









Relationship between nursing students' levels of internet addiction, loneliness, and life satisfaction

Nuray Turan PhD, BSN¹  | Hanife Durgun PhD, BSN²  | Hatice Kaya PhD, BSN¹  |
 Türkinaz Aştı PhD, BSN³  | Yaren Yılmaz¹  | Gizem Gündüz¹  | Dilek Kuvan¹  |
 Gonca Ertaş¹ 

¹Istanbul University Cerrahpasa, Florence Nightingale Nursing Faculty, Istanbul, Turkey

²Ordu University, Faculty of Health Sciences, Ordu, Turkey

³Bezmialem Vakıf University, Faculty of Health Sciences, Istanbul, Turkey

Correspondence

Hanife Durgun, PhD, BSN, Department of Nursing, Health Science Faculty, Ordu University, Republic Campus PK, 52200 Altınordu-Ordu, Turkey.
 Email: hanife.balik@gmail.com

Abstract

Purpose: This study examined nursing students' levels of Internet addiction, loneliness, and satisfaction with life.

Design and Methods: This descriptive, cross-sectional study was conducted in included university involving 160 nursing students who completed an information form and the Internet addiction, UCLA Loneliness, and Satisfaction with Life Scales.

Findings: No significant correlation was found between students' Internet addiction, loneliness, and life satisfaction ($P > .05$). However, a significant positive correlation between loneliness and life satisfaction was observed ($P < .05$).

Practice Implications: Measures to raise students' awareness of Internet addiction and social activities to enhance communication skills and life satisfaction should be planned.

KEYWORDS

Internet addiction, loneliness and life satisfaction, nursing students

1 | INTRODUCTION

With today's constantly developing technology, computers and the Internet have become irreplaceable parts of our lives.¹ The Internet is a communication and information sharing tool that enables individuals to access to any kind of information and quickly communicate with other people quickly regardless of distance. The following are only a few of the countless conveniences or benefits that the Internet has brought to people's lives: communicating with people all around the world, holding video-conferencing, accessing information from worldwide databases and libraries, becoming informed about what is going on, listening to music, watching films, playing games, shopping, and conducting all manner of financial transactions. Moreover, while it facilitates access to information, enables research, and thereby improves skills such as problem-solving, critical thinking, and creativity, it has also led to Internet addiction because of excessive, out of control, and unintended uses.² Studies indicate that the Internet has negative impacts in addition to

the benefits mentioned above.³⁻⁵ Internet addiction, the primary negative consequence of the Internet, is described as the inability to overcome one's desire to use the Internet excessively, remaining constantly busy with this technology, considering time spent without the Internet worthless, experiencing a state of extreme anger and aggression in the event of its absence, and the deterioration of one's professional, social, and family life.⁶ Individuals addicted to the Internet have been found to have difficulties in their psychological and social lives, family life, academic performance, and work life.^{5,7,8} It has been shown that individuals with excessive Internet use utilize the Internet to play games, spend their free time, create virtual friendships, and seek emotional support, and that these people feel lonelier than others. It is emphasized in these studies that Internet addiction is a significant determinant of loneliness.⁴

Loneliness, different from being alone, is described as having a very important deficiency in social relationships. As a result, experiencing life satisfaction and happiness depends on interactions built with other people, as well as on the quality of communication.

Even though communication is one of the most important necessities, it is hard to say that effective communication exists among people. Lack of skills in interpersonal communication might affect our living spaces in negative ways, leading to loneliness, family problems, professional incompetence, stress, physical diseases, and discontent with one's life.⁹

Combined with loneliness, the Internet also affects life satisfaction in the individual psychosocial dimension. The Internet affords quick access to information, reading, writing, making decisions, communicating, and sharing, and lonely individuals can build close relationships using social networking sites via the Internet, thereby improving their life satisfaction. Life satisfaction is described as evaluating the whole of one's life positively in accordance with the criteria that an individual has determined by him or herself.¹⁰

Nursing students who are educated in the field of health and who could face positive or negative effects while using it in social relationships after graduation constitute a special group among university students. Nurses, whose jobs are dependent on interpersonal communication, are supposed to have good communication skills. Members of the nursing profession assume great responsibilities in healthy/patient individual care and treatment in terms of initiating and maintaining patient-nurse interactions and creating an optimum environment for communication. With the use of the Internet in this field, a new communication era has been established in the healthcare field, leaving conventional communication tools behind.¹ The aim of the present study is to investigate nursing students' levels of Internet addiction and to examine the relationship between Internet addiction and students' loneliness and satisfaction with life. The main research questions are as follows:

1. What are nursing students' levels of Internet addiction, loneliness, and life satisfaction?
2. Is there any correlation between nursing students' levels of Internet addiction, loneliness, and life satisfaction?

2 | DESIGN AND METHODS

2.1 | Design

This study aimed to determine the relationships among nursing students' levels of Internet addiction, loneliness, and satisfaction with life.

2.2 | Sample and setting

The study population included 199 nursing students studying in the nursing department of a university Faculty of Health Sciences in the 2015-2016 academic year. The study sample included 160 students who volunteered to participate, after excluding 39 students who did not complete their questionnaires.

2.3 | Measures

The data were collected with Student Information Form designed by researchers in light of the literature using the Internet addiction Scale, UCLA Loneliness Scale, and The Satisfaction with Life Scale (SLS).

2.3.1 | Student information form

Student information elicited included participants' sociodemographic characteristics, such as age and sex, the purpose and frequency of their Internet use, and how they spend their free time.

2.3.2 | Internet Addiction Scale

The Internet Addiction Scale was developed by Young.¹¹ It has been evaluated in university students and adults and its Turkish adaptation was completed by Balta and Horzum.¹² The IAS is scored on a five-point Likert-type scale, where a total score of 80 or above is considered an indicator of explicit deterioration in functionality; this group is named "Internet addicts." Students with scores between 50 and 79 are considered to face Internet-related problems in their daily life; they are categorized as the "risky Internet user" group. Scores equaling 49 and below refer to students who do not face problems related to Internet use; they are called "moderate Internet users." In its Turkish adaptation, Cronbach's alpha, a measure of internal consistency, was found to be .91.¹² Cronbach's alpha in this study was .90.

2.3.3 | UCLA Loneliness Scale

The UCLA Loneliness Scale, designed by Russel et al¹³ was adapted to Turkish by Demir.¹⁴ It consists of 20 items scored on a four-point Likert-type scale with a total score ranging from 20 to 80, such that the higher the score, the more intense the respondent's loneliness. Ten items (1, 4, 5, 6, 9, 10, 15, 16, 19, and 20) include positive statements showing satisfaction from social relationships, while the rest (2, 3, 7, 8, 11, 12, 13, 14, 17, and 18) make up negative statements indicating discontent with social relationships. The internal consistency of the revised measure was high ($\alpha = .94$, compared with $\alpha = .96$ for the original scale). In its Turkish adaptation, $\alpha = .96$,¹⁴ and $\alpha = .86$ in this study.

2.3.4 | Satisfaction with Life Scale

The SLS was designed by Diener et al¹⁵ to measure individuals' level of satisfaction with life. It was adapted to Turkish by Köker.¹⁶ It consists of five questions scored on a seven-point Likert-type scale, with total scores ranging from 5 to 35, where the higher the score, the greater the satisfaction with life. Diener et al¹⁵ reported $\alpha = .82$

and a test-retest coefficient of 0.87; the item-test correlation was between 0.71 and 0.80. The test-retest reliability of the scale was found to be 0.85.¹⁶ The value of α in this study was .84.

2.4 | Data collection procedure

Data were collected by the researchers, who gave the forms to the students and collected them upon completion. The students were explained the objectives and benefits of the study; they were asked not to write their names on the data collection forms, and their consent was taken in accordance with the willingness principle. The students ($N = 160$) read carefully and completed every item on the survey.

2.5 | Ethical considerations

This study was conducted in compliance with the principles of the Helsinki Declaration. Ethical approval for this study was obtained from the Bezmîalem Vakıf University Clinical Research Ethics Committee. The researchers explained the purpose of the research, roles of participants, benefits and potential risks of the study, and their right to withdraw at any time.

2.6 | Data analysis

IBM SPSS Statistics 22 (IBM SPSS, Turkey) was used for statistical analysis of the collected data. The normality of the variables was evaluated with the Shapiro-Wilk test and the data were deemed normal. In addition to descriptive statistical analyses (mean, standard deviation, and frequency). The Student t test was used to analyze intergroup quantitative data (whether the students owned a personal computer and subscribed to any social networking site, their daily Internet usage time, age group, gender, place of residence, income status, work status, use of social networks to create social circles, and use of social networks to make new friends). To analyze data for comparisons of more than two groups, a one-way analysis of variance test (purposes of Internet use, purposes of social networking, free time use, class) was used, while the Tukey HSD post hoc test was utilized to determine which groups were significantly different. Pearson's correlation analysis was used to investigate the relationships between scale scores. The significance level was set at P value of less than .05.

TABLE 2 Students' score distribution of Internet Addiction Scale, UCLA Loneliness Scale, and the Satisfaction with Life Scale ($n = 160$)

Scales	Cronbach's alpha value	Min-Max	X \pm SD	Median
Internet Addiction Scale	.902	20-80	33.76 \pm 10.53	32
UCLA Loneliness Scale	.860	35-77	59.02 \pm 8.21	59.5
The Satisfaction with Life Scale	.848	5-35	22.72 \pm 6.45	23

Abbreviations: Max, maximum; Min, minimum; SD, standard deviation; X, Mean.

TABLE 1 The usage of Internet features by students ($n = 160$)

Variables	n	%
The students owned a personal computer		
Yes	125	78.1
No	35	21.9
Subscribing to any social networking site		
Yes	125	78.1
No	35	21.9
Daily Internet usage time		
< 1 h	142	88.8
1-3 h	18	11.3
Purposes of Internet use ^a		
Communicate with friends	82	51.3
Create a social circle	128	80.0
Make new friends	122	76.3
Share information	98	61.3
Share video, sound, etc	114	71.3
Play games and spend time	122	76.3
Other	127	79.4
Purposes of social networking ^a		
Communicate with friends	135	84.4
Create a social circle	14	8.8
Make new friends	15	9.4
Share information	75	46.9
Share video, sound, etc	67	41.9
Play games and spend time	52	32.5
Other	5	3.1
Spend their free time		
Rest	68	42.5
Individual activities	47	29.4
Group activities	39	24.4
Other activities	6	3.8

^aMore than one option is marked.

3 | FINDINGS

Sociodemographic characteristics and usage of Internet by students were as follows: 93.1% of the students were women and 6.9% were men. The average age of participants was 20.54 (± 1.90) years. Moreover, 99.4% were single and 55% were freshmen. A total of 90.6% of the participants lived with their parents, while 82.5% could make ends meet with their income and 9.4% had a job. Regarding Internet use, 78.1% of the students owned a personal computer and 88.8% used the Internet daily for less than an hour on average (Table 1).

The average scores on the IAS, UCLA Loneliness Scale, and SLS were 33.76 (± 10.53), 59.02 (± 8.21), and 22.72 (± 6.45), respectively (Table 2).

TABLE 3 Analysis of the correlation between students' scores of Internet Addiction Scale, UCLA Loneliness Scale, and the Satisfaction with Life Scale (n = 160)

Scales	Internet Addiction scale <i>r</i> ; <i>P</i>	UCLA Loneliness Acale <i>r</i> ; <i>P</i>	The Satisfaction with Life Scale <i>r</i> ; <i>P</i>
Internet Addiction Scale	1
UCLA Loneliness Scale	-0.154; .052	1	...
The Satisfaction with Life Scale	-0.019; .813	0.234; .003*	1

*Pearson correlation analysis, $P < .01$.

A positive and statistically significant correlation was observed between students' scores on the UCLA Loneliness Scale and the SLS ($r = .234$, $P = .003$; $P < .01$) (Table 3).

Table 4 shows that the average scores of the students 20 years of age and over on the SLS are statistically more significant than for students under 20 years of age, just as seniors have statistically more significant scores than freshmen ($P < .05$; $P < .05$). Those who could make ends meet had statistically significantly higher average scores on the UCLA Loneliness Scale and SLS than those who could not ($P < .01$; $P < .01$), and students who held a job scored statistically significantly higher than those who did not work ($P < .05$).

Students owning a personal computer had statistically significantly higher scores on the IAS and SLS than those who did not have one ($P < .05$; $P < .05$). Students who were members of any social networking sites were found to have statistically significantly higher average scores on the IAS and SLS than nonmembers ($P < .05$; $P < .05$). Those with Internet use of less than an hour per day had statistically significantly higher scores from IAS than those who used it for 1 to 3 hours ($P < .05$). Students who used social network sites to create a social environment and make new friends were observed to have statistically significantly higher IAS scores than those who did not pursue such aims ($P < .05$; $P < .01$) (Table 4).

4 | DISCUSSION

Students' level of Internet addiction was observed to be generally that of a "moderate Internet user." The number of such studies has substantially increased recently. The fact that the population has been increasing and the frequency of Internet use with it indicates unregulated use and misuse of the Internet.¹⁷ Studies conducted by Balconi et al¹⁸ found a general Internet addiction level of "moderate Internet users." The current study is in line with these findings.

The loneliness level of nursing students was found to be high. One of the drawbacks of Internet addiction is that it isolates people.¹⁹ Internet addiction is an example where people repeat use behavior that leads to addiction to feel better and derive pleasure,²⁰ but whose excessive and long-term use can lead to problems. The use of the Internet isolates individuals from the real world and distances them from a sense of belonging and real-life relationships.²¹ Therefore, lonely people might more readily use the Internet to create social relationships in a virtual environment. Koyuncu et al²² found loneliness to be positively correlated with Internet addiction

($P < .05$). This finding, which is contrary to the findings of previous studies²³⁻²⁵ suggested that this was due to the characteristics and personality factors of the students in the sample group. Thus, the results of these different studies emphasize the need for further research on this issue.

Nursing students' satisfaction with life was found to be at an intermediate level. Similarly, studies conducted by Uysal et al²⁶ and Kim²⁷ found intermediate levels of life satisfaction. The findings of the present study are thus not consistent with literature. Taking the benefits of Internet use into consideration, it can be stated that it increases their contentment with life.

A positive correlation was observed between students' level of loneliness and satisfaction with life, which indicates that the higher the level of loneliness, the higher their satisfaction with life. Dayapoğlu et al²⁸ determined that Internet addiction negatively affects the correlation between loneliness and satisfaction with life. The findings of this study do not resemble those of previous studies. Life satisfaction is influenced by many factors such as happiness in everyday life, meaning in life, adaptation to attainment of goals, positive individual identity, physical self-feeling of well-being, economic security, and social relations. Life satisfaction also affects many psychological factors. At the point where the individual cannot obtain life satisfaction, the sensation of loneliness can be defined as an emotional deprivation. Currently, this concept can be represented by a person who plays on the Internet and technological devices in his/her own world. People's socialization needs are met by the Internet and technological tools. The Internet, which is located in every area of daily life, makes human life easier. People find themselves alone, but they think they have more satisfaction from life.²⁹ These scales represent the distinct self-perceptions of the students. Najafi et al³⁰ found no significant relationship between Internet addiction and loneliness in nurses and midwives. However, Rabiei and Mohammadzadeh³¹ showed that social use of the Internet was one of the variables with the greatest effect on loneliness, being able to explain 24% of the variability in loneliness. The findings of this study demonstrate that Internet addiction alone could not explain loneliness, which is likely to be due to the individual and sociocultural characteristics of nursing students. Therefore, further studies with a larger sample size are needed in this domain.

Life satisfaction levels of those over 20 years of age and of seniors were found to be higher than in those under 20 years of age and freshmen, respectively. Perhaps as the students' class level increases with age, the satisfaction they gain from life increases.

TABLE 4 Analysis of scores of Internet Addiction Scale, UCLA Loneliness Scale, and Satisfaction with Life Scale in terms of sociodemographic characteristics and Internet use (n = 160)

General characteristics	Internet Addiction Scale X ± SD	UCLA Loneliness Scale X ± SD	The Satisfaction with Life Scale X ± SD
Age group			
≤20 y	35.20 ± 9.98	58.81 ± 7.97	21.76 ± 6.22
>20 y	32.12 ± 10.94	59.25 ± 8.52	23.80 ± 6.58
t; P	1.861; .065	-0.339; .735	-2.011; .046*
Sex			
Female	33.88 ± 10.7	59.09 ± 8.32	22.68 ± 6.48
Male	32.09 ± 7.97	58.00 ± 6.75	23.18 ± 6.37
t; P	0.543; .588	0.426; .671	-0.246; .806
Class			
First grade	35.20 ± 9.99	58.44 ± 7.59	21.76 ± 5.92
Second grade	30.85 ± 6.73	61.42 ± 8.66	22.85 ± 7.78
Third grade	33.00 ± 12.60	58.94 ± 8.87	22.71 ± 6.49
Fourth grade	32.91 ± 14.56	57.77 ± 9.23	26.36 ± 5.29
F; P	1.485; .221	1.265; .288	3.112; .028*
Place of residence			
Family	34.06 ± 10.74	59.19 ± 8.18	22.77 ± 6.4
Alone and others	30.80 ± 7.78	57.33 ± 8.53	22.20 ± 7.09
t; P	1.114; .254	0.835; .405	0.326; .745
Income status			
Ends meet	33.39 ± 10.46	59.95 ± 8.23	23.48 ± 6.31
Ends not meet	35.50 ± 10.87	54.64 ± 6.63	19.11 ± 5.95
t; P	-0.965; .336	3.195; .002**	3.367; .001**
Work status			
Yes	34.40 ± 11.69	63.07 ± 8.07	24.53 ± 6.89
No	33.69 ± 10.44	58.60 ± 8.13	22.53 ± 6.40
t; P	0.248; .804	2.026; .044*	1.146; .254
Owning a personal computer			
Yes	34.58 ± 10.92	59.35 ± 8.88	23.23 ± 6.55
No	30.83 ± 8.49	57.83 ± 5.07	20.89 ± 5.79
t; P	2.158; .034*	0.971; .333	2.057; .044*
Being a member of a social networking site			
Yes	34.58 ± 10.92	59.35 ± 8.88	23.23 ± 6.55
No	30.83 ± 8.49	57.83 ± 5.07	20.89 ± 5.79
t; P	2.158; .034*	0.971; .333	2.057; .044*
Daily Internet use			
<1 h	34.32 ± 10.66	58.76 ± 8.11	22.51 ± 6.52
1-3 h	29.28 ± 8.39	61.06 ± 8.93	24.39 ± 5.78
t; P	2.324; .029*	-1.119; .265	-1.167; .245
Use of social network to create social circle			
Yes	39.43 ± 12.43	58.71 ± 6.28	21.71 ± 5.55
No	33.21 ± 10.21	59.05 ± 8.38	22.82 ± 6.54
t; P	2.134; .034*	-0.145; .885	-0.609; .544

(Continues)

TABLE 4 (Continued)

General characteristics	Internet Addiction Scale X ± SD	UCLA Loneliness Scale X ± SD	The Satisfaction with Life Scale X ± SD
Use of social network to make new friends			
Yes	42.27 ± 15.34	60.60 ± 8.97	22.33 ± 7.15
No	32.88 ± 9.55	58.86 ± 8.14	22.76 ± 6.40
t; P	3.397; .001**	0.783; .435	-0.242; .809

Note: t: Student t test; F: one way ANOVA test.

Abbreviations: ANOVA, analysis of variance; SD, standard deviation; X, Mean.

*P < .05.

**P < .01.

Satisfaction with life is described as a global judgment and evaluation of one's life satisfaction. Judgments of satisfaction with life are a subjective issue and students' comparing their own situations with what they consider suitable plays a role in constructing such judgments. These standards can be the criteria that the individual has determined for a good life or global judgments that are commonly given importance. The fact that life contentment increases with age shows that students' maturity has a considerable effect on general satisfaction.³²

Students who could make ends meet had higher levels of loneliness and satisfaction with life than those who could not do so. Students who held a job only had higher levels of loneliness levels than the unemployed. The concept of loneliness, which negatively affects a person's mental state, poses a threat to students, one of the fundamental components of the educational institutions where the future of our country is shaped. Institutionally, the feeling of loneliness gains importance during adolescence, which covers university years as well. Loneliness has negative impacts on students' psychological state, their viewpoints on life, communication and socialization skills, and academic success.³² The literature shows that low-income levels are one of the factors that boost loneliness. High levels of purchasing power allow individuals to have a calm attitude about the future, enable them to have high self-confidence, socialize, participate in personal development events, improve their self-esteem, and easily meet their daily requirements. Even though this is quite significant for individuals, it cannot eliminate the problem of loneliness. The findings of this study show that loneliness is not a kind of problem that can be resolved with high income and it is not possible to limit loneliness with life quality.

Students owning a personal computer were found to have higher Internet addiction levels and life satisfaction. Certain sociodemographic and demographic qualities are related to computer ownership. Nevertheless, thanks to the advances in information technological and decreasing computer prices, the number of people with a computer at home has increased substantially in the last decade. While technology facilitates our lives and contributes to social development, which is a

standard for development and modernization, it has also introduced Internet addiction.³³ In a study conducted by Blachnio et al³³ addressing the correlation between Internet addiction and satisfaction with life, it was found that people with high levels of Internet addiction had lower levels of life satisfaction than those with low levels of Internet addiction. The present study shows that students owning a computer at home could access the Internet whenever they wanted, which increased their addiction. Unlike previous studies, this may be attributable to the fact that their home environment increased life satisfaction.

Students who were members of a social networking site were found to have higher Internet addiction and satisfaction with life than those who were not. The latest development in Internet technology is social networking sites. Social networking sites that have spread worldwide and have been growing exponentially have turned into platforms where students spend long hours and find it hard to restrict their use. They choose whichever social networking site they wish so as to derive satisfaction. The fact that social networks have spread rapidly and have been adopted by users for different purposes has led to a spread in Internet addiction.^{1,33} Doğan³⁴ showed that the use of social networking sites is an important predictor of students' happiness, psychological well-being, and life satisfaction. In a study³³ conducted with the participation of 2603 web users, a positive correlation was found between satisfaction with life and frequency of Facebook use. This finding of the present study are similar to those in the literature.

Students who utilize social networking sites to create a social environment and make new friends had higher Internet addiction levels than those who did not. Individuals tend to use social networking sites for different purposes. Social networking sites provide opportunities for their users to introduce themselves on a social platform, create social networks, establish and maintain communication with other users, share content they have created (photos, images, sounds, video, interactive communication, blogs, etc), create profile pages including personal information, photos, and videos, contact people they do not know, learn about each other's hobbies, tastes in music, and relationship status/moods, discover new friendships, demand more freedom and rights, criticize others, and organize their own platforms.^{1,35} The popularity of social networking sites, especially among youths, is increasing daily and the amount of time they spend on the Internet is great. As a result, they are unable to socialize much in daily life, leading them to seek further socialization on this new platform. The usual reasons for this transformation concern the need to socialize and express oneself and the desire for a break from one's social environment or impositions of society. Aksoy,³⁶ whose study focuses on Internet addiction and social networks, states that as students' use of social networking sites increases, so does their level of Internet addiction.

5 | IMPLICATIONS FOR NURSING PRACTICE

Nursing students, who are educated in the field of health and who could face positive or negative effects from using social media and the

Internet in social relationships after graduation, constitute a special group among university students. These findings have real-world implications for nursing educators. Specifically, attention needs to be paid to the usage of Internet and students' participation by panels, seminars, and conferences about the Internet and Internet addiction.

6 | CONCLUSION AND RECOMMENDATIONS

Nursing students were found to have low levels of Internet addiction and high levels of loneliness and life satisfaction. It was concluded that students' Internet addiction levels were not associated with their loneliness and satisfaction with life; however, an increase in loneliness was associated with increasing contentment with life. A correlation was found between age, income, having a personal computer, and level of satisfaction with life, as well as between income, work status, and loneliness level. In addition, there exists a correlation between owning a personal computer, being a member of a social networking site, and Internet addiction level. In light of these results, it is suggested that:

- awareness of the risks of Internet use should be increased in universities;
- programs aiming to enhance communication skills be planned.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ORCID

Nuray Turan  <http://orcid.org/0000-0002-8362-3427>

Hanife Durgun  <http://orcid.org/0000-0003-1622-8184>

Hatice Kaya  <http://orcid.org/0000-0002-8427-0125>

Türkinaz Aşti  <http://orcid.org/0000-0002-9127-7798>

Yaren Yılmaz  <http://orcid.org/0000-0002-3894-052X>

Gizem Gündüz  <http://orcid.org/0000-0002-7733-6886>

Dilek Kuvan  <http://orcid.org/0000-0002-1891-7525>

Gonca Ertaş  <http://orcid.org/0000-0001-5073-1168>

REFERENCES

1. Kaya H, Turan N, Hasanoglu Ö, Arslanova E, Elmas G. Examination of the relationship between the purpose of nursing students for using social network sites and their communication skills. *Commun Theory Res J*. 2015;40:16-31.
2. Ariffudin I, Mulawarman M, Japar M. Problematic internet use, problem solving skills and emotional regulation among junior high school students. *J Bimbingan Konseling*. 2018;7(2):113-119. <https://doi.org/10.15294/jubk.v7i2.25615>
3. Akar F. Purposes and characteristics of Internet use of adolescent. *PEGEM J Educ Instruct*. 2017;7(2):257-286. <https://doi.org/10.14527/pegogog.2017.010>

4. Eroğlu A, Bayraktar S. Investigation of variables associated with Internet addiction. *Int J Social Sci Educ Res.* 2017;3(1):184-199.
5. Lai C, Altavilla D, Mazza M, et al. Neural correlate of Internet use in patients undergoing psychological treatment for Internet addiction. *J Ment Health.* 2017;26(3):276-282. <https://doi.org/10.1080/09638237.2017.1294745>
6. Çikrikci Ö. The effect of internet use on well-being: Meta-analysis. *Comput Hum Behav.* 2016;65:560-566. <https://doi.org/10.1016/j.chb.2016.09.021>
7. Jie T, Yizhen Y, Yukai Y, Ying D, Dongying Z, Jiayi W. Prevalence of Internet addiction and its association with stressful life events and psychological symptoms among adolescent Internet users. *Addict Behav.* 2014;39(3):744-747. <https://doi.org/10.1016/j.addbeh.2013.12.010>
8. Shahnaz I, Rezaul Karim AKM. The impact of Internet addiction on life satisfaction and life engagement in young adults. *Universal J Psychol.* 2014;2(9):273-284. <https://doi.org/10.13189/ujp.2014.020902>
9. Cacioppo S, Grippo AJ, London S, Goossens L, Cacioppo JT. Loneliness: clinical import and interventions. *Perspect Psychol Sci.* 2015;10(2):238-249. <https://doi.org/10.1177/1745691615570616>
10. Tian Y, Zhang S, Wu R, Wang P, Gao F, Chen Y. Association between specific Internet activities and life satisfaction: the mediating effects of loneliness and depression. *Front Psychol.* 2018;9(1181):1-11. <https://doi.org/10.3389/fpsyg.2018.01181>
11. Young KS. Internet addiction: The emergence of a new clinical disorder. *Cyberpsychol Behav.* 1998;3:237-244.
12. Balta ÇÖ, Horzum MB. Internet addiction test. *Educ Sci Pract.* 2008;7(13):87-102.
13. Russell D, Peplau LA, Cutrona CE. The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. *J Pers Soc Psychol.* 1980;39(3):472-480. <https://doi.org/10.1037//0022-3514.39.3.472>
14. Demir A. The validity and reliability of the UCLA Loneliness Scale. *J Psychol.* 1989;7(23):14-18.
15. Diener E, Robert AE, Randy JL, Sharon G. The satisfaction with life scale. *J Pers Assessment.* 1985;49(1):71-75.
16. Köker S. *Comparison of Life Satisfaction Levels of Normal and Problematic Adolescents* (Master's thesis). Ankara University Institute of Social Sciences, Ankara, Turkey, 1991.
17. Kuss DJ, Griffiths MD, Karila L, Billieux J. Internet addiction: a systematic review of epidemiological research for the last decade. *Curr Pharm Des.* 2014;20(25):4026-4052. <https://doi.org/10.2174/13816128113199990617>
18. Balconi M, Venturella I, Finocchiaro R. Evidences from rewarding system, FRN and P300 effect in Internet-addiction in young people. *Brain Sci.* 2017;7(81):1-16. <https://doi.org/10.3390/brainsci7070081>
19. Raymond JM, Sheppard K. Effects of peer mentoring on nursing students' perceived stress, sense of belonging, self-efficacy and loneliness. *J Nurs Educ Pract.* 2018;8(1):16-23. <https://doi.org/10.5430/jnep.v8n1p16>
20. Aktürk Ü, Budak F, Gültekin A, Özdemir A. Comparison of smartphone addiction and loneliness in high school and university students. *Perspect Psychiatr Care.* 2018;54(4):564-570. <https://doi.org/10.1111/ppc.12277>
21. Genç Y, Durğun A, Kara HZ, Çakır R. The effects of internet use on university students' perceptions of loneliness. *J Acad Stud.* 2018;13(2):301-336. <https://doi.org/10.17550/akademikincelemeler.329440>
22. Koyuncu T, Unsal A, Arslan D. Assessment of internet addiction and loneliness in secondary and high school students. *J Pak Med Assoc.* 2014;64(9):998-1002.
23. Kaynak S, Duran S, Karadaş A. Determination of the relationship between internet addiction and the level of loneliness among nurses. *J Health Nurs Manag.* 2018;1(5):27-33. <https://doi.org/10.5222/SHYD.2018.027>
24. Yaylacı M, Şahin Y, Özdemir M, Mengücek T, Arguvanlı S. The relationship between university students' problematic internet usage and loneliness. Paper presented at: National Nursing Students Congress, Eskisehir, Turkey. 2016:384.
25. Zhang T, Abound Omran B, Cobanoğlu C. Generation Y's positive and negative eWOM: Use of social media and mobile technology. *Int J Contemp Hosp Manag.* 2017;29(2):732-761. <https://doi.org/10.1108/IJCHM-10-2015-0611>
26. Uysal N, Sözeri E, Selen F, Bostanoğlu H. Assessing time management skills and life satisfaction of the nursing students. *JAREN.* 2017;3(1):30-36. <https://doi.org/10.5222/jaren.2017.030>
27. Kim J. Nursing students' relationships among resilience, life satisfaction, psychological well-being, and attitude to death. *Korean J Med Educ.* 2019;31(3):251-260. <https://doi.org/10.3946/kjme.2019.135>
28. Dayapoglu N, Kavurmaci M, Karaman S. The relationship between the problematic mobile phone use and life satisfaction, loneliness, and academic performance in nursing students. *Int J Caring Sci.* 2016;9(2):647-652.
29. Çakır Ö, Oğuz E. The correlation between high school students' loneliness levels and smart phone addiction. *Mersin Univ J Fac Educ.* 2017;13(1):418-429. <https://doi.org/10.17860/mersinefd.290711>
30. Najafi F, Sarayi FK, Navidian A, Raeisi SM. The relationship between internet addiction, loneliness and sleep quality among students of nursing and midwifery faculty. *ZJRMS.* 2018;20(12):e68394. <https://doi.org/10.5812/zjrms.68394>
31. Rabiei A, Mohammadzadeh F. Cybernetic pathology: the effect of internet on students' social isolation. *The Socio Cultural Strat J.* 2013;2(6):43-60.
32. Certel H, Yakut S, Yakut İ, Gülsün B. Loneliness problem in students. *J Hum Social Sci Res.* 2016;5(8):3069-3084. <https://doi.org/10.15869/itobiad.267166>
33. Blachnio A, Przepiorka A, Benvenuti M, Mazzoni E, Seidman G. Relations between facebook intrusion, Internet addiction, life satisfaction, and self-esteem: A study in Italy and the USA. *Int J Mental Health Addict.* 2019;17(4):793-805. <https://doi.org/10.1007/s11469-018-0038-y>
34. Doğan U. Effects of social network use on happiness, psychological well-being, and life satisfaction of high school students: Case of Facebook and Twitter. *Educ Sci.* 2016;41(183):217-231.
35. Filiz O, Erol O, Dönmez Fi, Kurt AA. Examination of the correlation between aims of social network sites usage and Internet addiction of computer and instructional technology department students. *J Instruct Technol Teacher Educ.* 2014;3(2):17-28.
36. Aksoy V. The degree of change of Internet addiction and social network use according to the demographic features of science high school students and its effect upon their academic success. *J Acad Social Sci.* 2015;3(19):365-383.

How to cite this article: Turan N, Durgun H, Kaya H, et al. Relationship between nursing students' levels of internet addiction, loneliness, and life satisfaction. *Perspect Psychiatr Care.* 2020;56:598-604. <https://doi.org/10.1111/ppc.12474>