The Relationship between Loneliness and Depression: Mediation Role of Internet Addiction

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Abstract

The aim of this study is to examine the mediation role of internet addiction in the relationship between loneliness and depression. 452 university students (241 women, 211 men) ranging in age from 17 to 31 and who are receiving education in different faculties at Firat University in Turkey participated in the study. UCLA Loneliness Scale, Young Internet Addiction Test Short Form, and Indication Scanning List was applied to the participants. The data were analyzed with correlation, regression, hierarchical regression analysis, and Sobel Z test. According to correlation analysis, there are relations in a positive way among loneliness, depression, and internet addiction. In reference to regression analysis, loneliness predicts internet addiction and depression. However, internet addiction also predicts depression as well. As a result of hierarchical regression analysis to determine the mediation role of internet addiction, it was monitored that internet addiction has partial mediation in the relation between loneliness and depression. In addition to that, it was confirmed that this mediation predicts at a significant level with Sobel Z Test. The findings of the study demonstrate a partial mediation role of internet addiction in the relation between loneliness and depression. According to this result, it can be stated that loneliness and internet addiction are risk factors for depression. In terms of studies on depression, the results of this study can be taken into consideration.

Introduction

One of the primary needs of humans, as social beings, is to be able to enter into relationships with other individuals (Dogan, Cetin, & Sungur, 2009; Ryan & Deci, 2000). Individuals feel lonely when their relationships with others are not at the desired levels and this feeling of loneliness makes them feel unhappy especially during their youth (Teppers, Luckyx, Klimstra, & Goossens, 2014). Studies have shown that loneliness is related to stress, social phobia, depression, shyness, and self-perception (Doane & Thurston, 2014; Ozen, 2016; Koenig & Abrams, 1999; Moore & Schultz, 1983, as cited in Karadas, 2014; Turkmen, 2016; Zhang et al., 2014). Individuals who generally experience loneliness also have low social relationship skills (Storch & Masia-Warner, 2004). Thus, loneliness can be considered as an undesired individualization (Weiss, 1973). In other words, if the individual is exposed to solitude even though he or she doesn't want to, then this is defined as loneliness. In a study conducted on students who applied for psychological assistance, it was observed that there is a moderate level of relationship between students' loneliness and depression levels (Ceyhan & Ceyhan, 2011).

Depression is a syndrome with symptoms such as worthlessness, collapse, pessimism, indifference, and deep sorrow (Ozturk, 2004). Thus, a high level of the feeling of loneliness is thought to stimulate depressive symptoms. Individuals who have difficulty in entering the desired level of face-to-face relationships resort to various solutions to eliminate their loneliness. The internet is one of the methods chosen by individuals to overcome loneliness. Although internet usage brings some benefits for the individual at the outset, as the frequency of use increases over time, it turns into an addiction (Arisoy, 2009). Just like other addictions, internet addiction also harms the quality of life of the individual. Studies have emphasized that individuals who overuse the internet display more aggressive behaviors and encounter various problems during their daily lives (Ceyhan, 2011; Kim, Choi, & Yoo, 2010). Depression is one of the conditions linked to internet addiction. Studies have put forward that there is a relationship between internet addiction and depression (Batigun & Kilic, 2011; Whang, Lee, & Chang, 2003).

It is evident in these statements that loneliness is related to both internet addiction and depression. In addition, when the relationship between loneliness and depression is considered, it can be asserted that internet addiction can have a mediator role in the relationship between loneliness and depression. In other words, it is predicted that individuals who are lonely will be internet addicts with higher rates and thus experience even more depressive feelings. The purpose of this study is to examine the mediation role of internet addiction in the relationship between loneliness and depression. Although there are many studies which examine the relationships between loneliness and internet addiction, internet addiction and depression, and loneliness and depression, there were no studies found which focused on the mediation role of internet addiction in the relationship between loneliness and depression. Thus, this study is thought to have significant contributions to the field.

Methodology

This is a descriptive study designed with the screening model. The purpose of this study was to examine the relationship between loneliness and depression levels of university students studying in various departments during 2015-2016 academic terms, and to determine the mediation role of internet addiction in this relationship. As the nature of descriptive studies requires, the conditions were examined based on their present states (Buyukozturk, Kilic-Cakmak, Akgun, Karadeniz, & Demirel, 2013). When the purpose of the study was considered, it was concluded to use the descriptive research model in this study. The research model is displayed in Figure 1.

Figure 1. Research Design
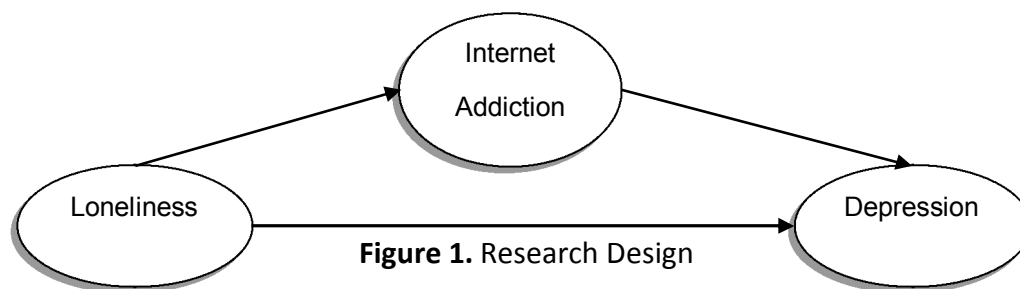
Hypotheses of the study are as follows;

- H_1: Loneliness positively affects depression,
- H_2: Loneliness positively affects internet addiction,
- H_3: Internet addiction positively affects depression,
- H_4: Internet addiction has a mediation role in the relationship between loneliness and depression.

This study was conducted on 452 (241 females, 211 males) university students between the ages 17-31 who were studying in various departments of Firat University in Turkey during 2015-2016 academic terms. Convenience sampling method (Teddlie & Yu, 2007) was used in the study. The following data collection instruments were used in the study:

UCLA Loneliness Scale: The scale was developed by Russell, Peplau, and Ferguson (1978) and adapted into Turkish by Demir (1989). The one-dimensional scale consists of 20 items. The scale has four degrees and 10 of the items (1., 4., 5., 6., 9., 10., 15., 16., 19. and 20.) are reverse scored High scores obtained from the scale indicate an increase in the level of loneliness. The internal consistency coefficient of the scale was .94 and the test-retest reliability coefficient was .96.

Young Internet Addiction Test Short Form (YIAT-SF): The scale, developed by Young (1998) and changed into a short form by Pawlikowski, Altstötter-Gleich, and Brand (2013), was adapted into Turkish by Kutlu, Savci, Demir, and Aysan (2016). The scale consists of 12 items and has a 5-point Likert-type design. The Explanatory and Confirmatory factor analyses results indicate that the scale has a single factor structure for both teenage groups and university students. High scores obtained from the scale indicate high levels of internet addiction. The Cronbach alpha reliability coefficient for university students was found to be .91, and test-retest reliability was .93.

Symptom Check List (SCL-90-R): The scale, developed by Derogatis (1977) and adapted into Turkish by Dag (1991), consists of 90 items and nine different symptom dimensions. The items regarding the dimension of "depression" were used in this study. Validity and reliability tests indicated that the scale is a valid and reliable psychiatry screening tool for the university sample.

The scales were conducted on the university students in the classrooms in which they studied, and the evaluation took 15-20 minutes. The collected data of the study were analyzed with SPSS version 18 statistical software. The assumptions required for the hierarchical regression analysis were tested before the analysis process, and the data were observed to confirm the normal and linearity assumptions. The analyses were conducted after this confirmation.

Findings

Correlation Analysis, Simple, and Hierarchical Regression Analyses are given in this section.

Table 1. Correlations between Depression, Internet Addiction, and Loneliness

	1	2	3
Depression (1)	1		
Internet Addiction (2)	.350**	1	
Loneliness (3)	.396**	.273**	1

According to the correlations between depression, internet addiction, and loneliness (Table 1), there is a positive and moderate level significant relationship between depression and internet addiction (r= -.350, p<.01) and loneliness (r= .396, p<.01), and a positive and low level significant relationship between internet addiction and loneliness (r= 273, p<.01).

Table 2. Simple Linear Regression Analysis Results on the Relationships between Depression, Internet Addiction, and Loneliness

	Predictor	Predicted	B	Ss	β	t	R	R^2	ΔR^2	p
Proc. 1	Loneliness	Internet Addiction	.369	.061	.273	6.013	.273	.074	.072	.000
Proc. 2	Internet Addiction	Depression	.289	.037	.350	7.922	.350	.122	.120	.000

When the R^2 value in Table 2 is considered, it is evident that loneliness explains 7.4% [F(1,450) = 36.151; p< .001] of internet addiction's total variance, and internet addiction explains 12.2% of depression's total variance [F(1,450) = 62.762; p< .001].

Table 3. Results of Hierarchical Regression Analysis on Predicting the Mediation Role of Internet Addiction in the Relationship between Loneliness and Depression

Variables	B	Standard Error	β	t	F
1. Stage Loneliness	.443	.048	.396	9.157**	83.843
2. Stage Loneliness	.363	.048	.325	7.505**	63.399
Internet Addiction	.216	.036	.261	6.030**	

Predicted Variable: *Depression;*
1. Stage; R= .396, R^2= .157, Corrected R^2= .155 (p< .001)
2. Stage; R= .469, R^2= .220, Corrected R^2= .217 (p< .001)

The final procedure in testing the mediation role was the hierarchical regression analysis. The effect of loneliness on depression was examined in the first stage of the hierarchical regression analysis and it was observed that loneliness explained 15.7% of depression F(1, 449)= 83.848, p=.000) and a statistically significant relationship was detected (β=.396, t=9.157, p=.000). When internet addiction was included in the second stage of the hierarchical regression analysis, it was observed that the effect of loneliness on depression (β=.325, t=7.505, p=.000) decreased [R^2=.220, ΔR2=.217, F(2,449) = 63.399, p=.000]. Baron and Kenny (1986) underline that it will have a full mediation role when the relationship is eliminated or that it will have a partial mediation role when the relationship is decreased significantly. These findings suggest that internet addiction has a partial mediation role in the relationship between loneliness and depression (Sobel z=4.045, p=.00). The mediation role of internet addiction in the relationship between loneliness and depression is displayed in Figure 2.

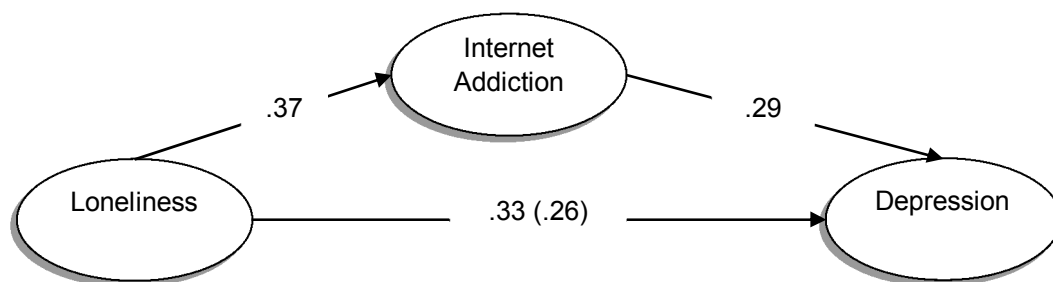**Figure 2.** Mediation Role of Internet Addiction in the Relationship between Loneliness and Depression

Conclusion and Discussion

The relationships between depression, loneliness and internet addiction were examined in this study and it was observed that there are positive significant relationships between them. Thus, there is a positive relationship between depression and loneliness. The findings of the hierarchical regression analysis, conducted to predict depression, are similar to the results of many studies found in the literature (e.g., Aylaz, Akturk, Erci, Ozturk, & Aslan,

2012; Bozoglan, Demirer, & Sahin, 2013; Holvast et al., 2015; Horman, Hansen, Cochian, & Lindsey, 2005; Morgan & Cotten, 2003; Sasmaz et al., 2014).

According to the study results, loneliness positively and significantly predicts internet addiction and internet addiction predicts depression in the same way. The relationship between loneliness and depression can be partially explained by internet addiction. The feeling of loneliness emerges due to an undesired individualization an individual is exposed to (Weiss, 1973). Lonely individuals are those whose relationships with other individuals are not at the desired levels and who are not content with the situation (Peplau & Perlman, 1982; Teppers et al., 2014).

Individuals who experience a deep feeling of loneliness seek various ways to avoid these situations and to compensate for their loneliness. These solutions can sometimes be valid and individuals can tend to socialize more in order to eliminate their loneliness. These solutions can sometimes lead individuals into difficult situations such as the adoption of undesired habits. When internet usage is considered as a solution for the loneliness that individuals experience, the reason why lonely individuals prefer the internet more can be detected. The Internet, which the individual initially uses as a solution for his or her loneliness, can turn into an addiction as it is used more and more over time and can lead to undesired problems when unavailable, just as in the case of other addictions (Griffiths, 2005; Kelleci, Guler, Sezer, & Golbasi, 2009). However, studies suggest that loneliness predicts internet addiction (Esen & Siyez, 2011; Morahan-Martin & Phyllis, 2000). Studies also underline that individuals whose internet addiction levels are high, have higher depressive tendencies than individuals with low internet addiction levels (Batigun & Kilic, 2011).

Researchers also emphasize that addictions are effective in developing depressive tendencies and that internet addiction is a crucial factor in explaining depression (Clark, Frith, & Demi, 2004; Young, 1997). A study on adolescents suggests similar results and states that when compared with other individuals, individuals who use the internet frequently have higher levels of depressive tendencies (Kelleci et al., 2009). It is obvious in these statements that individuals who experience a deep feeling of loneliness have a higher risk of internet addiction. It is also observed that individuals who are internet addicts display depressive tendencies more than individuals who are not internet addicts. In conclusion, this study suggests that internet addiction has a partial mediation role in the relationship between loneliness and depression.

As with all studies, there were several drawbacks in this current study too. The fact that only internet addiction's mediation role in the relationship between loneliness and depression was tested and that other variables weren't tested is considered a crucial restriction. Another restriction of the study was that the study was conducted on students from only one university. Using various mediation variables in studies which assess mediation and conducting the study on different sample groups would further contribute to the field. When the fact that internet addiction affects depressive tendencies is considered, it can be concluded that practices in decreasing internet addiction will contribute to decreasing depressive tendencies of individuals.

Notes

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