through the χ^2/df , RMSEA, GFI, AGFI, CFI, IFI, and TLI (NNFI) fit indices. Acceptable values related to the fit indices are given in Table 1.

Results

Correlation values

Correlation values related to the variables self-monitoring, willingness to self-censor, social anxiety, negative affection, and internet addiction are given in Table 2.

When correlation values of the latent variables in Table 1 are considered, it is evident that the relationships between negative affection and self-monitoring total score ($r = -0.10$, $p > .05$), Internet use and willingness to self-censor ($r = -0.02$, $p > .05$), social anxiety total ($r = 0.10$, $p > .05$), Internet addiction and self-monitoring total ($r = -0.03$, $p > .05$) are not significant. All the other binary correlations apart from these relationships are significant.

Conclusions related to the measurement model

Before testing the social-emotional model of internet addiction, the measurement model of each variable was tested through CFA to determine whether or not the scales of the latent variables measure up to be included in the structural model. With this respect, R-SMS, WTSCS, PANAS (Negative Affection sub-scale), and YIAT-SF first level and SAS-A second level were tested through CFA. Analysis results indicated that R-SMS [$(\chi^2/df = 2.657$, $RMSEA = 0.071$; $GFI = 0.94$, $CFI = 0.93$, $IFI = 0.93$, TLI (NNFI) = 0.91)], WTSCS [$(\chi^2/df = 1.945$, $RMSEA = 0.054$; $GFI = 0.97$, $CFI = 0.95$, $IFI = 0.95$, TLI (NNFI) = 0.92)], PANAS (Negative Affection sub-scale) [$(\chi^2/df = 4.851$, $RMSEA = 0.108$; $GFI = 0.92$, $CFI = 0.91$, $IFI = 0.91$, TLI (NNFI) = 0.87)], YIAT-SF [$(\chi^2/df = 3.464$, $RMSEA = 0.087$; $GFI = 0.92$, $CFI = 0.92$, $IFI = 0.92$, TLI (NNFI) = 0.90)], and the SAS-A measurement model [$(\chi^2/df = 2.629$, $RMSEA = 0.070$; $GFI = 0.89$, $CFI = 0.92$, $IFI = 0.92$, TLI (NNFI) = 0.90)] have acceptable level of fit with their data [except for PANAS (Negative Affection sub-scale) RMSEA and TLI (NNFI) values]. These findings show that the scales are sufficient to be included in the structural model.

Table 1. Goodness of fit indices and acceptable limits.

Indices	Acceptable limits
χ^2/df	≤ 5 Acceptable fit, ≤ 3 perfect fit (Kline, 2005; Sumer, 2000)
RMSEA	≤ 0.10 Weak fit, ≤ 0.08 good fit, ≤ 0.05 perfect fit (Sumer, 2000; Tabachnick & Fidell, 2001)
GFI	≥ 0.90 good fit (Sumer, 2000)
CFI	≥ 0.90 acceptable fit, ≥ 0.95 good fit (Hu & Bentler, 1999; Sumer, 2000)
IFI	≥ 0.90 acceptable fit, ≥ 0.95 good fit (Hu & Bentler, 1999)
TLI (NNFI)	≥ 0.90 acceptable fit, ≥ 0.95 good fit (Hu & Bentler, 2001; Tabachnick & Fidell, 2001)

Note: As cited in Savci and Aysan [46].

Table 2. Correlations between the variables.

	1	2	3	4	5	6
1. Self-monitoring total	1					
2. Willingness to self-censor	-0.20**	1				
3. Social anxiety total	-0.25**	0.47**	1			
4. Negative affect	-0.10	0.22**	0.38**	1		
5. Internet use	0.11*	-0.02	0.10	0.20**	1	
6. Internet addiction	-0.03	0.16**	0.43**	0.43**	0.51**	1

* $p < .05$.

** $p < .01$.

Conclusions related to the proposed hypothetical model

The social-emotional model of internet addiction was tested through the Maximum Likelihood method by taking into consideration that the model meets the prerequisite criteria multicollinearity, multivariate normality, outliers, and sample size of the structural models. The covariance matrix was used in the Maximum Likelihood method.

According to the analysis results, the t values of the proposed hypothetical model range between -3.359 and 19.047 and all paths are statistically significant at 0.001 value. The fit indices of the hypothetical model were observed to be $\chi^2 = 100.435$, $df = 25$, $\chi^2/df = 4.017$, $RMSEA = 0.096$, $GFI = 0.94$, $AGFI = 0.90$, $CFI = 0.94$; $IFI = 0.94$, $TLI (NNFI) = 0.91$. These findings suggest that the social-emotional model of internet addiction has acceptable fit values. The path analysis of the hypothetical model is given in Figure 2.

Effect size was considered while evaluating the direct effects related to the proposed hypothetical model. Hence, values below 0.10 are considered as small effect, values around 0.30 are considered as moderate sized effect, and values at 0.50 and above are considered as big (wide) effects [44]. When the direct effects related to the variables of the social-emotional model of internet addiction are considered, the -0.20 standardized regression coefficient between self-monitoring and social anxiety indicates that self-monitoring negatively affects social anxiety and that the effect size between the two variables is small. Willingness to self-censor positively affects social anxiety. The value of standardized regression coefficient 0.47

between these two variables indicates a moderate effect size. Social anxiety positively affects negative affection. The value of 0.41 standardized regression coefficient between social anxiety and negative affection indicates a moderate effect size between the two variables. Negative affection positively affects daily internet use duration. It was observed that the standardized regression coefficient between the two variables was 0.20 . This value indicates small effect size. The value of 0.34 standardized regression coefficient between negative affection and internet addiction indicates that negative affection positively affects internet addiction and that there is a moderate size effect between the two variables. Finally, it was observed that daily internet use duration and internet addiction is positively related and that the standardized regression coefficient between the two variables is 0.45 . The standardized regression coefficient between daily internet use duration and internet addiction indicates a moderate effect size. In the social-emotional model of internet addiction, self-monitoring and willingness to self-censor accounts for 0.26 variance on social anxiety; social anxiety accounts for 0.17 variance on negative affection; negative affection account for 0.4 variance on daily internet use duration; daily internet use duration and negative affection account for 0.37 variance on internet addiction. The analysis results of the proposed hypothetical model are presented in Table 3.

When examined in Table 3, all the ways in the social-emotional model of internet addiction are significant. These results show that hypothesis of the social-emotional model of internet addiction is confirmed.

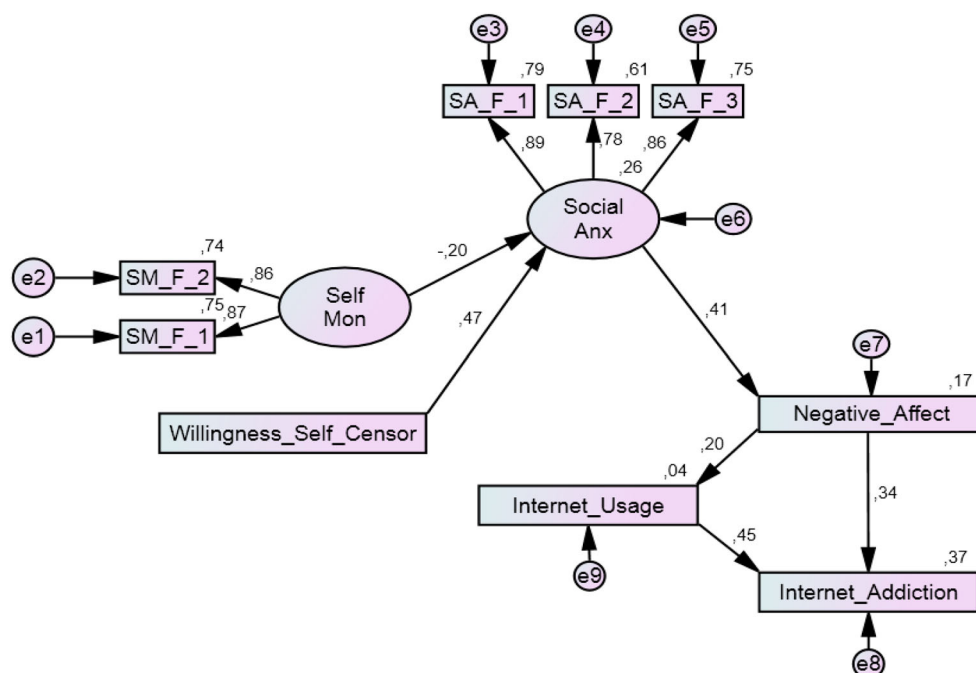
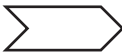



Figure 2. The path diagram related to the social-emotional model of internet addiction.

Table 3. Proposed hypothetical model's standardized regression values, *t* values and explained variance.

	λ	<i>t</i>		R^2
Social anxiety \leftarrow self-monitoring	-0.20	-30.359***		0.26
Social anxiety \leftarrow willingness to self-censor	0.47	80.879***		
Negative affect \leftarrow social anxiety	0.41	70.377***		0.17
Internet use \leftarrow negative affect	0.20	30.64***		0.04
Internet addiction \leftarrow negative affect	0.34	70.534***		0.37
Internet addiction \leftarrow internet use	0.45	100.053***		
SM_F_2 \leftarrow self-monitoring	0.86			0.74
SM_F_1 \leftarrow self-monitoring	0.87	40.670***		0.75
SA_F_1 \leftarrow social anxiety	0.89			0.79
SA_F_2 \leftarrow social anxiety	0.78	160.767***		0.69
SA_F_3 \leftarrow social anxiety	0.86	190.047***		0.75

****p* < .001

Discussion

The social-emotional model of internet addiction can be examined in three sections. The effect of self-monitoring and willingness to self-censor on social anxiety was examined in the first section. It was observed in this section that self-monitoring negatively and willingness to self-censor positively affects social anxiety. The effects of social anxiety on negative affection were examined in the second section of the model. In this section, it was observed that social anxiety positively affects negative affection. In the final section of the study, the effects of negative affection on daily internet use duration, of daily internet use duration on internet addiction and of negative affection on internet addiction through daily internet use duration were tested. According to this section, it was observed that negative affection positively affects daily internet use duration, daily internet use duration positively affects internet addiction and negative affection positively affects internet addiction through daily internet use duration. When considered as a whole, it is evident that the social-emotional model of internet addiction has acceptable fit index values.

It was observed that the strongest effect in the social-emotional model of internet addiction was between willingness to self-censor and social anxiety. Willingness to self-censor increases social anxiety. Willingness to self-censor prevents entering in social environments and being involved in social situations. This causes the individual to avoid social environments and situations [27,28]. Avoiding social environments and situations is one of the diagnosis criteria of social anxiety [47–49]. According to Hyde and Ruth, individuals who self-censor tend to increase this behaviour in environments where personal issues are discussed, when they are unprepared and in wide social environments [50]. Hyde and Ruth underline that shyness is a specific characteristic of individuals who self-censor [50]. Hayes et al. and Hayes et al. emphasize that the idea of personally, socially, and professionally being harmed is an important factor for self-censoring behaviour. Factors causing self-censor behaviours and the characteristics of individuals who self-censor are closely

related to social anxiety [27,28]. However shyness, avoiding personal sharing, being caught unprepared, wide social environments, the thought of being harmed or offended are considered as factors causing social anxiety [19,48,51]. With this respect, it can be said that willingness to self-censor is a pre-stage for social anxiety.

The second strongest effect in the social-emotional model of internet addiction was observed to be between daily internet use duration and internet addiction. Duration of internet use is considered as a crucial criterion in diagnosing internet addiction. Using the internet excessively so as to damage functioning is a crucial indicator of addiction [8,9,12,13]. Young highlights that excessive internet use leads to sleeping disorders, extreme fatigue, job and academic functioning disorders, relationship problems, physical problems related to excessive computer use and internet addiction [52]. Excessive internet use does not lead to addiction in every individual. Excessive internet use can be considered as a risk factor for internet addiction. Thus, excessive internet use causing damage on functioning is a discriminant factor for addiction. Duration of internet use is more significant with respect to the purpose of internet use. Kim and Kim emphasize that individuals who are and who are not internet addicts use the internet with different purposes [53]. According to Kim and Kim, internet addicts use the internet to watch movies, listen to music, play computer games, to chat and access to porno websites; individuals who are not internet addicts use the internet for acculturation and communicate [53]. Hence, the relationship between duration of internet use and internet addiction can be better explained through the purposes of internet use.

The relationship between social anxiety and negative affection was observed to be the third strongest effect in the social-emotional model of internet addiction. Social anxiety leads to negative affection. Affections such as fear, anxiety, and restlessness are specific characteristics of social anxiety. Socially anxious individuals avoid and are distressed of social situations and environments due to their fear of being negatively evaluated, disdained, and excluded

by others. Fear and avoidance leads to excessive distress. Socially anxious individuals also avoid and are distressed about general and new social environments [19,48,51]. Ollendick and Hirshfeld-Becker emphasize that social anxiety causes feelings such as avoidance, negative evaluation, failure, insult, shyness, and incompetency [54]. Thus, social anxiety can be considered as a critical risk factor for negative affection.

The fourth strongest effect in the social-emotional model of internet addiction was observed to be between negative affection and internet addiction. According to Odabaşoğlu et al., mood disorders are common among internet addict individuals [55]. Mood disorders are considered as crucial criteria in diagnosing internet addiction. Individuals who are addicted to internet use the internet to cope with daily life stress and negative emotions. In other words, the internet is used as a tool to withdraw from negative affections [12,13]. Griffiths underlines that the addictive drug or activity in both chemical and behavioural addictions is used as a comforting tool against the tension and stress caused by negative affection [12]. With this respect, internet addiction can be considered to be closely related to affections. Studies have put forward that internet addiction is related to depression [56–59], distress [60], happiness [42], hostility [61], irritation and anger [13], loneliness [62,63], shyness [64,65], fear [66], and bipolar disorder [58]. In addition, according to Savci and Aysan, among the attachment style (secure, dismissive, fearful, and preoccupied), peer relationships (companionship, conflict, help, security, and closeness) and positive–negative affection variables negative affection makes the most significant contribution to internet addiction [67].

Job, education, social relationship, and financial factors in daily life cause various negative affections. Individuals of generations where internet did not exist preferred real social environments in coping with these affections. However, today, an alternative coping solution is preferred: virtual environments. With this respect, Ögel stated [68] that internet offers a new alternative for socialization: Virtual socialization. Virtual environments offer individuals to hide their identities, to have fun, to isolate themselves from problems and conflicts and to be the person they want. Hence, virtual platforms are perceived as shelters for escaping from daily life stress and negative affection. This causes the individual to life in the internet, in other words tend towards problematic/pathological/compulsive internet use or become an internet addict. In this context, according to Savci and Aysan technological addictions cause the weakening of social connectedness [69].

It was observed that in the social-emotional model of internet addiction, negative affection positively affects daily internet use duration. The effect of negative affection on daily internet use duration was suggested to be the smallest effect in the model.

Negative affection increases the duration of internet use. Negative affection can also cause internet addiction by increasing the amount of daily internet use. The effect of negative affection on daily internet use duration is lower than its effect on internet addiction. These findings can be considered as significant. However, every individual using the internet cannot be considered as having negative affection. On the other hand, an individual with internet addiction is expected to have negative affection [12,13]. Negative affection is considered as a diagnosis criterion for internet addiction. Thus, this can be the reason why the effect of negative affection on daily internet use duration is lower than its effect on internet addiction.

It was observed that one of the other smallest effects in the social-emotional model of internet addiction was between self-monitoring and social anxiety. Self-monitoring negatively affects social anxiety. Snyder states that individuals who self-monitor have awareness on whether or not self-presentation is socially appropriate, are careful about the clues of social information necessary for self-presentation, have the competence to change and monitor their behaviours and tend to perform their behaviour-monitoring skills in various situations. Individuals with self-monitoring skills are not expected to display social anxiety symptoms. These individuals have the competence to adjust themselves to different social environments based on the clues of social information. Thus, they do not experience excessive anxiety and fear of how to behave in social environments [70]. On the other hand, socially anxious individuals are not competent in adjusting themselves to different social environments. New social environments are sources of anxiety and fear for socially anxious individuals. Socially anxious individuals also have difficulty in following the clues of social information [19,51]. The effect of self-monitoring on social anxiety is one of the two smallest sized effects in the model. This can be explained by the fact that every individual who does not (cannot) self-monitor does not experience social anxiety. Individual who do not (cannot) self-monitor believe a person should behave as they are, are placid in different social situations and are not careful about whether self-presentation is socially appropriate or not [70]. These indicate that every individual who does not (cannot) self-monitor does not experience social anxiety. However, self-monitoring can be considered to have preventive effects against social anxiety.

Conclusions

The social-emotional model of internet addiction offers new alternatives for explaining internet addiction. According to the model, self-monitoring and willingness to self-censor affects social anxiety, social anxiety affects negative affection, negative affection affects

daily internet use duration, daily internet use duration affects internet addiction and negative affection affects internet addiction. The model being tested on a non-clinical sample, the convenience sampling method being used and latent variables being evaluated with self-presentation scales can be considered as the limitations of the study. The social-emotional model of internet addiction is supported with longitudinal and qualitative researches. The model can be tested again by including the purposes of internet use. Finally, the model can be tested again on a clinical sample and on various age groups.

Disclosure statement

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