



# Predictors of Internet Addiction in Middle Adolescence: Social and Emotional Loneliness and Digital Gaming

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## ABSTRACT

*The research aims to determine how much Internet addiction, an important problem in middle adolescence, is explained by social and emotional loneliness and digital game-playing duration. For this purpose, 283 (108 females+175 males) middle-adolescent individuals participated in the study. "Personal Information Form," "Social and Emotional Loneliness Scale (SELSA)," and "Internet Addiction Scale (IAS)" were used as data collection tools in the research. The data collected online were coded and transferred to the SPSS program, and descriptive statistics, Pearson correlation, and Regression techniques were used in statistical analysis. In the study, the level of significance was taken as  $p < .05$ . According to the results of the analysis, there is a low, significant, and positive correlation between SELSA and IAS and a low, significant, and positive correlation between SELSA and digital game playing duration and a low, significant, and positive correlation was found between IAS and the duration of playing digital games. It was determined that the statistical analysis results did not show a significant difference in the gender variable of the IAS and SELSA scores. As a result of the regression analysis, it was seen that SELSA and digital game-playing duration significantly predicted addiction. SELSA and digital game-playing duration explain 9.6% of the total variance regarding Internet addiction. As a result, it can be said that individuals in middle adolescence experience social and emotional loneliness at a moderate level and are connected to the Internet at a low level.*

## INTRODUCTION

Adolescence is a period in which age ranges should be carefully considered. Considering that age differences cause significant changes in cognitive, affective, and psychomotor areas during adolescence, the importance of the subject can be better understood. Determining the adolescence period with wide age ranges reduces the possibility of measuring the changes in the field with precision. In adolescence, which is considered one of the most important periods in human development, the evaluation of a child who can be seen at the stage of play and an adult individual who is seen as having a say in the future of the country in the same class will make it difficult to determine the characteristics of the period. Therefore, the research was built on the theme of adolescence to understand better the changes in

affective, cognitive and psychomotor areas for adolescence. When the literature is examined, it is seen that academic studies in recent years have focused on adolescence periods (early, middle, and late) rather than adolescence ([Turan, 2021](#); [Gnams, 2021](#); [Murray and friends, 2021](#); [Kulakov and friends, 2021](#); [Uzun ve Boyalı, 2020](#); [Uzun and friends, 2020](#)).

Adolescence is when the individual, between childhood and adulthood ([Kulaksızoğlu, 2014](#)), shows rapid and continuous development ([Yavuzer, 2013](#)). However, there are different classifications for the age ranges of adolescence, expressed as between childhood and adulthood. While the World Health Organization (WHO) accepts adolescence as the age range of 10-19, UNICEF defined the 10-14 age range as early adolescence and the 15-19 age range as late adolescence ([UNICEF, 2011](#)). When the literature is scanned, it is seen that researchers make different classifications on adolescence periods. The early adolescence period is between the ages of 11-13 for girls and between the ages of 12-14 for boys. Middle adolescence; indicated the ages of 13-16 for girls and 14-17 for boys. The adolescence period is a period in which sexual, bodily, social, and emotional changes are experienced, and these changes the individual; It is stated that it causes communication difficulties ([Yavuzer, 2007](#)), experiencing tension, being depressed, and feeling lonely ([Aral and friends, 2006](#); [Karapınar, 2011](#); [Nalwa and Anand, 2003](#)).

The individual experiencing the feeling of loneliness, on the other hand, seeks different environments to escape from these and similar problems. Adolescents, who see themselves as socially separate from a group, try to eliminate this feeling of loneliness through the Internet in virtual environments so that they can become Internet addicts over time ([Ögel, 2012](#)). Internet addiction is defined as the inability to prevent excessive Internet use, irritability when deprived of the Internet, the insignificance of the time spent without the Internet, and the deterioration of the individual's social life over time ([Young, 2004](#)). It is stated that being addicted to the Internet has a linear correlation with social isolation and loneliness ([Caplan, 2002](#); [Shields and Behrman, 2000](#)). Apart from these, it is stated that digital game addiction is a subtype of Internet addiction ([Young, 2000](#)).

Adolescents who are in the socialization process ([Öztürk, 2007](#)) become lonely for various reasons, try to overcome this loneliness with digital games, and tend to use the Internet excessively as of the period ([Cao & Su, 2007](#); [Johansson & Götestam, 2004](#)) and what extent digital gaming pushes adolescents to Internet addiction has brought the question. It is known that Internet addiction has become an important problem, especially in the 12-18 age group ([Öztürk and others, 2007](#)). Internet addiction, 12.6% between the 12-18 ages (Doğan, 2013) and 10.1% in another study conducted with individuals between the ages of 14-20 ([Günüç & Kayri, 2010](#)). This study aims to determine how much Internet addiction, an important problem in middle adolescence, is explained by social and emotional loneliness and digital game-playing duration.

## **METHODS**

### ***Research Model***

The research was designed with the "correlational survey model," one of the quantitative approaches. The correlational survey model is expressed as studies in which "the correlation between two or more variables is examined without intervening in any way" ([Büyüköztürk and friends, 2013](#)).

### ***Research Group***

The research group comprises 283 (108 females+175 males) adolescents determined by convenience sampling. Information about the students is given in Table 1.

**Table 1. Demographic Information**

<b>Variables</b>	<b>Subgroups</b>	<b>Frequency</b>	<b>%</b>
Gender	Male	175	61.8
	Female	108	38.2
Age	13	8	2,8
	14	41	14,5
	15	79	27,9

Variables	Subgroups	Frequency	%
	16	85	30
	17	70	24,7
Digital Gaming Duration Per Day	0-2 hours	83	29,3
	3-5 hours	152	53,7
	6 hours and above	48	17
<b>Total</b>		283	100

When the demographic information of the participants whose percentage values were higher than the other groups was examined, it was determined that 61.8% were male, 30% were 16 years old, and 53.7% had 3-5 hours of playing digital games during the day.

### Data Collection Tools

"Personal Information Form," "Social and Emotional Loneliness Scale," and "Internet Addiction Scale" were used as data collection tools. Detailed information about data collection tools is given below.

### Personal Information Tool

The "Personal Information Form" created by the researchers was used to determine some demographic information about the students. This form aims to reach information such as gender, age, and digital game-playing duration of students.

### Social and Emotional Loneliness Scale

The SELSA scale, created by [Di Tommaso, Brannen, and Best \(2004\)](#) adapted into Turkish by [Çecen \(2007\)](#) with 15 items and three sub-dimensions. The scale is a 7-point Likert-type self-assessment scale, and statements ranging from "not completely suitable for me" to "completely suitable for me" are scored. The reliability studies of the scale showed that the internal consistency coefficient for emotional loneliness was 0.83, 0.76 for family sub-dimension, and 0.74 for social loneliness.

According to the test-retest reliability measurements, the test-retest reliability of emotional, family, and social correlations subscales was found to be .91, .83, and .88, respectively. In the analysis made within the scope of this research, information about the scale is given in Table 2.

**Table 2. Distribution of Scale Scores**

Dependent Variable	Number of Items	Average	Skewness	Kurtosis	Cronbach Alpha
SELSA	15	3,57	-,254	-,362	,73

It is seen that the total average score of the participants from the SELSA scale is 3.57. The Cronbach Alpha reliability coefficient of the scales was calculated as 0.73. The fact that the skewness and kurtosis values are in the range of  $\pm 1$  provides the necessary prerequisite for the normal distribution.

### Internet Addiction Scale

It was developed by [Kimberly Young \(1996\)](#) and adapted into Turkish by [Bayraktar \(2001\)](#). The scale is a one-dimensional, 5-point Likert-type scale with 20 questions. Its reliability was .91 for Cronbach Alpha and .87 for the Spearman-Brown value. In the analysis made within the scope of this research, information about the scale is given in Table 3.

**Table 3. Distribution of Scale Scores**

Dependent Variable	Number of Items	Average	Skewness	Kurtosis	Cronbach Alpha
IAS	20	2,23	,628	,530	,86

It is seen that the total average score of the participants in the IAS is 2.23, respectively. Therefore, the Cronbach Alpha reliability coefficient of the scale was calculated as .86. The fact that the skewness and kurtosis values are in the range of  $\pm 1$  provides the necessary prerequisite for the normal distribution.

**Data Collection**

The questions in the exploration were made ready by transferring them to the online terrain via Google forms. On the morning of the form, detailed explanations about the purpose and significance of the exploration were given, and a voluntary participation concurrence button was added. Data were collected from scholars who read the information and freely agreed to share in the exploration. Necessary warrants were attained from the authorities, and the parent concurrence form was filled out to collect the data. On the morning of the study, necessary warrants( NumberE-19928322-100-188974) are attained from the Ethics Committee.

**Data Analysis**

The data collected in the online terrain were enciphered and transferred to the SPSS 25 program, and the normalcy distribution was examined. In the analyses, the skewness and kurtosis data values were taken into account, and it was determined that the values attained were in the range of -1 1. Therefore, these values were accepted as suitable for normal distribution (Tabachnick & Fidell, 2013). Descriptive statistics, Pearson correlation, and Retrogression fashion were used in statistical analysis. In the study, the position of significance was taken as  $p < .05$ .

**RESULTS**

The correlations between the variables were tested in this part of the research. In addition, the effects of SELSA and digital playtime score averages on Internet addiction were examined.

**Table 4. Unrelated Samples T-Test Results Regarding the Gender Variable**

Scales	Groups	N	Average	SS.	sd	t	p
SELSA	Female	108	2,14	,92	281	1,616	,10
	Male	175	2,29	,99			
IAS	Female	108	3,45	,75	281	1,719	,87
	Male	175	3,64	,70			

When Table 4 is examined, it has been determined that statistical analysis results do not show a significant difference in gender variables in IAS and SELSA scores ( $p > .05$ ).

**Table 5. Results of the Pearson Correlation Test**

		IAS	Digital Game Playing Duration
SELSA	r	,247**	,152*
IAS			,238**

\* $p < .05$ , \*\* $p < .001$

Table 5 observed that there was a low, significant, and positive correlation between SELSA and IAS ( $r = .247, p = .000$ ). It was determined that there was a low, significant, and positive correlation between SELSA and the duration of digital game playing ( $r = .152, p = .01$ ). In addition, it was determined that there was a low, significant and positive correlation between IAS and digital game playing duration ( $r = .238, p = .000$ ).

**Table 6. Multiple Regression Test Results**

Variable	B	Std. Error	$\beta$	t	p
Stabil	1,235	,183	---	6,76	,000

	SELSA	,162	,04	,216	3,76	,000
Digital Game Playing Duration		,223	,06	,205	3,57	,000
R= ,32	R <sup>2</sup> <sub>adj</sub> = ,096					
F <sub>(2,280)</sub> = 15,89	p = ,000					

As a result of the regression analysis, it was seen that SELSA and the duration of playing digital games predicted Internet addiction ( $F_{(2,280)}=15,89$ ,  $p<,001$ ) significantly. When the values are examined, SELSA and digital game-playing duration explain 9.6% of the total variance regarding Internet addiction.

## DISCUSSION

The research aimed to investigate the effects of SELSA and digital playtime score averages on Internet addiction, and the correlations between the variables were examined. When the findings obtained from the research are examined in terms of gender variable, It was determined that the mean scores of SELSA and IAS did not differ significantly. Although there was no difference, the mean scores of male participants in the study were higher than that of females. Due to the widespread use of digital technologies in today's age, it is thought that the easy access of male and female adolescents to the Internet does not cause a significant difference in Internet addiction score averages. In addition, it is thought that having this technology contributes to adolescents' communication and being included in friend groups, even in the social environment, and there is no significant difference in social and emotional score averages. However, females help their mothers with housework in line with the traditional understanding of society at home. Compared to males, and therefore they do not have the opportunity to spend time in Internet cafes as much as males, which has an impact on their being lower Internet addiction score averages than males; Since they stay at home longer than males, they can stay away from friend groups more than males.

This situation is thought to affect the higher scores of males in social and emotional loneliness score averages. Looking at the related studies in the literature: In the research conducted by [Anlayışlı and Serin \(2019\)](#), it was determined that the level of Internet addiction did not differ significantly in gender. In some studies, it was observed that results similar to our study findings were obtained ([Bernardi and Pallanti, 2009](#); [Kim and friends, 2006](#)). Some studies concluded that the mean score of males was significantly different from that of females ([Morahan-Martin and Schumacher, 2000](#); [Bakken and friends, 2009](#); [Chou and friends, 2005](#); [Krajewska-Kulak and friends, 2011](#)). In the research by [Gökçearsan and Günbatar \(2012\)](#) examining Internet addiction in secondary school students, it is stated that there is a significant difference between the gender variable and the Internet addiction score, and this difference is due to the high scores of males. The level of Internet addiction showed a significant gender difference, and it was determined that the average scores of males were higher than females. Social and emotional loneliness score averages do not differ significantly between genders. When the literature is examined, it is seen that there are study results that support the study findings ([Ekinçi and friends, 2019](#); [Cassidy and Asher, 1992](#)). However, some studies' results were obtained contrary to the findings of the studies ([Güler-Yılmaz, 2012](#); [Sarçam, 2011](#); [Duyan and friends, 2010](#)).

When the correlation analysis results of IAS, SELSA, and digital game-playing duration were examined, the statistical analysis determined a positive and low-level significant correlation between IAS and SELSA and digital game-playing duration. According to the results of the regression analysis, it is seen that SELSA and digital game-playing duration explain the total variance of Internet addiction with a slice of 9.6%. Again, if we look at the related studies in the literature: In the study carried out by [Traş \(2019\)](#) in adolescent groups, it was determined that loneliness has a significant predictive effect on Internet addiction. In another study carried out by [Ekinçi and others \(2021\)](#) on primary school students, it was observed that there was a positive low-level significant difference between individuals' digital game addiction and loneliness levels.

According to the findings obtained in the study by [Seo and others \(2009\)](#), which aimed to examine the effect of Internet addiction on interpersonal problems in adolescent groups, it was determined that there was a moderately positive correlation between the level of Internet addiction and daily game playing duration and asocial behaviors. According to the results of the multivariate logistic regression analysis carried out by [Ustinaviciene and others \(2016\)](#) between Internet addiction and gaming variables, it was determined that Internet addiction differs significantly in terms of the type of game

played and the duration of playing the game. In the research, the participants were compared to the logic games of the action and others. It is stated that adolescents who play computers for 5 hours or more are more likely to be Internet addicted than their peers while participating in games that include movements increases the probability of Internet addiction. According to the regression analysis results conducted by [Kuss and others \(2013\)](#), the tendency toward online games significantly predicts Internet addiction. The research determined that playing online games for each additional hour per week increased the probability of being Internet addicted by 2.3%, while addicted adolescent groups were found to play online games for significantly more hours compared to non-addicted groups.

## CONCLUSION

The individuals in middle adolescence experience social and emotional loneliness at a moderate level and are connected to the Internet. Males, on the other hand, experience less social and emotional loneliness compared to females and are more dependent on the Internet. In addition, it can be said that individuals who are socially and emotionally lonely and have a long time to play digital games are more likely to be addicted to the Internet. The research shows that the effect of Internet addiction can also be examined; it can be associated with areas such as aggression, anger, and violence and can be carried out based on other periods in which adolescence is classified.

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The authors declare no funding and conflicts of interest for this research.

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