


## Investigation of the effect of social media addiction levels of university students on virtual environment loneliness levels

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Suggested citation: Özsat, K., Işıktas, S. & Şenol, H. (2022). Investigation of the effect of social media addiction levels of university students on virtual environment loneliness levels. *Journal Of Educational Technology & Online Learning*, 5(4), 1030-1040

Highlights	Abstract
<ul style="list-style-type: none"><li>In the study, it was concluded that there was a positive and moderately significant relationship between social media addiction and virtual environment loneliness level.</li><li>It was revealed that variables such as gender, department of education and place of residence did not affect the level of social media addiction.</li><li>Duration of social media usage and memberships to virtual dating sites have been found to have an effect on the level of virtual environment loneliness.</li><li>Participants who spend 2-3 or more hours on social media and had memberships to virtual dating sites had higher levels of virtual environment loneliness than other participants.</li></ul>	<p>The aim of the study is to examine the effect of social media addiction levels of university students on virtual environment loneliness levels. The sample of the study consists of 379 university students selected by purposeful sampling method studying in the TRNC in the 2021-2022 academic year. In the study, Socio-Demographic Information Form, Social Media Addiction Scale and Virtual Environment Loneliness Scale were used as data collection tools. In the study, it was concluded that there was a positive and moderately significant relationship between social media addiction and virtual environment loneliness level. In the study, it was revealed that variables such as gender, department of education and place of residence did not affect the level of social media addiction. Duration of social media usage and memberships to virtual dating sites have been found to have an effect on the level of virtual environment loneliness. Participants who spend 2-3 or more hours on social media and had memberships to virtual dating sites had higher levels of virtual environment loneliness than other participants. Also, it will be useful to investigate the methods of combating social media addiction and its psychological effects on students.</p>

**Article Info:** Research Article

**Keywords:**

*Social media, Social media addiction, Virtual environment loneliness*

### 1. Introduction

The Internet is recognized as an important technological revolution in today's world when it comes to meeting the needs of individuals. It has become an indispensable part of human life because it facilitates the daily lives and access of individuals to information. With the use of the internet, individuals can easily handle many things that require physical strength and economic cost with minimum effort. This

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This study was partly presented as a proceeding at the 2<sup>nd</sup> International Conference on Educational Technology and Online Learning held between 23-26 June 2022.

functionality of the Internet provides many benefits and brings with it a number of negativity. These adversities have led to the development of a new type of addiction today.

Addiction is defined as the physical attachment to a substance, the desire of the individual to take more than the time and dose that should be used and the inability to prevent his feelings, thoughts and impulses in the face of this desire (Holden, 2001; Çakıcı et al., 2019). Although social media addiction is not accepted as a psychological disorder, it is seen that it stands out as a behavioral disorder when observed in general terms (Griffiths & Szabo, 2014; Kuss & Griffiths, 2011).

When the studies on social media addiction are examined, it is observed that the researchers have made studies by integrating internet addiction into social media addiction (Lazarte et al., 2019; Martončík & Lokša, 2016). It is stated that social media users access social media platforms over the internet, so these two addictions are related to each other. Studies show that internet use is a large part of individuals' lives and that individuals try to meet their needs such as socialization, entertainment, shopping, communication through social media platforms (Pittman & Reich, 2016; Stokes, 2013; Özdemir, Kuzucu & Ak, 2014).

While individuals can determine their own boundaries in virtual environments and develop relationships more easily away from social anxiety, it is seen that when they feel any difficulty or pressure in real life, they may have difficulty coping with it, they may feel lonely and they can direct to the virtual environment again in order to eliminate their feelings of loneliness. When the factors that cause the formation of social media addiction are examined, it is clear that the feeling of loneliness is an important factor and that social media addiction has many negative effects on individuals, especially virtual environment loneliness. In this context, the aim of this study is to examine the effect of social media addiction levels of university students on virtual environment loneliness levels.

## 2. Literature

### 2.1 Social Media

Technological developments in today's world have affected many areas as well as the field of communication. The most important source is undoubtedly the internet. The internet, which was first used in 1970, increased the speed of use in 1990. In the early 2000s, social media was involved in this process and enabled many individuals to become internet users (Yılman, 2020). Social media; is a set of public or semi-open services where people can create their own contact lists and connect with other individuals within the framework of certain rules (Ellison et al., 2007). According to another definition, social media applications are web-based applications that enable individuals to create their own unique profiles, interact with different social media users, share individuals with common interests and list individuals they want to communicate with (Boyd, 2014; Vural, Bat & Mikail, 2010). On social media platforms, there are many social networks such as social networking applications (e.g. Facebook), photo sharing platforms (e.g. Flickr), video sharing platforms (e.g. Youtube), business networking sites (e.g. LinkedIn), micro-blogging sites (e.g. Twitter). Such sites make it easy for billions of people to interact with each other (Whiting & Williams, 2013). Social media is the platform where the use of the internet can be evaluated in the best way in terms of being able to be constantly renewed, developed, used collectively and shared in virtual technology. Social media has become an important part of the lives of millions of people around the world, causing changes in individuals' social habits and daily routines. It is known that individuals prefer social media platforms in line with their interests and needs. It is possible to say that these platforms, which allow individuals to find answers to their questions, are functional due to such features. These features are derived from social media's own technology and take their current form (Holotescu & Grosseck, 2012).

### 2.2 Virtual Ambient Loneliness

#### 2.2.1 The concept of loneliness

The developments recorded in our day, the changing world order and the differentiating values are the dynamics that affect the daily relationships of individuals. All these dynamics bring along many advantages both individually and socially and cause some negativity. In this context, the phenomenon of loneliness is considered as a current problem that we encounter in all societies. Although the feeling of loneliness affects individuals in all age groups, it affects individuals especially in adolescence and young adulthood, where bilateral relations and social acceptance are most important. (Gençtan, 1999). In the most general terms, the concept of loneliness is defined as "a negative emotional state that arises as a result of the change between both individual and social relations that the person has" (Pittman & Reich, 2016). Loneliness was defined as the inability of a person to communicate and interpersonal relationships that cause feelings of emptiness, and unhappiness (Asher and Paquette, 2003), a feeling in which people experience inadequate social relationships due to social constraints (Booth, Barlett and Bohnsack, 1992). It arises when healthy interpersonal communication and close relationships cannot be developed (Booth, 2000) and due to a lack of dynamics such as closeness, sincerity, and emotionality in people-people relationships (Weiss, 1973).

### *2.2.2 Virtual Environment Loneliness*

Today, the internet has penetrated every aspect of life. Individuals have started to meet many of their needs through the virtual environment. Individuals prefer to communicate and interact with other individuals through virtual environments rather than face-to-face in cases where they want to solve their problems, share all their positive and negative emotions, relieve their loneliness, etc., (Özdemir, Kuzucu & Ak., 2014). Individuals in virtual environments cannot take part in society because they cannot exhibit any physical behavior in these environments and they move away from society day by day (Korkmaz, Kurt & Usta, 2014). As a result of the long periods spent in the virtual environment, it is seen that individuals socialize through these platforms, and they are isolated from real life and become lonely over time. Kabaklı (2018) states that as the time individuals spend on the internet increases, their social relations are disrupted, they have difficulty in fulfilling their responsibilities and they may start to have problems in their personal relationships. Özdemir, Akçakanat & İzdüngen (2017) states that individuals develop an idea that they socialize on social media platforms, but on the contrary, they are not aware that both their social and personal relationships are weakening. It is stated that individuals can determine their own boundaries in virtual environments and that they can develop relationships more easily away from social anxiety, while they may have difficulty coping with any difficulty or pressure in real life, they may feel lonely and turn to the virtual environment again to eliminate their feelings of loneliness (Morahan-Martin & Schumacher, 2003). In this context, it is clear that the concepts of social media addiction and virtual environment loneliness are related concepts (Batigün & Hasta, 2010).

## **3. Methodology**

### *3.1. Research Model*

In the study, relational screening model, which is a quantitative research design, and cross-sectional research design, which is a descriptive research type, were used. The relational screening model is defined as the screening approach that aims to determine the presence of co-change between two and more variables. In this model, if the variables change together, researchers try to determine how this change happens. These are studies in which the relationship between cause and effect in a certain period of time is considered together (Karasar, 2011).

### *3.2. Data Collecting Tools*

In the study, Socio-Demographic Information Form, Social Media Addiction Scale and Virtual Environment Loneliness Scale were used as data collection tools. In the study, the Social Media Addiction Scale developed by Aylin Tutgun Ünal (2015) and the Turkish validity and reliability study conducted by

Ünal (2015) was used to determine the social media addiction levels of the participants. This scale consists of 41 items with 5 Likert type and four-factor structure. All factors explained 59% of the total variance. Cronbach's alpha value, which is the internal consistency coefficient of the scale, was found to be, 967. In addition, the “Virtual Environment Loneliness Scale” developed by Korkmaz, Usta and Kurt (2014) and a Turkish validity and reliability study conducted by Korkmaz, Usta and Kurt (2014) was used to determine the virtual environment loneliness levels of the participants. It is a 5-point Likert-type scale consisting of 20 items that can be grouped under three factors. The Cronbach's alpha values of the scale are between 0.614 and 0.842.

### 3.3. Sampling or Study Group

This study aimed to examine the effect of social media addiction levels of university students on virtual environment loneliness levels. To reach this aim, 379 university students were selected by purposeful sampling method studying in the Turkish Republic of Northern Cyprus (TRNC) in the 2021-2022 academic year. The purposeful sampling allows for 'detailed consideration of situations that are assumed to have rich knowledge'. In this respect, purposeful sampling is effective in identifying and explaining various facts and events (Yıldırım and Şimşek, 2016).

### 3.4. Data Analysis

Statistical Package for Social Sciences (SPSS) 26.0 software was used to statistically analyze the research data. The distribution of university students according to their socio-demographic characteristics was determined by frequency analysis and descriptive statistics were used to evaluate the scores of Social Media Addiction and Virtual Environment Loneliness Scales.

### 3.5. Research Procedures

Before the data collection, the participants were informed by the researcher about the purpose of the research, its scope, the limits of confidentiality, and how to respond to the scale items. Ethical permission was obtained from Cyprus University of Health and Social Sciences before the data collection.

### 3.6 Findings and Discussions

**Table 1.**  
Distribution of students according to their socio-demographic characteristics

	Number (N)	Percentage (%)
<b>Gender</b>		
Female	217	57,26
Male	162	42,74
<b>Faculty</b>		
Health sciences	127	33,51
Humanities and social sciences	105	27,70
Dentistry faculty	88	23,22
Physical education faculty	59	15,57
<b>Grade</b>		
1.	92	24,27
2.	97	25,59
3.	75	19,79
4.	115	30,34
<b>Place of residence</b>		
Dormitory	50	13,19
Home	269	70,98

Other	60	15,83
<b>Daily social media usage time</b>		
Less than 2 hours	154	40,63
3-6 hours	155	40,90
More than 7 hours	70	18,47
<b>Membership in virtual dating sites</b>		
No	242	63,85
Yes	137	36,15
<b>Daily stay in virtual chat environments</b>		
1hour or less	219	57,78
2-4 hours	117	30,87
More than 4 hours	43	11,35

In Table 1, the distribution of the participants according to their socio-demographic characteristics is given. When Table 1 is examined, 57.3% of the participants are female and 42.7% are male, 33.5 % are in the School of Health, 27.7% are in the Faculty of Social Sciences and Humanities, 23.2% are in the Dentistry, 15.6 % are in the departments affiliated to the School of Physical Education and Sports and 30.3% are in the 4th Grade, 25.6% in 2. grade, 24.3% in 1. grade and 19.8% are in the 3rd grade level.

71 % of the participants live at home with their families, 13.2 % in the state dormitory, 12.4% alone at home, and 15.8 % live in other places. It is seen that 40.6% of the participants use social media less than 2 hours, 40.9% spend 3-6 hours and 18.5% spend more than 7 hours on social media daily.

In Table 1, it was seen that 63.85% of the participants did not have any membership to virtual dating sites, while 36.15% had membership, 57.78% stayed in virtual chat environments for 1 hour or less, 30%, 87% stayed for 2-4 hours and 11.35% stayed more than 4 hours.

**Table 2.**  
Students' Social Media Addiction Scale and Virtual Loneliness Scale scores

	N	$\bar{x}$	S	Min	Max
Social Media Addiction Scale	379	93,86	35,89	41	205
Virtual Environment Loneliness Scale	379	46,59	15,26	20	98

In Table 2, descriptive statistics are given regarding the Social Media Addiction Scale and Virtual Environment Loneliness Scale scores of the participants included in the research. When Table 2 was examined, the participants received an average score of  $93.86 \pm 35.89$  points from the Social Media Addiction Scale and an average score of  $46.59 \pm 15.26$  from the Virtual Media Loneliness Scale.

**Table 3.**  
Comparison of Social Media Addiction Scale scores of participants according to their socio-demographic characteristics

	n	$\bar{x}$	S	Min	Max	t / F	p	Difference
<b>Gender</b>								
Male	217	94,02	34,58	41	205	0,102	0,919	
Female	162	93,64	37,68	41	205			
<b>Faculty</b>								
Health sciences	127	99,03	39,28	41	205	2,325	0,075	
Humanities and social sciences	105	90,73	29,74	41	172			
Dentistry	88	87,50	35,75	41	205			
Physical education	59	97,78	37,23	41	171			
<b>Grade</b>								

1.	92	94,87	30,99	41	205	0,613	0,607	
2.	97	89,88	40,17	41	205			
3.	75	96,93	32,15	41	205			
4.	115	94,41	38,13	42	205			
<b>Place of residence</b>								
Dormitory	50	90,18	23,12	41	167	2,443	0,088	
Home	269	92,49	37,57	41	205			
Other	60	103,05	35,92	41	205			
<b>Daily social media usage time</b>								
Less than 2 hours	154	73,34	28,73	41	143	72,937	0,000*	1-2
3-6 hours	155	100,55	30,28	41	205			1-3
More than 7 hours	70	124,17	34,74	54	205			2-3
<b>Membership in virtual dating sites</b>								
No	242	85,05	31,30	41	172	-6,712	0,000*	
Yes	137	109,42	38,23	41	205			
<b>Daily stay in virtual chat environments</b>								
1 hour or less	219	82,16	30,80	41	172	40,790	0,000*	1-2
2-4 hours	117	103,85	34,23	41	205			1-3
More than 4 hours	43	126,26	36,96	54	205			2-3

\* $p < 0,05$

In table 3, Mann–Whitney  $U$  test results are presented which is used to determine the difference between the social media addiction levels of the participants. In Table 3, it was concluded that there was no significant difference between the social media addiction scores of the participants according to their gender ( $p > 0.05$ ). Similarly, there was no significant difference between participants' social media addiction scores and their grade levels ( $p > 0.05$ ). On the other hand, as a result of the Kruskal Wallis test conducted to determine whether there is a significant difference between the faculty where individuals study and their social media addiction levels, it was seen that there was no significant difference between the faculty they studied and their social media addiction scores ( $p > 0.05$ ). Kruskal Wallis test was applied to determine whether there was a significant difference between where individuals live and their social media addiction levels, and it was found that there was no statistically significant difference between where individuals lived and their social media addiction scores ( $p > 0.05$ ).

As a result of the Kruskal Wallis  $t$  test, which was conducted to determine whether there was a difference in the social media addiction levels of individuals in terms of their daily social media usage time, it was found that the social media addiction scores of individuals differed significantly according to their daily social media usage time ( $p < .05$ ).

As a result of the bilateral comparison made to determine which groups caused the difference, it was seen that the social media addiction scores of individuals who used social media for less than 2 hours on a daily basis were lower than individuals who used social media 3-6 hours and more than 7 hours on a daily basis.

As a result of the Kruskal Wallis  $t$  test, which was conducted to determine whether there was a difference in the social media addiction levels of individuals in terms of membership status to virtual dating sites, it

was found that the social media addiction scores of individuals showed a statistically significant difference according to their membership status to virtual dating sites ( $p < 0.05$ ).

According to this difference, the social media addiction scores of individuals who are members of virtual dating sites are higher than individuals who do not have membership to virtual dating sites. As a result of the Kruskal Wallis t test, which was conducted to determine whether there was a difference in the social media addiction levels of individuals in terms of daily stay in virtual chat environments, it was found that the social media addiction scores of individuals differed significantly in terms of daily stay in virtual chat environments ( $p < 0.05$ ). It was determined that the social media addiction scores of participants who spend less than 1 hour in virtual chat environments are lower than those who spend 2-4 hours and more than 4 hours in virtual chat environments.

**Table 4.**

Comparison of Virtual Environment Loneliness Scale scores of participants according to their socio-demographic characteristics

	<b>n</b>	<b><math>\bar{x}</math></b>	<b>S</b>	<b>Min</b>	<b>Max</b>	<b>t / F</b>	<b>P</b>	<b>Difference</b>
<b>Gender</b>								
Male	217	46,92	14,37	20	98	0,484	0,629	
Female	162	46,15	16,42	20	96			
<b>Faculty</b>								
Health sciences	127	47,31	16,58	20	98	2,325	0,075	
Humanities and social sciences	105	48,50	12,78	21	73			
Dentistry	88	43,66	14,97	20	96			
Physical education	59	46,05	16,47	20	79			
<b>Grade</b>								
1.	92	49,55	15,25	21	96	0,613	0,607	
2.	97	44,65	16,05	20	96			
3.	75	47,55	13,13	21	98			
4.	115	45,24	15,66	20	97			
<b>Place of residence</b>								
Dormitory	50	47,30	15,93	20	69	2,443	0,088	
Home	269	46,06	15,07	20	97			
Other	60	48,40	15,64	20	98			
<b>Daily social media usage time</b>								
Less than 2 hours	154	41,82	14,75	20	96	72,937	0,000*	1-2
3-6 hours	155	46,96	13,33	20	98			1-3
More than 7 hours	70	56,29	15,83	24	97			2-3
<b>Membership in virtual dating sites</b>								
No	242	41,90	12,89	20	96	-8,707	0,000*	
Yes	137	54,88	15,64	21	98			
<b>Daily stay in virtual chat environments</b>								
1 hour or less	219	43,24	13,35	20	77	40,790	0,000*	1-2
2-4 hours	117	49,82	15,61	21	98			1-3
More than 4 hours	43	54,88	18,47	24	97			2-3

\* $p < 0,05$

As a result of the Mann–Whitney  $U$  test conducted to determine the difference between the virtual environment loneliness levels of individuals and the gender variable, it was concluded that there was no significant difference between the virtual environment loneliness scores of the individuals and the gender (Table 4) ( $p > 0.05$ ).

On the other hand, as a result of the Kruskal Wallis test, which was conducted to determine whether there was a significant difference between the faculty where individuals studied and the virtual environment loneliness levels, it was seen that there was no significant difference between the type of faculty of participants and their virtual environment loneliness scores ( $p > 0.05$ ).

Kruskal Wallis test was applied to determine whether there was a significant difference between the place where individuals live and their virtual environment loneliness levels and it was found that there was no statistically significant difference between the place where individuals lived and virtual environment loneliness scores ( $p > 0.05$ ).

As a result of the Kruskal Wallis  $t$  test, which was conducted to determine whether there was a difference in the virtual environment loneliness levels of individuals in terms of their daily social media usage time, it was found that the virtual environment loneliness scores of individuals showed a statistically significant difference according to their daily social media usage time ( $p < .05$ ).

The virtual environment loneliness scores of the participants who spend less than 2 hours on social media were lower than the others. In addition, the virtual environment loneliness scores of the participants who spend 3-6 hours on social media were lower than the scores of the participants who spend more than 7 hours on social media.

As a result of the Kruskal Wallis  $t$  test, which was conducted to determine whether there was a difference in the virtual environment loneliness levels of individuals in terms of membership status to virtual dating sites, it was found that the virtual environment loneliness scores of individuals showed a statistically significant difference according to their membership status to virtual dating sites ( $p < 0.05$ ).

Individuals with membership in the virtual dating sites have higher virtual-environment loneliness scores than individuals without membership in virtual dating sites. A Kruskal Wallis  $t$  test results showed that there was a difference between the virtual environment loneliness scores of the participants according to their daily stay in virtual chat environments ( $p < .05$ ). Those who spent less than an hour in a virtual environment were found to have lower virtual loneliness scores than those who spent more than two to four hours, and those who spent more than four hours.

#### **Tablo 5**

The relationship between Individuals' social media addiction levels and virtual environment loneliness levels

#### Social Media Addiction Level

	N	
Virtual environment Loneliness Level	$r = .469$	379

Spearman correlation analysis has been conducted to reveal whether there is a meaningful relationship between individuals' social media addiction levels and their virtual-environment loneliness scores. According to data obtained from 379 participants, there was a positive and medium meaningful relationship



between individuals' social media addiction levels and their virtual-environment loneliness scores ( $r = .469$ ;  $p < .01$ ). This result shows that when virtual environment loneliness scores of individuals are increasing, their social media addiction scores also increase.

#### 4. Conclusion, Discussion and Suggestions

In the study, it was concluded that there was a positive and moderately significant relationship between social media addiction and virtual environment loneliness level. Findings from this study are consistent with the literature (Rıhtım, 2020; Kanat-Maymon, Almog, Cohen & Amichai-Hamburger, 2018; Davenport, Houston & Griffiths, 2012). In the study, it was revealed that variables such as gender, department of education and place of residence did not affect the level of social media addiction. In addition, it was revealed that those who used social media for a long time, participants who used the internet to use social networks, those who were members of virtual dating sites and those who switched from virtual friendship to real friendship had higher levels of social media addiction than other participants. When the studies on this subject in the literature are examined, it is seen that the results of the past studies are similar to the results of this study (Cuma, 2020; Hodge, Turner, Sanders & Forster, 2017; Erdoğan, 2019; Al-Menayes, 2015; Yılmazsoy & Kahraman, 2017; Tutgun- Ünal, 2015). Duration of social media usage and memberships to virtual dating sites have been found to have an effect on the level of virtual environment loneliness. Participants who had memberships to virtual dating sites had higher levels of virtual environment loneliness than other participants. When the relevant literature is examined, it has been determined that there are results that support the findings of this study (Chana & Dicianno, 2011; Asokan et al., 2014; Kahraman & Şafak, 2016). This study proved that social media addiction, long hours of social media use, and membership in virtual dating sites increase the level of virtual environment loneliness.

Considering that the higher use of social media by high school and university students than other age groups, field experts can organize training for the conscious use of social media. Also, it will be useful to investigate the methods of combating social media addiction and its psychological effects on students.

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