Relationship between Internet Addiction and Self-Esteem among University Nursing Students'

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Abstract

Background: Using modern technologies is a common feature of today's world. The internet has become an indispensable instrument, which often plays a key role in work-related activities. It has also become part of people's leisure time. Since the 1990s, internet addiction has attracted professionals as well as the public across the globe. **Aim of the Study**: assess the relationship between internet addiction and self-esteem among university nursing students. **Subjects and Methods: Setting:** The study was conducted in faculty of nursing / Ain Shams University. **Size:** the sample composed of 110 nursing students aged 19-26. To determine empirical data. **Tools:** Different tools were used for data collection of study and it was written in simple language to facilitate the understanding of the students. **First tool**: Sociodemographic Questionnaire, **second tool:** Internet Addiction Scale, **third tool:** Self-Esteem Scale. **Results:** A significant negative relationship was found between age, self-esteem, and internet addiction among social network users. A significant positive relationship was confirmed between self-esteem and internet addiction. Gender differences were identified in internet addiction as well. **Conclusion:** There is highly positive correlation between level of internet addiction and level of nurse students' self-esteem among nurse students under study. **Recommendation**: Conducting training program for nursing students in the harms of Internet addiction in the level of physical and psychological damage and the impact on self-esteem.

Keywords: Internet Addiction, Self-Esteem.

Introduction

Internet addiction (IA) is a major concern in university medical students professionals. The implications of this addiction as well as its association with sleep, mood disorders and self-esteem can hinder their studies, impact their long-term career goals, and have wide and detrimental consequences for society **(Agbaria, and Bdier, 2021).**

The classification of Internet addiction as a behavioral disorder remains a controversial matter. It has been described as an individual's uncontrollable and compulsive use of the Internet, which negatively affects academic and performances, reduces sleep and hygiene quality, and leads to reduced interpersonal social relationships among university students **(Servidio, 2019).**

The relationship between self-esteem and is not entirely clear. There is still controversy about whether low self-esteem is the cause or effect of addiction. When drug use leads to decreased self-esteem and worse health and social status, we must also take into account the influence of addictive substances. In the case of the internet, we may ask whether we tend to be more inclined to it because of low self-esteem or because of poor social and coping strategies that deteriorate by the extensive time on the internet, leading to a further deepening of addiction **(Goldman, 2021).**

Internet addiction has become a serious problem that negatively affects students of the College of Nursing, as more than 40.7% of students have an addiction to the Internet. Of these, 2.2% had a severe addiction and 38.5% had a moderate internet addiction. Globally, an average of 2-5 million Internet addicts per 50 million regular users has been estimated. In other words, about 5 to 10 percent of internet users have IA in a study of Egyptian university students, 9.7% of respondents.They were addicted to the Internet **(Ebrahim Essa, and Elsherif, 2020).**

The role of the psychiatric nurse in assistance students to overcome the problems of addiction to the Internet is a very important and influential role in the personality of the student and to identify the strengths and weaknesses of the student's personality among nursing students. Social relations after graduation, a special group among university students. These results have real-world implications for nursing educators. Specifically, the nurse should advise students on how to use the Internet and engage students through seminars, symposia, and conferences on Internet and Internet addiction **(Turan et al., 2020).**

Significance of the study

Internet addiction is a chronic phenomenon associated with serious physical, social and mental losses and it was Internet addiction is generally defined as an uncontrollable desire to use the Internet, the devaluation of time spent without connecting to the Internet, intense nervousness and aggression in the event of deprivation, and progressive deterioration of social and family life **(Vetković and Cvetković, 2019).**

Internet addiction prevalence was 2.6% among students in El-Minia, Upper Egypt, while the prevalence of potential Internet addiction was 18.2%. Another study conducted among students recruited from private and governmental schools in Cairo, Egypt, revealed a prevalence of 0.8%. Saudis are heavier Internet users than others in different countries. A study was done among Taif University students in Saudi Arabia and showed that most of them (98.2%) were using the Internet **(Abdel-Salam et al., 2019).**

Nursing students are the most used categories of the internet which leads to a disturbance their social and personal relationships and affects their self-esteem. Thus, there is an overwhelming need to conduct this study to assess the relationship between internet addiction and self-esteem **(Xin, & fai Lau,2021).**

This study aims to assess the relationship between internet addiction and self-esteem among university nursing students.

Research Questions:

1- What is the prevalence of internet addiction among university nursing students?
2- What is the level of self-esteem among university nursing students?
3- Is there a relationship between internet addiction and self-esteem among university nursing students?

Subjects and Methods

Subjects and methods of this study were portrayed under four main topics as follows:

    I. Technical design
    II. Operational design
    III. Administrative design
    IV. Statistical design

I. Technical Design

The technical design for this study Include research design, setting, subjects and tools of data collection.

1) Research Design:

A Descriptive Correlation research design was utilized in this study.

2) Research Setting:

This study was conducted in the Faculty of Nursing / Ain Shams University.

3) Subjects of the study:

The subject of this study will include all the students nursing in the first semester of four years from the scholar year 2020/2021.

Sample type: purposive sample.

Sample Size: was estimated using appropriate statistical equation after reviewing the total number of students in previously mentioned setting.

Tools of data collection:

Data of this study were collected through the following tools:

I- Socio-demographic questionnaire:

An Arabic questionnaire was developed by the researcher to elicit data about demographic characteristics of students such as (age, sex, academic year, residence, family monthly income, etc.).

II- Internet Addiction Scale:

This scale was designed by **Sermany, (2011)** and it was adopted by the researcher to assess internet addiction among nursing university students. It consists of (60) items, divided into sixth sub scale as the following: Excess use (10 items), social media (10 items), Mood symptoms for reliability (10 items), Health problems (10items), social problems (10items), Withdrawal symptoms (10 items).and it is rated on 3. Point liker scale format ranged from Yes (3), Sometimes (2) and No (1) **(Sermany, 2011).**

❖ **Scoring system: -**

The scale has 60 items that scored according to Likert scale into 3 dimensions as yes, sometimes and no. an answer with yes takes 3, sometimes takes 2 while no takes 1. After that the total score is the sum of all items and categorized it into three levels as the following:

- Mild 1-> 60
- Moderate 60- >120
- Severe 120->180

Reliability Statistics

Cronbach's Alpha	N of Items

. 958	60

The sample size was calculated to estimate a correlation coefficient of 0.25 or higher between the scores of self-esteems and internet addiction at 95% level of confidence and 80% study power. Using open-Epi software package for a correlation sample size was 100 after accounting for a non-response rate for anon-response rate of approximately 5% and for 10% of the total sample for pilot study which excluded from the total number of sample size. To evaluate the applicability and reliability of the constructed tools.

III- Self-esteem scale:

It consists of (20) items and it is rated on 3 Point Likert scale format ranged from Yes (3), Sometimes (2) and No (1).

❖ **Scoring system: -**

The scale has 20 items that scored according to Likert scale into 3 dimensions as yes, sometimes and no. an answer with yes takes 3, sometimes takes 2 while no takes 1. After that the total score is the sum of all items and categorized it into three level as the following:

- Low 1-> 20
- Moderate 20- >40
- high 40->60
- Reliability Statistics

Cronbach's Alpha	N of Items
.958	60

The sample size was calculated to estimate a correlation coefficient of 0.25 or higher between the scores of self-esteems and internet addiction at 95% level of confidence and 80% study power. Using open-Epi software package for a correlation sample size was 100 after accounting for a non-response rate for anon-response rate of approximately 5% and for 10% of the total sample for pilot study which excluded from the total number

of sample size. To evaluate the applicability and reliability of the constructed tools.

II. Operational design:

The operational design for this study contains three phases namely: the preparatory phase,Validity and reliability, pilot study, and fieldwork.

1-The Preparatory phase:

This phase started from October 2020 till November 2020, the researcher reviewed using articles, the internet, scientific journals, the material in textbooks, the national and international related literature were used in the study to be acquainted with study subjects.

2-Validity and reliability of tool

To achieve the criteria of trustworthiness of the tools of data collection in this study, the tools were tested and evaluated for their face and content validity, and reliability by jury group consisting of (9) experts from nursing and medical field with different specialties were represented in the group such as Psychiatric/Mental Health Nursing, Nursing Administration, and Medical-Surgical Nursing. To ascertain relevance, clarity, and completeness of the tool's experts elicited responses were either agree or disagree for the face validity and for content reliability, important, not important, and comments.

The required corrections and modifications were done and the researcher revised each tool and modifies some statement under supervision of the researcher supervisors. The required corrections and modifications were done as the following:

• Correct the linguistic and grammatical mistakes in some of the questions.

The reliability of the tools that was assessed through (16) subjects using the developed questionnaire and reassessment after (7) days on the same subjects, the results were the same each time. The subjects are participated in reliability test they are excluded from the actual study subjects to test and evaluate the clarity, feasibility and applicability of research

tools, and in order to estimate the time needed to fill in the study tools.

According to the reliability test results, the necessary modifications were done, as the font and format of tables were reprinted in clear forms.

The validity and reliability process were done during the period half of October 2020. The reliability of the tools that was assessed through measuring their internal consistency by determining Cronbach alpha coefficient, proved to be high as indicated in the following table:

Reliability Statistics

Cronbach's Alpha	N of Items
.958	60

The sample size was calculated to estimate a correlation coefficient of 0.25 or higher between the scores of self-esteem and internet addiction at 95% level of confidence and 80% study power. Using open-Epi software package for a correlation sample size was 100 after accounting for a non-response rate for anon-response rate of approximately 5% and for 10% of the total sample for pilot study which excluded from the total number of sample size. To evaluate the applicability and reliability of the constructed tools.

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

3-Pilot study:

The pilot study was carried out in October 2020 before data collection. A pilot study was conducted for 10 nursing students (10 % of total sample) to evaluate the applicability and reliability of the constructed tools. No modification was done to the tools.

4-Field work:

The actual fieldwork for the process of the data collection has consumed three-months started on beginning of November 2020 and was completed by the end of January 2021, through the following steps:

First step:

Before starting the data collection, the researcher met with the Vice Dean for Postgraduate Studies after introducing herself, she explained the nature and purpose of the study to gain their oral consent and cooperation. Data were collected by the online sheet for 25-30 minutes.

Second step

The researcher arranged with nursing course coordinators of the administration branch for determining the suitable time to collect the data online and explains the aim and components of the questionnaire tool. Confidentiality of any obtained information was assured, and the subjects were informed about their right to participate or not in the study. The participants were also assured about anonymity, and that data will only be used for the purpose of the study.

Third step

The researcher checked her email to ensure filled questionnaire tool online its completion of the process of data collection.

5-Limitations of the Study

- The collection of data has been delayed because the corona virus (COVID19) Pandemic of the world.

6-Ethical considerations:

An ethical approval was obtained from the the Scientific Research and the council members of psychiatric / mental health nursing department, ethical committee, and the Dean of the faculty of the Nursing at Ain Shams University. And verbal consent was obtained from the nurses' student before distributing the questionnaires and after explanation of the purpose of the study; anonymity was assured and maintained; no burden or risk was imposed on students; no coercion or pressure was applied.

Prior to the actual work of research study, ethical approval was obtained from the Scientific Research Ethical Committee of the Faculty of Nursing at Ain Shams University. The subjects were informed about their right to withdraw at any time without giving any reason and the collected data kept confidential and used for scientific work only. Informal consent was obtained from each participant in the study.

III. Administrative design

An official letter requesting permeation to conduct the study will be submitted from the Dean of the faculty of Nursing / Ain Shams University. This latter included the aim of the study and a photo copy from data collection tools in order to get the permeation and help for collection of data.

IV. Statistical design:

The statistical analysis of data was done by using the Computer Software PC. Data entry and statistical analysis were fulfilled using the statistical package for social sciences (IBM SPSS 20.0). Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data and the arithmetic mean (X) and standard deviation (SD) for quantitative data. Qualitative variables were compared using chi square test $(X)^2$ and P-value to test association between two variables. The validity and reliability test were confirmed by using the Cronbach Alpha Coefficient test. Degrees of significance of results were considered as follows:

- p-value > 0.05 Not significant (NS)
- p-value ≤ 0.05 Significant (S)
- p-value ≤ 0.000 Highly Significant (HS).

Results

Table (1): show's that, the highest percentage of nursing students (86%) were in age from 22 -< 24 with mean age of 21.6± 1.06 and (66%) of them are female. Regarding their previous academic year, it was found that score of slightly half of nurses 'students under study are very good. The highest percentage of them (95%) are single and (77%) of them are from urban area and

(85%) were live with their parents. As regards duration of internet use, it was found that near three quarter (71%) of nursing students were use internet since more than five years and more than two fifth of them (45%) spent from 1 to 3 hours on internet daily.

Table (2): illustrate that, the highest mean (**18.38 ± 4.28**) of nurse students' perception regarding subscale of internet dependency were found in excess use of internet dependence. While the lowest mean (**13.68 ± 3.19**) was found in social problems.

Table (3) show's that, the majority 83% of nurse's student were have a moderate level of internet addiction while the minority were 17% were have a high level. Also, it was found that there was a highly statistical significance differences between levels of internet addiction.

Table (4): emphasizes that, there was no statistical significance relation between all studied sociodemographic characteristics of nurse's student and their level of internet addiction except residence and duration of internet addiction.

Table (5) show's that, near three quarter (72%) of nurse students under study were have moderate level of self-esteem and 28% were have high level of self-esteem.

Table (6): clarifies that, there was a highly positive correlation between level of internet addiction and level of nurse students' self-esteem among nurse's students under study.

Table (1): Socio-demographic questionnaire of university nursing students under study of university nursing students under study (n=100).

Items	No. (100)	%
Age		
▪ 20-> 22y	3	3
▪ 22-> 24	86	86
▪ 24-26y	11	11
Mean ± S D 21.6± 1.06		
Sex		
▪ Male	34	34
▪ Female	66	66
Previous academic year Score		
▪ Fair	5	5
▪ Good	15	15
▪ Very good	49	49
▪ Excellent	26	26
▪ Weak	5	5
Marital status		
▪ Single	95	95

▪ Married	5	5
▪ Widow	0	0
Residence		
▪ Rural	23	23
▪ Urban	77	77
Residence with		
▪ Parent	85	85
▪ Friends	1	1
▪ University house	14	14
Duration of internet use		
▪ From 1-> 4 week	2	2
▪ 1-> 12 Month	2	2
▪ 1-> 3 years	8	8
▪ 3-> 5	17	17
▪ 5 and More	71	71
Reasons for using the internet		
▪ For scientific reason	27	27
▪ For arts reason	20	20
▪ For plays reason	21	21
▪ For electronic conversation	32	32
▪ For films and programs	27	27
Hours for using the internet daily		
▪ Less than 1hour	7	7
▪ 1 – <3 hours	45	45
▪ 3 -< 6	32	32
▪ More than 6hour	16	16

Table (2): Total mean and stander deviation nursing students regarding internet addiction subscale.

Items	Total internet addiction. Mean ± S D
- Excess use	18.38 ± 4.28
- Social Media	16.82 ± 3.94
- Mood symptoms of Internet dependence	17.82 ± 3.63
- Health problems	17.29 ± 4.49
- Social problems	13.68 ± 3.19
- Withdrawal symptoms	16.11 ± 3.90

Table (3): Total level of Internet Addiction Nursing Students.

Items	No.	%	Chi-square	p-value
• **Total Level of Internet Addiction**				
*Low	0	0		
*Moderate	83	83	43.5	.000
*High	17	17		

Table (4): Relationship between total level of internet addiction and socio demographic among nurses' students under study.

Socio demographic characteristics	Level of internet addiction			Chi-square	P-value
	Mild %	Moderate %	Severe %		
Age					
▪ 20-> 22y	0	1	2	11.02	0.05 >
▪ 22-> 24	0	16	70		
▪ 24-26y	0	3	8		
Sex				1.5	0.05 >
▪ Male	0	26	8		
▪ Female	0	57	9		
Previous academic year Score					

▪ Fair	0	4	1	3.7	0.05 >
▪ Good	0	12	3		
▪ Very good	0	38	11		
▪ Excellent	0	24	2		
▪ Weak	0	5	0		
Marital status					
▪ Single	0	78	17	1.07	>0.05
▪ Married	0	5	0		
▪ Widow	0	0	0		
Residence					
▪ Rural	0	19	4	0.03	>0.05
▪ Urban	0	64	13		
Residence with					
▪ Parent	0	70	15	5.8	<0.05
▪ Friends	0	0	1		
▪ University house	0	13	1		
Duration of internet use				4.1	<0.05
▪ From 1-> 4 week	0	1	1		
▪ 1-> 12 Month	0	2	0		
▪ 1-> 3 years	0	8	0		
▪ 3-> 5	0	13	4		
▪ 5 and More	0	59	12		
Reasons for using the internet					
▪ For scientific reason	0	24	3	3.1	>0.05
▪ For arts reason	0	14	6		
▪ For plays reason	0	17	4		
▪ For electronic conversation	0	28	4		
▪ For films and programs	0	24	3		
Hours for using the internet daily					
▪ Less than 1hour	0	7	0	2.2	>0.05
▪ 1 – <3 hours	0	38	7		
▪ 3 -< 6	0	26	6		
▪ More than 6hour	0	12	4		

HS= Statistically highly significant at p≤ 0.001 S= Statistically significant at p≤ 0.05
NS= Statistically not significant at p> 0.05

Table (5): Total Level of nurse students' self-esteem.

Items	No.	%	Chi-square	p-value
• **Total Level of nurse students' self-esteem**				
*Low	0	0	19.3	0.000
*Moderate	72	72		
*High	28	28		

Table (6): Correlation between level of internet addiction and level of nurse students' self-esteem among nurse's students under study.

Items	R	P- Value
• **Level of internet addiction**	0.521	. 000
• **Level of nurse students' self-esteem**		

Discussion

Internet addiction is a complex process. Unlike other types of addictions, the internet provides many benefits and is accepted as the norm in society, so its overuse is often not a source of direct criticism from others. Given the increasing number of studies around the world, internet addiction is a global problem **(Abbasi et al., 2021).**

Students are the most endangered population by internet addiction because

they are encouraged to use computers and mobile internet devices. The increase in internet addiction during the period of young adulthood may also be associated with leaving home to university, where these individuals are given greater freedom and the opportunity to use the internet all day long **(Pissin, 2021).**

The aim of this study was to assess the relationship between internet addiction and self-esteem among university nursing students.

Internet Addiction among Nursing Students Regarding their sociodemographic

Concerning the socio-demographic characteristics of nursing students, the present study findings show that, the highest percentage of nursing student were in age from 22 -< 24 with mean age of 21.6± 1.06 this result is due to University city, where living freely and not being completely monitored by parents.

This result is semi congruent with **Sahu Kasar,et al.,** Socio demographic details of the variables were assessed Majority of the subjects (81%) in the current study were in an age group 17-20 years, similarly in the above-mentioned study, the mean age group was 19.02 years.

The present study findings show that, it was found that score of more half of nurses 'students understudy of them are female, this is due to university city, where living freely and not being completely monitored by parents, females spend a lot of time on the Internet because they feel lonely or because they have difficulty getting to know society and this result is due to societal customs. The Internet is a great way to join a group of friends.

This result is congruent with **Sahu, Kasar et al.** Socio demographic details of the variables were assessed majority were females 65(67.01%). (2019) in their study, where among 391 professional course students, 55% were males.

As well this result in the same line with **Ahmadi et al.,** this study results showed that gender and the duration of Internet usage per day had a negative and positive significant effect on Internet addiction, respectively. Indicating that with the increase of Internet usage per day, the internet addiction increases. Also stated that Internet addiction has a significant relationship with gender however, one study reported the girls' more dependence on the Internet. The results of the present study are consistent with most previous studies where the rate of Internet addiction was reported higher in boys than in girls.

The previous findings were compatible with **Burke et al. (2020),** the results of the present study are consistent with those of most of the previous studies, suggesting that male gender is a predictor of internet addiction; indeed, in one study, the risk of internet addiction was 3.5 times higher among male students than female students.

The present study findings show that, the previous academic year, it was found that score of slightly half of nurses 'students understudy are very good, this result is my due to lack of concentration in lectures because of staying up late during the night, lack of good study due to a lack of responsibility for the study, feeling unwilling to deal with the outside world and the desire to constantly interact with the virtual world through the internet.

The present study findings show that, the highest percentage of the assessed majority nurses' student's understudy is single, this may be because they are still studying, and this is normal for their educational and age status.

The present study findings show that more half of them is from urban area and were live with their parents this result is my due to the increase the economic status in urban areas than in the countryside, easy access to internet service and

availability, distinguish Internet service and speed.

As well this result in the same line with **Walker et al. (2021)** who highlighted that internet addiction is an aid to develop psychological health issues, young adults are the most active social website users, have a predominantly high risk for developing psychological health issues.

The previous findings were compatible with **Kuntz, (2020).** The present study showed that there was a highly statistically significant reduction on a lack of assertiveness as a social websites motives among studied students post intervention implementation than pre-intervention implementation. This may be due to the positive effect of the psychiatric nursing intervention which helps the students to understand the concept of assertive behavior and able to differentiate it from aggressive and passive behavior or because of the effect of role play and positive verbal reward, which encourage assertive performance. This helped students acquire a positive self-concept and having an effective method of self-expression rather than of usage social websites to look for positive self-concept or self-expression.

This result is supported by **Asrese (2020)** who is investigating concerning internet addiction, researchers have been trying to understand what kind of psychological features people have when they are overly involved in the use of the internet. To this date, some psychological variables have been studied and reported as variables correlated with internet addiction, such as: self-esteem, self-control, anxiety, loneliness, life satisfaction, extraversion, neuroticism, impulsivity.

In the same line, this result agrees with **Wang et al. (2021)** refer to social factors associated with Internet addiction. According to them, online games with multi-player attract young people because these games are simulation of social communication in real life. In addition, a

degree of anonymity especially attracts individuals who may be anxious in social situations. In relevant literature, it is not reached a consensus whether self-esteem is a cause or a result of internet addiction.

The previous finding is like that of the study carried out by **Burke et al. (2021)**, another predictor of Internet addiction was found as social self-esteem. Given the importance of social relationships during university education stage, it seems inevitable that the self-esteem levels of students affected by the qualities of peer relationships. states that, an individual's negative self-evaluation in peer relationships may cause the dependent behaviors in order to avoid these stressful relationships **Mushtaq et al. (2021).**

The finding of the present study shows that, near three quarter of nurse students 'under study has moderate level of self-esteem and slightly more quarter of nurse students under the study has high level of self-esteem, this result is may be due to the student being bullied or abused experiencing prejudice from others, the difficulty of studying and get a high score and fear from his/her parent, health problems, mental health problems, worries about your appearance and body image, problems with money or housing.

The previous finding is partially like that of the study carried out by **Kowert et al. (2020),** that the results of this study revealed that general self-esteem, social self-esteem, home-family self-esteem, and total self-esteem were significantly and negatively correlated with Internet addiction among nurse students. Furthermore, social self-esteem and home-family self-esteem were found to be significant predictors of Internet addiction. In the literature, many studies have been examined the association between self-esteem and pathological Internet use.

The finding of the present study shows that, there was no statistical significance relation between all studied

sociodemographic characteristics of nurse's student and their level of self-esteem, this result is my due to indirect effect of the nurses' students.

The finding of the present study clarifies that, there was a highly positive correlation between level of internet addiction and level of nurse students' self-esteem among nurse's students under study, this result is my due to social self-esteem and home-family self-esteem significant predictors of Internet addiction.

Conclusion:

In the light of the present study findings, it can be concluded that:

- The internet addiction has a negative effect on the university nursing students' self-esteem.
- There is a highly statistical significance differences between levels of internet addiction.
- The studied nursing students of total level of nurse students' self-esteem, near three quarter of nurse students 'under study has moderate level of self-esteem and slightly more quarter of nurse students under the study has high level of self-esteem.
- There is highly positive correlation between level of internet addiction and level of nurse students' self-esteem among nurse's students under study.

Recommendations

Based on the present study finding the following recommendation:

For university nursing students:

- Incorporating the types of internet addiction into the nursing curriculum at all levels of nursing education and their implication on self-esteem.

For family:

Continuous training program include students' parents. This may render them more readiness to accept and support the students.

For Research:

- Further research is needed to investigate the socio-cultural circumstances that may hinder or enhance self-esteem among nursing university students.

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