THE RELATIONSHIP BETWEEN NURSING STUDENTS' PSYCHOLOGICAL WELL-BEING AND VIRTUAL ENVIRONMENT LONELINESS

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ABSTRACT

The aim of this study is to determine the relationship between psychological well-being and virtual environment loneliness of nursing students. This descriptive study was conducted between March and June 2023 at two state universities located in Northern and Eastern Anatolia, Türkiye. The research sample comprised 472 students. Data collection utilized a Personal Information Form, the Psychological Well-Being Scale, and the Virtual Environment Loneliness Scale. For data analysis, descriptive statistics, t-tests, ANOVA, and Bonferroni analyses were employed. A statistically significant moderate negative correlation was identified between students' psychological well-being and their levels of virtual environment loneliness ($p < 0.05$). The study also found that students experienced moderate levels of virtual environment loneliness. It was determined that as students' psychological well-being levels increase, they are likely to experience less loneliness in virtual environments. Therefore, in order to increase the psychological well-being levels of male nursing students, reduce their virtual environment loneliness, and ensure that they use social media less, it is recommended to create social activity environments that will increase their face-to-face communication both in the university environment and in social responsibility projects and to encourage and create opportunities for students to participate in these activities.

INTRODUCTION

The Internet, while a useful tool that offers significant advantages when utilized appropriately and constitutes a vital component of our daily lives, has given rise to a new area of concern regarding its excessive and inappropriate use. Such excessive and malicious utilization of the Internet is acknowledged as a significant factor contributing to the emergence of problematic Internet use (J. Jia, Tong, Zhang, Liu & Fang, 2021). Furthermore, as one of the environments where change and development are most pronounced within the daily life cycle, the Internet has facilitated the emergence of the concept of social media through its inherent transformations and advancements (Hattingh, Dhir, Ractham, Ferraris & Yahiaoui, 2022).

Social media is a platform where individuals share their personal stories and experiences in the form of words, images, and audio files. In other words, social media extends beyond

merely allowing individuals to share their narratives; it is also one of the newest environments where institutions promote their products and advertisements, and where news spreads most rapidly (Waqas, Hamzah & Mohd Salleh, 2021). Today, social media has become a tool frequently used by young adults to publicly display every aspect of their private lives (Farsi, 2021). Research indicates that adolescents use social media more than adults, exhibit addictive behaviors, and that there is a strong relationship between excessive social media use and self-identity perception. Globally, Facebook, Instagram, and Twitter rank as the top three platforms, while there has been reported growth in users of Pinterest and Snapchat (Smith & Pearce-Dunbar, 2023).

One of the primary factors contributing to social media increasingly becoming a ritual in human life is the ability of individuals to meet their psychological needs (Uram & Skalski, 2022). Loneliness is an unpleasant condition that can be experienced multiple times throughout life and has been increasingly prevalent in societies due to various factors in recent years. It is a phenomenon that disturbs individuals psychosocially and warrants examination (Crowe, Liu, Bagnarol & Fried, 2024). Lonely individuals often join certain virtual social media groups to experience a sense of belonging, establish friendships, and enhance their social lives, seeking to be active. In these virtual environments, they can establish relationships more easily and comfortably, setting their own boundaries, and distancing themselves from social anxieties, thereby reducing the loneliness they encounter in real life (Şensoy & Kurttaş Çolak, 2020).

Visuals shared on social media can increase feelings of loneliness among individuals. Social media users can continuously post positive and engaging content. This situation leads individuals who are exposed to such posts to question their own lives and experience loneliness. The pursuit of relationships that are devoid of responsibility and seek fulfillment in virtual environments accelerates individuals' disconnection from the real world and their alienation from society (Erica, Pudjiati & Boediman, 2024).

Psychological well-being, unlike the absence of mental disorders, encompasses how individuals perceive themselves, their level of satisfaction with themselves, the presence of meaning and purpose in life, the relationships they establish with others, their satisfaction from these relationships, the challenges they face, and their coping strategies for these challenges (Kaya, Güç, Şimşek Kirlangiç & Uyar, 2022). Sustainable psychological well-being is not always a result of the individual being happy and peaceful. Therefore, negativity in an individual's life can negatively affect the level of psychological well-being (Kaplan & Öztürk, 2022).

Nurses, as one of the professions providing healthcare, play a vital role within the healthcare system. However, they frequently experience job-related stress, encounter psychological violence in the workplace, and face burnout and stress. Common causes of stress include challenging working conditions, fatigue, insomnia, uncertainties regarding their authority and responsibilities, and issues related to patients and their families (Guo, Ni, Liu, Li & Liu, 2019). These challenges, along with the accompanying stress, hinder nurses' ability to cope with their daily routines, resulting in decreased performance, negatively impacting their health, and increasing rates of attrition, injury, infection, and medical errors (Bozkurt Öz, Batmaz & Gezgin Yazici, 2022). It is crucial for nursing students preparing for the profession to maintain positive emotions throughout their educational process (Soerensen, Nielsen & Pihl, 2023).

Universities are environments where students can intensely experience interpersonal relationships. Nursing students, in particular, engage in significant relationships with a variety of individuals who have diverse needs and expectations (Di Mattio & Hudacek, 2020). It has been reported that nursing students face communication issues with patients, healthcare teams, and clinical educators during clinical practice, express a need for additional training, and fear independent practice, which adversely affects their psychological well-being (Heier et al., 2024).

Young people, in times when social life is most active, most complex, and full, start to study at a university in a period when their personalities are fully established and their new personalities are starting to be completed. Young people who cannot socialize in real life may experience isolation from real life as a result of socializing in virtual environments. It is stated that spending too much time on the internet and in virtual environments negatively affects both the academic success and psychology of nursing students. Transferring social relations and communications to virtual platforms through mass media not only creates a feeling of loneliness in individuals but also drags them into a process of virtual loneliness (Ceylantekin, Çevik Özdemir, Öcalan & Kılıç, 2024). This situation may also negatively affect the patient care practices of nursing students, who are future nurse candidates. However, nursing students are the group that will soon begin to provide care to both healthy and ill individuals as professional practitioners. Within a holistic approach, the psychological well-being of future nursing candidates is as important as the health of the individuals they will care for. It is anticipated that nursing students with high levels of psychological well-being will experience lower stress levels, create a positive communication environment while providing care to patients, have lower levels of loneliness, and exhibit reduced levels of problematic Internet use. In this study,

e-ISSN: 2147-7892   Volume 13, Issue 2 (2025) 329-343   doi: 10.33715/inonusaglik.1590016

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it was aimed to determine the relationship between psychological well-being and virtual environment loneliness of nursing students.

MATERIAL AND METHOD

Study Design

This descriptive study was conducted with students studying in nursing departments of state universities in Northern Anatolia and Eastern Türkiye between March and June 2023.

Research Population and Sample

The population of the study consisted of 1,300 students enrolled in nursing programs. The sample size was determined to be a minimum of 472 using the G-POWER program, with an effect size of 0.15, a power of 95%, and a margin of error of 0.5 (df=2; F=3.086). Nursing students who used the internet, aged 18 and older, who voluntarily participated in the research at the university where the study was conducted were included in the study. A total of 503 students (37% participated) who agreed to participate constituted the sample group.

Data Collection Tool

In the data collection process, a Demographic Information Form, the Psychological Well-Being Scale (PWBS), and the Virtual Environment Loneliness Scale (VELS) were utilized.

Demographic Information Form

This form, developed by the researchers through a literature review related to the topic, consists of 8 questions, including students' age, gender, academic year, and social media usage status (Hattingh et al., 2022; Kabaklı Çimen, 2018; Uram & Skalski, 2022).

Psychological Well-Being Scale

Developed by Diener and colleagues and adapted into Turkish by Telef, this scale is a Likert-type measure consisting of 8 items (1 = strongly disagree, 7 = strongly agree). The lowest possible score on the scale is 8, while the highest is 56, with higher scores indicating higher levels of psychological well-being. The factor loadings of the scale items range from 0.61 to 0.77. Cronbach's alpha coefficient for internal consistency is 0.87 (Telef, 2013). In our study, the Cronbach's alpha value for the scale was found to be 0.77.

Virtual Environment Loneliness Scale

This scale is used to determine individuals' levels of loneliness in virtual environments and the effects of these environments on individuals' feelings of isolation. The scale consists

of 20 items with a 5-point Likert format and includes 3 subdimensions: virtual socialization (8 items): (1.2.3.4.5.6.7.8), virtual sharing (7 items): (9.10.11.12.13.14.15), and virtual loneliness (5 items): (16.17.18.19.20). The scale is scored as 1.00-1.79 "very low", 1.80-2.59 "low", 2.60-3.39 "medium", 3.40-4.19 "high", 4.20-5.00 "very high". The ratio of the total mean score of VELS to the number of items was calculated as (49.74/20) = 2.48. In this case, it was determined that the students' general virtual environment loneliness was at a medium level. Cronbach's alpha value calculated for the scale, developed by Korkmaz and colleagues in 2014 to assess individuals' levels of loneliness in virtual environments, is 0.81 (Korkmaz, Usta & Kurt, 2014). In our study, Cronbach's alpha value for the scale was found to be 0.80.

Data Collection

Data for the study was collected between March and June 2023 through face-to-face interviews in a classroom setting after the researchers explained the purpose and scope of the research to the students outside of their class hours. The data collection process took approximately 10 to 15 minutes.

Statistical Analysis

The data analysis was conducted using SPSS 25.0 (Statistical Package for the Social Sciences). Descriptive statistics, including percentages, means, and standard deviations, were utilized. The normality of the data distribution was assessed using Kurtosis and Skewness coefficients. Additionally, independent t-tests, one-way ANOVA, and post hoc analyses (Bonferroni) were employed. A significance level of $p < 0.05$ was accepted. Cohen (d) and Eta squared (η^2) coefficients were used to calculate the effect size. To estimate the minimum sample size, it was conducted a G*Power Analysis, with an effect size of 0.15, a power of 95%, and a margin of error of 0.5.

Ethical Approval

Prior to the commencement of the study, approval was obtained from the ethics committee of a state university in eastern Türkiye (Date: January 26, 2023, Reference No: B.30.2.ATA.0.01.00/91). Written consent was obtained from students who agreed to participate in the research. The study adhered to the principles outlined in the Declaration of Helsinki.

Limitations

The study is limited to students enrolled in the Nursing Departments of two Faculties of Health Sciences. This limitation restricts the generalizability of the findings.

RESULTS

It was determined that 95.2% of the participants were aged between 18 and 24, 63.4% were female, and 29.2% were in their second year of study. Furthermore, 99.4% reported using social media, 81.7% had been using social media for less than nine years, and 70.4% used social media for 2 to 6 hours daily. Additionally, 72.4% were connected to social media exclusively via mobile devices. The usage rates of various platforms among students were as follows: 98.4% used WhatsApp, 90.4% used YouTube, 84.8% used Instagram, 84.4% used Google, 54.8% used Twitter, 18.2% used Facebook, and 11.8% used Telegram (Table 1).

Table 1: Distribution of Students by Descriptive Characteristics (n=503)

Characteristics	n	%
Age group		
18-24 years	479	95.2
25-33 years	24	4.8
Gender		
Female	319	63.4
Male	184	36.6
Grade		
1st grade	120	23.9
2nd grade	147	29.2
3rd grade	121	24.1
4th grade	115	22.9
Social media usage status		
Uses	500	99.4
Does not use	3	0.6
Duration of social media use		
9 years and below	411	81.7
10 years and above	89	17.7
Daily duration of social media use		
1 hour and below	94	18.7
2-6 hours	354	70.4
7 hours and above	52	10.3
Type of device used for social media applications		
Desktop devices	136	27.0
Mobile devices	364	72.4
Social media applications used*		
WhatsApp	492	98.4
YouTube	452	90.4
Google	422	84.4
Instagram	424	84.8
Twitter	274	54.8
Facebook	91	18.2
Telegram	59	11.8
Snapchat	35	7.0
LinkedIn	33	6.6
Wattpad	6	1.2

* Due to the multiple response format, the counts (n) and percentages exceed the sample size.

The mean total score for psychological well-being among students was calculated to be 30.32 ± 7.02. The mean total score for perceived loneliness in the virtual environment was

49.74 ± 12.23, while the mean score for virtual socialization was 21.11 ± 5.77, the mean score for virtual sharing was 14.92 ± 7.15, and the mean score for virtual loneliness was 13.70 ± 4.76 (Table 2).

Table 2: Mean Total Scores of the Psychological Well-Being and Virtual Environment Loneliness Scales (n=503)

	X ± SD	Min.	Max.
PWBS Total	30.32 ±7.02	8.00	40.00
VELS Total	49.74 ±12.23	26.00	100.00
Virtual Socialization Subscale	21.11 ±5.77	8.00	40.00
Virtual Sharing Subscale	14.92 ±7.15	7.00	35.00
Virtual Loneliness Subscale	13.70 ±4.76	5.00	25.00

* Mean: Arithmetic Mean, X: Average, SD: Standard Deviation, Min: Minimum, Max: Maximum, PWBS: Psychological Well-Being Scale, VELS: Virtual Environment Loneliness Scale.

Students' Psychological Well-Being Scale (PWBS) scores showed a significant difference based on gender (t=2.867; p=0.004, d=0.261, p<0.05). Cohen (d) and Eta squared (η^2) coefficients were used to calculate the effect size. The effect size shows whether the difference between the groups is large enough to be considered significant (Büyüköztürk, Çokluk & Köklü, 2018). The mean total PWBS scores for females were higher than those of males. Additionally, Virtual Environment Loneliness Scale (VELS) scores also exhibited significant differences by gender (t=-3.688; p<0.001, d=0.339, p<0.05), with males scoring higher in VELS, virtual socialization, and virtual sharing compared to females (Table 3).

Table 3 indicates that students' PWBS scores significantly differed by class level (F=5.709; p=0.001; η^2=0.033, p<0.05) (η^2=Eta squared). The observed difference was attributed to fourth-year students having higher PWBS scores than first- and second-year students.

The scores for VELS, as well as those for virtual socialization and virtual sharing, exhibited significant differences based on the duration of social media usage (t=-3.574; p<0.001; d=0.401, p<0.05). Participants who had used social media for 10 years or more had higher VELS total scores compared to those who had used it for 9 years or less. Significant differences were also found in virtual socialization scores based on the duration of social media use (t=-4.582; p<0.001; d=0.508), with individuals using social media for 10 years or more scoring higher than those using it for 9 years or less. Furthermore, virtual sharing scores showed significant differences according to the duration of social media usage (t=-3.127; p=0.002; d=0.345), with those using social media for 10 years or more having higher scores than those using it for 9 years or less (p<0.05).

Significant differences were found in total VELS scores, as well as in virtual socialization, virtual sharing, and virtual loneliness scores based on daily social media usage duration

(p<0.05). Total VELS scores differed significantly according to the type of device used to access social media (t=2.625; p=0.009; d=0.256), with users of desktop devices scoring higher than those using mobile devices (p<0.05). Similarly, significant differences were observed in virtual socialization scores based on the type of device (t=3.316; p<0.001; d=0.327), again showing that desktop users had higher scores than mobile users (p<0.05) (Table 3).

Table 3: Differentiation of Psychological Well-Being and Virtual Environment Loneliness Scale Scores by Descriptive Characteristics (n=503)

	PWBS X ± SD	VELS X ± SD	Virtual Socialization X ± SD	Virtual Sharing X ± SD	Virtual Loneliness X ± SD
Age group					
18-24 years	30.35±6.95	49.89±12.16	21.13±5.77	14.98±7.18	13.78±4.77
25-33 years	29.67±8.48	46.63±13.54	20.75±6.00	13.83±6.66	12.04±4.33
t=	0.467	1.278	0.316	0.765	1.754
p=	0.641	0.202	0.752	0.444	0.080
Gender					
Female	31.00±6.67	48.23±11.92	20.69±5.63	14.15±6.93	13.39±4.73
Male	29.15±7.46	52.35±12.36	21.85±5.95	16.27±7.35	14.23±4.76
t=	2.867	-3.688	-2.176	-3.238	-1.917
p=	**0.004**	**0.000**	**0.030**	**0.001**	0.056
Grade					
1st grade	29.38±7.29	49.13±10.89	20.73±5.57	14.68±6.77	13.73±4.12
2nd grade	29.33±6.83	50.33±11.25	21.37±5.57	15.21±7.07	13.75±4.93
3rd grade	30.34±6.32	48.63±11.03	20.60±5.50	14.29±6.93	13.74±4.67
4th grade	32.55±7.25	50.77±15.54	21.72±6.46	15.49±7.88	13.57±5.27
F=	5.709	0.809	1.022	0.681	0.040
p=	**0.001**	0.490	0.382	0.564	0.989
PostHoc	4>1, 4>2				
Social media usage status					
Uses	30.37±6.97	49.72±12.24	21.11±5.78	14.90±7.16	13.71±4.76
Does not use	22.67±13.28	52.33±13.28	21.33±5.51	19.00±4.36	12.00±3.61
t=	1.899	-0.368	-0.066	-0.990	0.621
p=	0.058	0.713	0.947	0.323	0.535
Duration of social media use					
9 years and below	30.29±6.84	48.82±11.81	20.57±5.49	14.44±6.88	13.81±4.65
10 years and above	30.73±7.56	53.88±13.35	23.61±6.44	17.03±8.05	13.24±5.24
t=	-0.544	-3.574	-4.582	-3.127	0.960
p=	0.587	**0.000**	**0.000**	**0.002**	0.339
Daily duration of social media use					
1 hour and below	29.77±7.69	46.72±12.56	18.43±5.41	13.41±6.78	14.88±5.31
2-6 hours	30.67±6.70	49.77±12.09	21.46±5.56	14.65±6.89	13.65±4.54
7 hours and above	29.37±7.32	54.83±11.09	23.58±6.27	19.27±8.08	11.98±4.73
F=	1.229	7.541	16.512	12.452	6.442
p=	0.294	**0.001**	**0.000**	**0.000**	**0.002**
PostHoc		3>1, 3>2	3>1,3>2, 2>1	3>1, 3>2	3>1
Type of device used for social media applications					
Desktop devices	30.90±6.86	52.06±13.28	22.50±6.09	15.99±7.94	13.57±4.98
Mobile devices	30.17±7.01	48.85±11.73	20.59±5.58	14.49±6.82	13.76±4.69
t=	1.042	2.625	3.316	1.952	-.412
p=	0.298	**0.009**	**0.001**	0.052	0.680

* t: Independent Samples t-test, F: ANOVA, PostHoc: Bonferroni, Mean: Arithmetic Mean, s: Standard Deviation, PWBS: Psychological Well-Being Scale, VELS: Virtual Environment Loneliness Scale.

A negative moderate correlation was identified between total PWBS and total VELS scores (r=-0.038, p<0.05). Additionally, a weak correlation was found between total PWBS and both virtual socialization and virtual sharing (p<0.05). Conversely, a positive moderate correlation was established between VELS and virtual socialization, virtual sharing, and virtual loneliness (p<0.05) (Table 4).

Table 4: Correlation Analysis of Psychological Well-Being and Virtual Environment Loneliness Scales (n=503)

		PWBS	VELS	Virtual Socialization	Virtual Sharing
VELS	r	-0.038	-		
	p	0.398			
Virtual Socialization	r	0.089*	0.766**	-	
	p	0.045	0.000		
Virtual Sharing	r	-0.142**	0.836**	0.519**	-
	p	0.001	0.000	0.000	
Virtual Loneliness	r	0.008	0.386**	-0.025	0.015
	p	0.854	0.000	0.571	0.739

* p<0.05; **p<0.01; r: Pearson Correlation Analysis, PWBS: Psychological Well-Being Scale, VELS: Virtual Environment Loneliness Scale.

DISCUSSION

In this section, the findings obtained in determining the relationship between the psychological well-being of university nursing students and virtual environment loneliness are discussed in light of the literature.

The results indicated that the overall psychological well-being score of the students was at a moderate level. A literature review revealed that a study conducted by Zhao in China with 318 nursing students reported similar results regarding the total psychological well-being score (Zhao, 2023). In a study involving 330 nursing students in Türkiye, similar findings were noted, emphasizing the significance of the relationship between psychological well-being scores and levels of anxiety and depression (Yüksel & Bahadir-Yilmaz, 2019). Another study conducted in Australia with 498 participants also found that the total psychological well-being score was at a moderate level (Foster, Roche, Giandinoto & Furness, 2020). In a 2022 study in Jordan, nursing students reported experiencing high levels of psychological distress while indicating that their psychological well-being was at a moderate level. These students suggested that their distress negatively affected their mental health (AL-Sagarat et al., 2022). The clinical practice stress experienced during nursing education, along with the pursuit of professionalism in preparing for the nursing profession, adversely impacts students' psychological states and contributes to increased levels of anxiety.

The study found that the total psychological well-being score of female students was higher than that of male students. Similar results have been reported in studies conducted in

Thailand, Türkiye, and Spain (Ergül Topçu, Yasak, Kalafat & Altinoğlu Dikmeer, 2021; Matud, López-Curbelo & Fortes, 2019; Tangmunkongvorakul et al., 2019). According to the results of this study, it can be said that the fact that female students have lower virtual loneliness scores than male students is effective in female students having better psychological well-being. It is thought that being able to communicate face-to-face increases psychological well-being scores. In addition, it suggests that males may prefer face-to-face communication instead of virtual environment friendship.

The study determined that the psychological well-being levels of fourth-year students were higher than those of lower-class students. Similar findings were reported in a study involving 171 nursing students in Türkiye (Tekir, 2022). The university environment is considered a period during which students adapt to both their professional and academic lives, as well as to interpersonal relationships with society and themselves (Prieto et al., 2021). During the initial transition to university, students often have to alter some of their routines. Adjusting to living in a different city, distancing from family, and changing social circles are all situations that require adaptation. The higher psychological well-being levels among fourth-year students may be attributed to their successful navigation of this adaptation process.

The study found that students also experienced moderate levels of virtual environment loneliness, indicating that while it was not severe, they were indeed experiencing some degree of loneliness. Research in the literature supports the notion that students generally experience moderate levels of virtual environment loneliness (Kabaklı Çimen, 2018; Özsat, Işiktaş & Şenol, 2022; Turan et al., 2020). In another study conducted in Türkiye, it was found that a sample group of 354 individuals, including university students, teachers, and academic staff, also reported moderate levels of virtual environment loneliness (Usta, Korkmaz & Kurt, 2014). A study conducted in China in 2023 with 459 participants indicated that individuals have begun to shift from real social lives to virtual social activities. The authors noted that, contrary to expectations in combating this loneliness, the likelihood of experiencing cyberbullying in online environments may increase (Tian & Wang, 2023). In line with this information, we can say that our study findings support the literature.

It was found that the virtual environment loneliness scores of male students were significantly higher than those of female students. Similar results have been reported in two different studies involving 328 and 280 students, which indicated that male students were more likely than female students to engage in sharing and forming friendships in virtual environments (Kabaklı Çimen, 2018; Kenyon, Kinakh & Harrison, 2023; Özdemir, Akçakanat & İzgüden, 2017). With this finding, it can be said that male students use virtual chat environments more

than female students, make more online friends, spend more time with their online friends and share their problems, and are in a sense more addicted to virtual friendships.

The study also revealed that individuals who used social media for longer periods reported higher scores of virtual environment loneliness. Studies in the literature corroborate these findings (W. Jia, Liu & Peng, 2024; Jiang, Li & Shypenka, 2018; Sönmez, Gürlek Kısacık & Eraydın, 2021). As students' duration of social media use increases, their virtual socialization and sharing also rise, resulting in higher scores of virtual environment loneliness. Thus, the study's results align with existing literature.

Although mobile devices were the most preferred type of device for accessing social media, students using desktop devices reported higher virtual environment loneliness scores. A similar result was found in a study conducted in the United States in 2023 with a sample of 2,005 students (Voss, Shorter, Mueller-Coyne & Turner, 2023). It is of course important that mobile devices, which have quite advanced hardware today, have the ease of connecting to social media sites. In our study, it was seen that the students' ages were between 18-24 and that the virtual environment loneliness scores of students in this age range were higher (49.89±12.16). It is thought that these students prefer devices because they want to feel safe.

It was found that there is a significant moderate negative correlation between students' psychological well-being levels and their levels of virtual environment loneliness. It is suggested that as students' psychological well-being levels increase, they are likely to feel less loneliness in virtual environments. This finding aligns with results from the literature. In a study conducted in Türkiye in 2020, it was determined that as the levels of social media use increased among 325 participants, their levels of virtual environment loneliness also rose, leading to a decrease in psychological well-being (Şensoy & Kurttaş Çolak, 2020). In another study, nursing students who used social networking sites to alleviate their loneliness, create social environments, and make new friends reported higher levels of psychological well-being compared to those who did not use such platforms. The same study noted the growing popularity of social networking sites, particularly among young people, and the considerable amount of time they spend online (Turan et al., 2020). This result can be explained by the fact that students with increased psychological well-being levels spend less time on social media and thus their loneliness in virtual environments decreases.

In a study conducted in Australia in 2021, it was highlighted that humans, as social beings, seek both happiness and pleasure while attempting to alleviate their unhappiness and loneliness in virtual environments. It was emphasized that fulfilling these needs could enhance individuals' psychological well-being; however, improper use of virtual environments might

e-ISSN: 2147-7892   Volume 13, Issue 2 (2025) 329-343   doi: 10.33715/inonusaglik.1590016

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lead to psychological distress, underscoring the need for caution (Graciyal & Viswam, 2021). Indeed, a study conducted with nursing students indicated that those who spent extended periods in virtual environments experienced negative effects on their academic performance, resulting in a decline in their success at school (Pınar Bölüktaş, 2022).

In a different study conducted in 2022 with 379 university students, it was reported that when students faced social anxiety, difficulties in real life, or situations where they felt pressure, they experienced feelings of loneliness and turned to virtual environments to alleviate those feelings. The same study noted that while students spending long periods in virtual environments might find temporary relief psychologically, their loneliness could increase in the long term without conscious use (Özsat et al., 2022). In a study involving medical students, it was suggested that individuals with submissive personalities felt lonely and preferred to spend time in virtual environments to alleviate that loneliness and achieve happiness (Wongpakaran, Wongpakaran, Pinyopornpanish, Simcharoen & Kuntawong, 2021). A literature review of a study conducted in Australia in 2023 found that participants experiencing loneliness derived considerable enjoyment from spending time in virtual environments and reported feeling better psychologically (Oppert et al., 2023). The results of our study are consistent with the findings in the literature.

CONCLUSION

In this study, the relationship between the psychological well-being of nursing students and virtual environment loneliness was examined. In the study, it was determined that both the psychological well-being and virtual environment loneliness levels of the students were at a moderate level. In addition, a significant, moderate negative relationship was found between the psychological well-being levels of the students and the virtual environment loneliness levels. At the same time, it was concluded that the total psychological well-being score of female students was higher than that of male students, and the psychological well-being levels of fourth-year students were higher than that of lower-year students. It was also determined that male students, students who used social media for a long time and preferred to access social media via desktop devices had higher virtual environment loneliness scores.

Therefore, in order to increase the psychological well-being levels of male nursing students, reduce their virtual environment loneliness, and ensure that they use social media less, it is recommended to create social activity environments that will increase face-to-face communication both in the university environment and in social responsibility projects and to encourage and create opportunities for students to participate in these activities. It is also

recommended that advisor faculty members prepare projects that can support their students in order to support their psychological well-being before they reach their final year.

Acknowledgment

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