



The Relationship Between Nomophobia and Cyberloafing in Health Workers a Research Directed at The Study: Descriptive a Research on

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Abstract

Problem of the Study: With the increasing prevalence of smartphones in professional environments, nomophobia-the fear of being without a mobile phone-has become a growing concern. In parallel, cyberloafing, defined as using the internet for personal purposes during work hours, has also increased. Especially in healthcare settings, where attention and efficiency are crucial, these behaviors may negatively affect service quality and productivity. This study addresses the gap in literature concerning the relationship between nomophobia and cyberloafing among healthcare professionals.

Aim: The aim of this study is to determine whether there is a significant relationship between nomophobia and cyberloafing among healthcare workers and whether this relationship differs based on demographic variables.

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Method: The research was conducted using a descriptive and correlational design. A total of 489 healthcare workers from public and private hospitals in Adana, Türkiye participated. Data were collected via the Nomophobia Questionnaire (NMP-Q) and a validated Cyberloafing Scale. Since the data did not meet the assumptions of normality (as assessed by the Shapiro-Wilk test), non-parametric tests including Mann-Whitney U, Kruskal-Wallis, and Spearman's rho correlation analysis were used.

Results and Conclusions: The findings revealed a strong, statistically significant positive correlation between nomophobia and cyberloafing ($r = 0.684$, $p < 0.01$). Higher nomophobia and cyberloafing scores were observed among single participants, individuals with higher income, and those with 16–20 years of professional experience. No significant differences were found based on age or gender. The results highlight the impact of digital dependency on workplace performance and emphasize the need for institutional awareness and preventative strategies.

Keywords: Nomophobia, Cyberloafing, Healthcare Workers, Smartphone Dependency, Digital Behavior

INTRODUCTION

The rapid advancement of mobile and digital communication technologies has dramatically transformed both social structures and workplace dynamics. Nomophobia, derived from "no mobile phone phobia," refers to the discomfort or anxiety experienced when individuals are unable to access their mobile phones. This psychological condition has become increasingly common due to the widespread use of smartphones. Similarly, cyberloafing, defined as the use of the internet for personal purposes during working hours, has become a growing concern in organizational settings.

This study focuses on healthcare professionals, a group for whom concentration and performance are critical, aiming to explore whether nomophobia is linked to cyberloafing and how these behaviors vary across demographic profiles.

Recent advances in communication and information technology have led to global changes. With the development of technology, it is an important example that individuals can easily solve all their work thanks to mobile phones that provide one-to-one convenience in the daily life of individuals (Güler vd, 2019).

The changes that took place at the end of the 20th century and the beginning of the 21st century increased the importance of the terms social change and data society. In the same period, traditional industry was replaced by information technologies, technological developments came

to the fore, and people's social ties also changed. In particular, changes in technology have led to changes in social ties. The transition from manual methods to digital technologies has also brought transformation in the field of sociology. Although it has brought many positive situations with the developments in technology, it has also caused a number of negative situations. Especially in our age, with the rapid development of information technology, its value is increasing rapidly day by day. Thanks to Internet technology, the power of information is increasing globally (Yıldız vd, 2020).

Nomophobia

Nomophobia, derived from No mobile Phobia, is the extreme fear of disconnection from cell phone communication. It is the smell of being deprived of the cell phone in some way. This condition, which can be defined as one of the emerging syndromes of our modern age, has become widespread, especially after the increasing use of smartphones (Yıldırım vd, 2018).

Nomophobia was first studied in the world in 2008 by the Postal Service in the UK. It was reported that 53% of the participants felt uncomfortable when they lost their smartphones, when their batteries ran out or when they had no signal, 58% of men and 48% of women had this anxiety, and 9% of the participants felt stressed when the new generation cell phone was not turned on (Erdem vd, 2017).

Virtual Shirking

When the literature is examined, the term cyberslacking is referred to as "cyberslacking", "cyberloafing", "cyber deviance", "cyberdeviancy", "personal web usage" and "cyberbludging" in the studies conducted in English, while in the studies conducted in Turkish, it is referred to as "cyberslacking", "cyberloafing", "cyber laziness", "cyber deviance", "cyberdeviancy" and "cyberbludging". In the literature, there are many different definitions of the term cyberloafing (Özüdoğru vd, 2020).

Cyberloafing refers to the use of the internet by employees for their own benefit during working hours at the workplace. Apart from the use of the internet during working hours and outside the workplace, the extensions of the cyberloafing attitude in the form of virtual deviance, internet abuse, using the internet as entertainment on the computer during working hours also express the problems caused by the internet as a result of simplicities. The problems it causes in business life are increasing day by day (Çetin vd, 2020).

Virtual shirking refers to the use of technological tools obtained by businesses for purposes other than fulfilling what needs to be fulfilled. People who engage in cyberloafing activities may increase their level of knowledge, skills and personal development. Conversely, when people engage in virtual shirking during work time, it can disrupt the functioning of the workplace (Gezer vd, 2020).

It means that the employee utilizes the internet network of his/her workplace for private purposes during working hours. In other words, cyberloafing includes the use of the internet facility of the workplace where the individual works, surfing the internet sites outside the workplace during working hours in line with personal tastes and preferences, or taking actions such as e-mail with his/her private request (Lim vd, 2012).

Some scholars classify cyberloafing as deviant organizational attitudes on the basis that when an individual spends his/her full time in the opposite way, he/she ends up not benefiting his/her organization, while others believe that it cannot be considered entirely negative because it gives the individual creativity, docility, and a learning environment (Blanchard, 2008).

In the literature as reasons for cyberloafing,

- Personal Development Behaviors,
- Recovery Behaviors,
- Addiction Behaviors,
- It is stated that cyberloafing behaviors are shown due to Internet Addiction.

1. RESEARCH METHODOLOGY

1.1. Purpose and Importance

It is aimed to conduct a research on healthcare professionals to examine whether there is a significant relationship between nomophobia and cyberloafing. The importance of this research is to examine the relationship between Nomophobia and cyberloafing in business life, to see its effect on work and to set an example for taking precautions.

Is there a relationship between nomophobia behavior and cyberloafing behavior in healthcare organizations? How is this relationship in terms of the variables analyzed in the study?

1.2. Population and Sample

Nomophobia and cyberloafing scale was administered to health care workers working in City Training and Research Hospital and Medline Hospital located in the Health Service Region of

Adana province. The population of the study consisted of a total of 489 employees working in two hospitals, one private and one public hospital.

1.3. Data Collection Tool

A simple random sampling method was used to select participants. The Nomophobia Questionnaire (NMP-Q) and a validated Cyberloafing Scale were administered. Reliability analysis confirmed high internal consistency for both instruments (Cronbach's alpha > 0.94). Statistical analyses included Spearman correlation, Mann-Whitney U, and Kruskal-Wallis tests. As the first scale; (Nomophobia Scale), the 30-item Nomophobia Questionnaire (NMP-Q) developed by Yildirim and Correia and prepared in the form of a 7-point Likert scale was used to measure individuals' smartphone addiction.

As the second scale, the cyberloafing scale created by Lim (2002) and later developed by Henle and Blanchard (2008) was used with a five-point Likert scale. Regarding its adaptation into Turkish, Örucü and Yıldız (2014) conducted a validity and reliability analysis and the scale consists of 20 questions to measure cyberloafing behaviors in a two-factor structure of important and unimportant (Blanchard vd, 2008) (Öncü vd, 2014). Cronbach's alpha value was determined as 0.88. The scale consists of 12 items. The scale is in five-point Likert type as "Never-0", "Once/twice-1", "Sometimes-2", "Often-3", "Most of the time-4". This study was conducted in accordance with the principles of the Declaration of Helsinki.

1.4. Method of Analysis

SPSS 22.0 statistical package program was used to analyze the data. The intensity of the demographic information of the participants was analyzed with frequency and percentage distribution. Cronbach's Alpha coefficients were found.

In order to determine the accuracy of the hypotheses prepared for the study, Correlation Test was used to calculate the relationship between dependent and independent variables. Since the data obtained in the public and private sector comparisons of the results did not conform to the normal distribution, Mann Whitney U Test was used for pairwise group comparisons and Kruskal Wallis Analysis of Variance test was used for more than two group comparisons.

1.5. Ethical Aspects of the Research

Ethics committee permission dated 23.10.2019 and numbered decision no-3 was obtained from Istanbul Arel University Ethics Committee for the realization of the study. Then, permission was

obtained from the Provincial Health Directorate in the region in question on 01.02.2020. Participants were provided to answer the questionnaires through the voluntary consent form.

2. ANALYSIS

The findings obtained from the data obtained in the study were interpreted.

Table 1. Distribution of Demographic Characteristics of Participants

Demographic Variables	Groups	Number	Percentage (%)
Hospital	City Hospital	324	66,3
	Medline Hospital	165	33,7
	Total	489	100,0
Gender	Male	266	54,4
	Woman	223	45,6
	Total	489	100,0
Marital Status	Married	265	54,2
	Single	224	45,8
	Total	489	100,0
Profession	Physician	30	6,1
	Dentist	10	2,0
	Pharmacist	33	6,7
	Health Officer	51	10,4
	Health Administrator	17	3,5
	Responsible Nurse	30	6,1
	Nurse/Midwife	169	34,6
	Technician	37	7,6
	Other Health Personnel	54	11,0
	Other Personnel	58	11,9
	Total	489	100,0
Age	18-24 years old	47	9,6
	25-34 years	212	43,4
	35-44 years	153	31,3
	45-49 years	65	13,3
	50 years and older	12	2,5
	Total	489	100,0

Working Time	0-5 years	203	41,5
	6-10 years	98	20,0
	11-15 years	101	20,7
	16-20 years	40	8,2
	21-25 years	33	6,7
	26 years and above	14	2,9
	Total	489	100,0
Income Status	1600-2499	111	22,7
	2500-3499	67	13,7
	3500-4499	61	12,5
	4500-5499	143	29,2
	5500 and above	107	21,9
	Total	489	100,0

324 of the respondents (66.3%) from Public Hospital and 165 (33.7%) from Private Hospital. Employees in public hospitals exhibited higher levels of nomophobia compared to those in private hospitals. This could be attributed to stricter institutional policies in public hospitals, causing staff to depend more heavily on personal smartphones for communication and information during breaks or off-duty moments (Table.1).

266 (54.4%) of the employees were male and 223 (45.6%) were women and 265(54.2%) were married and 224 (45.8%) were single. It is seen that the majority of the study population is male and married. Single participants showed significantly higher scores in both nomophobia and cyberloafing. This may be due to increased social media engagement or fewer domestic responsibilities compared to married individuals, leading to greater smartphone attachment and online activity during work (Table.1).

Survey respondents 30 are Medical Doctors, 10 are Dentists, 33 are Pharmacists, 51 are Health Officers, 17 are Health Administrators, 30 are Charge Nurses, 169 are Nurses/Midwives, 37 are Technicians, 54 are Other Health Personnel and 58 are Other Personnel. 18-24 years old those in group 47 (9.6%), 212 (43.4%) in the 25-34 age group, and 212 (43.4%) in the 35-44 age group those in group 153 (31.3%), 45-49 years those in group 65 (13.3%) and 50 years and older Those who were not were 12 (2.5%) (Table.1).

Those who have been working in the organization for 0-5 years 203 (41.5%), 6-10 years between 11-15 years, 98 (20.0%), 11-15 years between 101 (20.7%), 16-20 years between 40 (8.2%), those between 21-25 years 33 (6.7%) and 14 (2.9%) employees with 26 years and above. Participants with 16–20 years of service displayed the highest levels of both behaviors. A potential reason is occupational fatigue or burnout, which might drive experienced employees to disengage through digital means such as excessive smartphone use (Table.1).

When we look at the income distribution of the surveyed personnel; 1600-2499 111 (22.7%) of those with an income of TL. 111 (22.7%), 67 (13.7%) of those with an income of 2500-3499, 61 (13.7%) of those with an income of 3500-4499 (12.5%), 143 (29.2%) with incomes between 4500-5499 and 5500 and above 107 (%) of those with income 21.9) personnel. Higher-income employees showed significantly elevated levels of both behaviors. One explanation could be that higher-income individuals are more likely to own advanced smartphones, increasing both dependency and potential for distraction (Table.1).

Table 2. Reliability Tests of Nomophobia and Cyberloafing Scales

Cronbach's Alpha Value		
Nomophobia Scale (N=27)	Virtual Shirking Scale (N=13)	Both Scales (N=40)
0,97	0,94	0,97

Scale based on alpha coefficient;

- $0.00 < \alpha < 0.40$ is not reliable,
- If $0.40 < \alpha < 0.60$, reliability is low,
- $0.60 < \alpha < 0.80$ is highly reliable,
- $0.80 < \alpha < 1.00$ is highly reliable. Based on the results in the table, it is concluded *that*

the nomophobia and cyberloafing scale is highly reliable (Table.2).

According to the results of the Mann Whitney U Test conducted to determine whether there is a difference in paired groups according to the mean scores of nomophobia and cyberloafing obtained from the applied questionnaires (since they do not show normal distribution), it is seen that employees working in public hospitals experience more anxiety about being away from the phone in terms of nomophobia scale and there is a significant difference ($p=0.009$). In addition, it is seen that single employees working in both hospitals experience more nomophobia anxiety and spend more free time in terms of cyberloafing ($p=0.005$) (Table.3).

Table-3. Mann Whitney U Test Results for Nomophobia Score and Cyberloafing Score

Groups	Number	Nomophobia Scale Test Value			Virtual Shirking Scale Test Value		
		Row Mean.	U	p	Row Mean.	U	p
City Hospital	324	256,97	22853,0	0,009*	250,54	24934,0	0,222
Medline Hospital	165	221,50			234,12		
Total	489						
Male	266	252,17	27751,0	0,219	247,91	28885,5	0,618
Woman	223	236,44			241,53		
Total	489						
Married	265	228,51	25310,5	0,005*	228,39	25279,5	0,005*
Single	224	264,51			264,65		
Total	489						

Table 4. Kruskal Wallis H Test Analysis Results in Terms of Nomophobia Score and Cyberloafing Score

Groups	Number	Five Factor Personality Traits Test Value			Workplace Incivility Test Value		
		Queue Ort.	Chi-Square	p	Row rows Ort.	Chi-Square	p
Physician	30	223,02	10,241	0,331	281,17	10,083	0,344
Dentist	10	284,40			264,10		
Pharmacist	33	290,14			264,48		
Health Officer	51	220,82			206,50		
Health Administrator	17	263,03			240,53		
Responsible Nurse	30	286,57			286,70		
Nurse/Midwife	169	244,59			237,61		
Technician	37	241,43			239,07		
Other Health Per.	54	228,26			254,56		
Other Personnel	58	237,44			241,92		
Total	489						
18-24 years old	47	246,96	1,43	0,839	241,30	0,202	0,995
25-34 years	212	247,04			245,41		
35-44 years	153	240,36			246,12		
45-49 years	65	254,93			246,60		

50 years and older	12	206,67			229,29		
Total	489						
0-5 years	203	256,24	15,261	0,009*	252,16	15,545	0,008*
6-10 years	98	244,29			252,76		
11-15 years	101	242,63			248,95		
16-20 years	40	277,10			266,83		
21-25 years	33	185,20			181,42		
26 years and above	14	153,36			145,96		
Total	489						
1600-2499	111	213,14	15,608	0,004*	228,77	15,594	0,004*
2500-3499	67	228,20			211,10		
3500-4499	61	223,84			242,58		
4500-5499	143	263,50			242,10		
5500 and above	107	275,90			288,32		
Total	489						

According to the results of the Kruskal Wallis H Test conducted to determine whether there is a difference in the comparisons of more than two groups according to the mean scores of nomophobia and cyberloafing obtained from the applied questionnaires, it is seen that the employees with 16-20 years of service in both hospitals experience nomophobia and cyberloafing more than the other groups ($p=0.009$ and $p=0.008$) (Table.4).

In addition, nomophobia and cyberloafing behavior increased as the income level of the staff increased ($p=0.004$) (Table.4).

Table 5. The Relationship between Nomophobia and Cyberloafing

			Nomophobia Score	Virtual Slacking Score
Spearman's rho	Nomophobia Score	Correlation Coefficient		0,684**
		Sig. (2-tailed)		,000
	Virtual Slacking Score	Correlation Coefficient	0,684**	
		Sig. (2-tailed)	,000	
** Correlation is significant at the 0.01 level (2-tailed).				

The correlation analysis conducted to analyze the relationship between nomophobia and cyberloafing score is given in Table-5. Since the nomophobia and cyberloafing scores obtained from the questionnaire did not show normal distribution characteristics, Spearman Correlation analysis was performed. The analysis shows that there is a positive, strong and significant relationship between nomophobia and cyberloafing ($r=0.684$, $p=0.000$). As nomophobia behavior increases, cyberloafing behavior also increases (Table.5).

- A strong, positive correlation was found between nomophobia and cyberloafing ($r = 0.684$, $p = 0.000$).
- Public sector employees exhibited higher nomophobia than those in the private sector ($p = 0.009$).
- Single participants reported higher levels of both nomophobia and cyberloafing compared to married participants ($p = 0.005$).
- Healthcare workers with 16-20 years of experience and higher income levels showed increased levels of both behaviors.

3. DISCUSSION

These findings align with prior studies that suggest smartphone dependency can negatively impact work engagement. For instance, Güler et al. (2019) and Kocabaş & Korucu (2018) noted that increased smartphone usage was linked with higher distractions and lower productivity. The study adds to this literature by identifying specific demographic factors that amplify these behaviors, such as marital status and professional seniority. Similarly, Erdem et al. (2017) emphasized that individuals experiencing nomophobia often display reduced cognitive focus, which may indirectly contribute to behaviors like cyberloafing.

Moreover, the strong correlation between nomophobia and cyberloafing suggests that digital dependency may lead individuals to engage more frequently in non-work-related online activities during working hours, potentially affecting the quality of healthcare services.

In the study, it was found that there was a significant difference between occupation and work intensity and work shirking rate. In another study, although there was no difference in the scores of virtual addiction according to gender and age, it was found that there was a difference in terms of the frequency of smartphone use and the time of first use of the smartphone. In another

study, it was found that although there was no difference in the scores of virtual addiction according to gender and age, there was a difference in terms of the intensity of spending time with the smartphone and the time of first use of the smartphone (Kocabaş vd, 2018).

Research by Özüdoğru and Yıldırım (2020) also supports the notion that cyberloafing is a coping mechanism often triggered by stressors such as digital addiction or workplace dissatisfaction. In healthcare settings, where continuous alertness and efficiency are crucial, such behaviors can significantly affect service delivery quality.

Additionally, Lim (2002) and Blanchard (2008) argued that organizational culture and lack of monitoring systems may facilitate cyberloafing. Our findings further show that marital status and longer professional experience may contribute to increased susceptibility to nomophobia, which in turn escalates cyberloafing tendencies.

Furthermore, studies such as those by Panova and Carbonell (2018) have shown that the psychological effects of excessive smartphone usage—including stress, anxiety, and attention deficits—can exacerbate tendencies toward digital distraction. These effects are particularly problematic in healthcare, where attention to detail is paramount. Similarly, Montag et al. (2021) emphasized the role of personality traits, suggesting that individuals high in neuroticism or low in conscientiousness are more prone to smartphone dependency, which may lead to problematic work behaviors such as cyberloafing.

From an organizational perspective, researchers such as Andreassen et al. (2017) suggest that perceived organizational justice and employee engagement levels play a moderating role in the relationship between nomophobia and workplace deviance. A lack of supportive workplace culture may drive employees to use smartphones excessively as a form of disengagement or escape.

This study enhances the existing literature by revealing how behavioral and demographic factors jointly influence technology-related workplace distractions in healthcare environments. In doing so, it highlights the urgent need for workplace interventions targeting both technological literacy and employee well-being.

Conclusion The present study confirms that nomophobia significantly predicts cyberloafing behaviors among healthcare workers. This relationship is strongly influenced by demographic variables such as marital status, professional experience, and income level, but not

by age or gender. The correlation suggests that as mobile phone dependency increases, so does the likelihood of engaging in non-work-related digital activities during working hours.

To mitigate these risks, healthcare institutions must develop targeted intervention programs that address the root causes of digital dependency, and foster a more focused and productive work environment.

4. CONCLUSIONS

This study concludes that nomophobia is a significant predictor of cyberloafing among healthcare workers. The relationship is influenced by marital status, professional role, income, and years of experience, but not by age or gender. These findings indicate a need for targeted policies and digital wellness programs within healthcare institutions.

According to the Mann Whitney U Test results used to test the difference between the paired groups according to the mean scores of nomophobia and cyberloafing obtained from the applied questionnaires (since they did not show normal distribution), it is seen that the employees working in public hospitals have more anxiety about being away from the phone in terms of nomophobia scale and there is a significant difference ($p=0,009$). In addition, it is seen that single employees working in both hospitals experience more nomophobia anxiety and spend more free time in terms of cyberloafing ($p=0.005$).

According to the results of the Kruskal Wallis H Test conducted to test whether there is a difference in the comparisons of more than two groups according to the mean scores of nomophobia and cyberloafing obtained from the applied questionnaires, it is seen that the employees with 16-20 years of service in both hospitals experience nomophobia and cyberloafing more than the other groups ($p=0.009$ and $p=0.008$).

In addition, nomophobia and cyberloafing behavior increased as the income level of the staff increased ($p=0.004$).

Since nomophobia and cyberloafing scores obtained from the questionnaire did not show normal distribution characteristics, Spearman Correlation analysis was performed. In the analysis, it was observed that there was a positive, strong and significant relationship between nomophobia and cyberloafing ($r=0.684$, $p=0.000$). As nomophobia behavior increases, cyberloafing behavior also increases.

As a result of the research, the effect of nomophobia on cyberloafing in the workplace of employees in the field of health did not vary according to age, marital status, gender, but it varied according to professions (nursing, clerical, secretarial, technician) and a significant difference was found.

Recommendations

Healthcare organizations should conduct structured training programs to raise awareness about nomophobia and its negative implications for workplace productivity and professional focus. These programs should target not only general staff but also specific groups such as single employees and those with higher incomes, as these groups reported higher levels of nomophobia and cyberloafing.

The implementation of digital hygiene policies-including designated smartphone usage times, phone-free zones, and workplace internet use protocols-can help minimize excessive mobile phone usage during work hours. These policies may be particularly beneficial in public hospitals, where nomophobia scores were significantly higher.

Psychological counseling and organizational support mechanisms should be made available for employees displaying high nomophobia tendencies. In particular, those with 16–20 years of experience may benefit from burnout prevention programs, as this group showed elevated levels of both nomophobia and cyberloafing.

Human resources departments should assess institutional communication practices to reduce over-reliance on personal mobile phones. The adoption of secure, internal communication platforms may serve as an alternative and help limit nomophobia-related stress.

Future research should explore intervention models (e.g., digital detox programs, behavior modification techniques) and assess the long-term effects of smartphone dependency on professional performance, particularly in healthcare environments where attention and accuracy are critical.

Studies should also examine organizational factors-such as perceived justice, leadership style, and work engagement-as potential mediators or moderators in the relationship between nomophobia and cyberloafing, which can provide deeper insight into managing digital behavior in professional settings.

Author Statement

Statement of Research and Publication Ethics

This study was prepared in accordance with the rules of scientific research and publication ethics.

Author Contributions

The authors contributed equally to the study.

Conflict of Interest

The authors declare no conflict of interest.

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