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RELATIONSHIP OF INTERNET USE AND PSYCHOLOGICAL WELL-BEING AMONG STUDENTS IN PRINCESS NOURAH UNIVERSITY

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ABSTRACT

The internet is used extensively by many young adults, especially students in daily life. Researchers looked into issues with Internet addiction in the Middle East. However, there have been no studies about it in Saudi Arabia. The purpose is to explore the prevalence of Internet addiction among female medical students in Saudi Arabia. Furthermore, to examine the relationship between Internet addiction and psychological well-being. Also, to examine the relationship between average Internet use per week and Internet addiction. One hundred fifty-three participants between 19 and 26 years old were chosen from Princess Nourah University. They were selected in equal proportions from different medical colleges. The scales used are the Internet addiction and psychological well-being scales. This study used a correlation analysis, the results of which showed that 45.8% of students suffer from moderate Internet addiction and 5.2% suffer from severe Internet addiction. It has been proven that there is a negative correlation between psychological well-being and Internet use and there is a weak correlation between average hours of Internet use per week and Internet addiction. In conclusion, individuals with high Internet use will have lower psychological well-being. In the future, more research will be needed to investigate the pathological ramifications of Internet addiction.

Keywords: *Internet Addiction, Psychological, Well-Being, Saudi Arabia, Addiction*

INTRODUCTION

The Internet is commonly used by young adults in many countries, especially by students in daily life. The number of Internet users has considerably increased worldwide, and these users have greater opportunities to interact with the world. We can use the Internet in many ways: through the use of mobile phones, laptops, and through desktop computers at home, work, and the university library (Ozkisi, 2015). The quality of Internet access has greatly improved as the number of Internet users has increased. The Internet has spread to nearly all areas in our lives at school, work, and home. Addictive use of the Internet is a new phenomenon and because of this, many people are unaware of it and ignorant of possibilities for treatment (Young, 2004). Moreover, people can become addicted to the Internet if they become increasingly dependent on the Internet and they seek to be online to escape real life issues or a dysphoric mood. Individuals with an Internet addiction experience excessive uncontrolled internet use and spend a great deal of time online, in spite of negative outcomes in their lives. Also, Internet addiction negatively affects psychological well-being (Winther, 2014).

Many researchers have dealt with issues about Internet addiction in the Middle East. However, there have been no studies about the issue, or more specifically, its effect on psychological well-being, in Saudi Arabia. The motivation to do this research is that Internet usage has become much more widespread and people are not aware of the negative effects or consequences of excessive use of the Internet. Therefore, it is necessary to spread awareness among youth groups and society at large to encourage the healthiest way to use the Internet in order not to negatively affect our lives. Many Internet users could be engaging in excessive usage and preoccupied with being online most of the day without the awareness that they are addicted. It is important to answer the research questions to know when normal Internet use becomes a problematic pattern of behavior and how it affects health issues in everyday life.

This study investigates three research questions. First, do female medical students in Saudi Arabia suffer from Internet use addiction? Second, is there a relationship between psychological well-being and Internet

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use in female medical students in Saudi Arabia? Third, is there a relationship between Average Internet users per week and Internet addiction in female medical students in Saudi Arabia? These questions lead to the formulation of the following hypotheses: first, female medical students suffer from Internet use addiction in Saudi Arabia; second, there will be a significant relationship between Internet use and psychological well-being of female medical students in Saudi Arabia; and third, the individuals with high Internet use will have lower psychological well-being. Also, there will be a significant relationship between average Internet use per week and Internet addiction in female medical students in Saudi Arabia, demonstrating that the more time a person spends using the Internet, the greater probability she will become an addict.

Literature Review

Internet use is widespread and is not restricted to any specific gender, culture, race, or age. The Internet allows people to utilize different types of functions and applications, including academic work, online chats, e-mails, social media, newspaper reading, sports activities, information protocol, search engines, watching videos or television, entertainment, and online shopping (Ogunla, 2013).

There are many benefits of using the Internet; it allows people to chat with others from home, more easily and quickly. People can discuss ideas on any number of topics and get different opinions. They can also find others that have similar interests, establish a global friendship, express various shared thoughts, and explore another culture (Ozkisi, 2015). The Internet helps with searching for information at various levels of study. For example, online information about medical issues makes disease detection much easier, and it can even allow people to talk to doctors online. The internet allows students and researchers to carry out research from home instead of research libraries. In addition, the Internet provides free email services to anyone. The Internet promotes the use of different online programs, such as Skype, which allows for holding a video conference with anyone in the world who also has access. In addition, there are many services now provided on the Internet such as online banking, job seeking, online shopping, downloading games, and surfing the web. E-commerce can be used for any type of commercial maneuvering and business that involves the transfer of data via the Internet (Ozkisi, 2015). The internet facilitates the reading of online newspapers (Ingram, 2013).

On the other hand, there are many disadvantages of Internet usage, including the ease of theft of personal information; for example, names, addresses and credit card numbers are very prone to cybercrime. The Internet also facilitates spamming, or sending various viruses that damage computers and take advantage of people. For example, the internet allows for stealing money from unsuspecting business users (Young, 1996). Cheating spouses use Internet tactics such as having a fake profile. That has led to dangerous situations. Child pornography use is perhaps the biggest Internet threat related to children's mental health and physical safety (Ingram, 2013). Also, using vehicles such as blogs, anyone can post anything without proof. Some people become addicted to Internet use. Also, addicted to excessive using without purpose that impact their life: for example, causing relationship, occupational, and academic problems (Ogunla, 2013). Physical problems related to excessive use of the Internet are dry eye, headache, a decrease in physical exercise, and sleep problem. Also, there are psychological effects of excessive Internet use, including depression and loneliness (Katherine, 2013). In addition, the Internet users sometimes have an obsession that has a deep effect on their lives, such as compulsive checking of Internet apps (Kapahi, 2013). According to Kuss *et al.*, (2013), Internet addiction could come with a clinical disorder. For instance, depression, suicidal ideation, insomnia, schizophrenia, obsessive-compulsive disorder, drug use, aggression, attention- deficit hyperactivity and social phobia (Kuss *et al.*, 2013).

Addictive use of the Internet is a new phenomenon that many people are unaware of and unprepared to treat (Young, 2004). Internet addiction, unlike chemical dependency, does not involve an intoxicant: rather, it is defined as an impulse-control disorder. Pathological gambling is viewed as more akin to the compulsive nature than Internet use (DSM-IV, 1995). Young (1996), defines it as an impulse control disorder that does not involve an intoxicant. In "the DSM-5" (2013), the criteria for Internet addiction considerable as Internet gaming disorder. Internet addiction finds a user browsing the network without a specific purpose, as well as spending a lot of lost hours. It is considered as a compulsive behavior

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(Winther, 2014). Internet addicts display excessive uncontrolled usage of the Internet that could lead to negative coping strategies in daily life. According to Nikolay (2015), Internet addiction could be used as a coping strategy by itself to escape stress and life difficulties, and users enjoy that aspect of the Internet. People are reinforcing their behavior by having different contacts with online relationships and fulfilling real-life social needs. Individuals addicted to the Internet hide their personalities behind a screen to feel safe and protected (Francesca, 2015). One aspect of Internet addiction is a lack of interest in all activities in everyday life except the Internet usage. Lack of control characteristics, psychomotor agitation, craving, and reduced decision-making are some the characteristics associated with this problem (Vidyachathoth, 2014). Internet addiction is not recognized as a psychiatric disorder in the DSM-5 (2013).

The term “addiction” typically involves a chemical substance. However, it can be associated with activities as well. For example, some people are addicted to food, gambling, work, play, or shopping (Chou, 2005). Chou (2005), mentioned that there is no standard definition of Internet addiction. However, Kapahi (2013), defined Internet addiction by observation of one’s behavior as a repetition of a habit that causes social issues or imbalance in lifestyle. Also, an addiction affects one’s health. Addicts try to control their behavior, which is considered as a sign of the uncontrollable force of behavioral addiction (Kapahi, 2013). Nevertheless, everyone’s situation is different and it’s not simply a matter of time spent online. Sato (2006), states that it is more important to measure the damage the Internet use cause in an addict’s life. The behavioral addiction model explains how addictions are acquired, developed, and maintained (Kuss, 2013).

There are many factors that contribute to Internet addiction: for instance, the Internet’s availability, access, ease of use, low cost and rapid updates of information (Chou, 2005). The widespread accessibility of the Internet increases the likelihood of being addicted (Kuss *et al.*, 2013). The anonymity of the Internet allows users to interact in a socially safe and secure environment (Chou, 2005). However, this could be considered a risk factor because it increases a person’s likelihood of becoming addicted. People can do or say whatever they want on the Internet without being judged by the community.

Young (1999), categorized five specific types of Internet addiction: -

“Cyber sexual addiction to adult chat rooms or cyber porn (Young et al., 1999); Cyber relationship addiction to online friendships or affairs that replace real-life situations; Net compulsions to online gambling, auctions, or obsessive trading; Information overload to compulsive web surfing or database searches; Computer Addiction - obsessive computer game playing or programing.”

Kuss *et al.*, (2013), indicated the pathological behavioral pattern of Internet addiction symptoms:

1. A loss of control over the behavior,
2. Conflict,
3. Preoccupation with the Internet,
4. Using the Internet to modify mood, and
5. Withdrawal symptoms.

Internet use can cause a negative effect on psychological well-being and mental health (Winther, 2014). It is sometimes associated with loneliness, depressive mood (Kraut *et al.*, 1998), and compulsiveness (Griffiths & Pontes, 2014). Many people spend more time on the Internet than interacting with other individuals in reality. Because of this, their quality of life suffers. Internet addicts display symptoms of poor psychological health such as anxiety (Winther, 2014), depression (Kim *et al.*, 2006) and stress. Time online would not to be related to psychological well-being, it is more about their communication and relationship with others that affect a person's well-being (Kaveri, 2007).

MATERIALS AND METHODS

Methodology

Research Design

This research uses a correlation design that aims to investigate the prevalence of addiction among female medical students in Saudi Arabia. In addition, the research is to examine the relationship between psychological well-being and Internet use in female medical students in Saudi Arabia. Also, the aim is to

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assay the relationship between average for Internet users per week and Internet addiction in these students. The goal is to see whether they convey, correlate, or are associated with each other. The study will be conducted by using a survey research method.

Sample

The populations targeted are Princess Nourah University students. The sampling is Saudi female medical students from Princess Nourah University. The strategy is purposive and the location is the university. The sample in this study consists of 153 subjects. They are selected in equal proportion from the College of Health and Rehabilitation Science (n= 29), the College of Pharmacy (n=30), the College of Nursing (n=32), the College of Human Medicine (n=32) and the College of Dentistry (n=30).

Inclusion/Exclusion criteria

The population consisted solely of female students of Princess Nourah University. The age range of the students was 19-25 years. All the students included were enrolled in beholders degree programs of Princess Nourah University. All other students were excluded other than medical students. Students of computer science were excluded because their Internet use is more relevant as a part of their study.

Table 1: Descriptive Statistics of Sociodemographic Information of the Entire Sample (N= 153)

Variables	Frequency	Percentage	M	SD
(1) Age				
19-22 years	144	94.11 %	1.05	0.211
23-26 years	9	5.88%		
(2) Program				
Nursing	32	20.9%		
Pharmacy	30	19.6%		
Medicine	32	20.9%		
Health Sciences	29	19%		
Dentistry	30	19.6%		
(3) Number of Friends				
1-5	80	52.28%		
6-10	26	16.99%		
More than 10	47	30.71%		
(4) Hobbies				
No hobbies	82	53.9%		
Reading & Writing	24	15.8%		
Sports	2	1.3%		
Arts & Painting	14	9.2%		
Other Hobbies	30	19.7%		

Measures

- i. *Sociodemographic Information Form:* This form was developed to explore personal characteristic of the participants, including age, program, department, college and a number of friends. Some more questions were asked to explore the time spend on internet use and to understand the choice of the internet users.
- ii. *Internet Addiction Scale (1996):* First standardized scale was the Internet addiction test (IAT). According to young (1996), this instrument to measure the internet addiction. It includes 20 statements and can be rated on a 5-point Likert scale ranged (rarely=0, sometimes=1, frequently=3, often=4, always=5). These items investigate the preoccupation with the Internet, the time of spending on online (Young, 2013). This scale provides a score by severity range between 10-100. Thus, normal Internet users will have a score of (0–30), mild Internet users will have a score of (31–49), moderate Internet users will

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have a score of (50–79) and severe Internet addiction will have a score of (80–100) (Laconi, 2014). According to Frangos (2012), factor analysis of the IAT revealed six factors salience, neglecting work excessive use, lack of control, anticipation, and neglecting social life. He found good concurrent validity of these factors with salience being the most reliable ($\alpha = 0.82$). The internet addiction scale was found to have good reliability ($\alpha = 0.90$, Kese, 2013).

iii. *Brief psychological well-being scale*: The second standardized measure is the brief psychological well-being scale (Diener *et al.*, 2013). Psychological wellbeing has a link with good health (Diener, 2013).

As reported by OECD (2013), wellbeing is not solely happiness. It includes meaningfulness in life, evaluation of people life and satisfaction with financial and health status. The brief psychological well-being scale measure various variables of psychological function such as relationships. It contains 10 statements.

Respondents rated on a 5 point scale that range from strongly disagree to strongly agree (1-5). Differentiate people wellbeing by their score that range between 10-50 (OECD, 2013). Thus, people with very low well-being will have a score of (10–30); Low (31–37); Average (38–40); High (41–44); Very High (45-50) respectively. Norm were progress by the US respondents (Diener *et al.*, 2013). The reliability cornbach's alpha is found to be 0.91 in a study conducted on PNU students (Zaidi *et al.*, 2015).

Procedure

The researchers obtained permission from the Ethics Committee of the College of Health and Rehabilitation Sciences to conduct surveys with students. The data procedure took around one month, and the researchers chose an equal proportion of students from the College of Health and Rehabilitation Science, the College of Pharmacy, the College of Nursing, the College of Human Medicine, and the College of Dentistry in order to have equal representation from the health campus. After that, the researchers provided a verbal explanation for the purpose of the research and the ethical issues that relate to confidentiality.

Then, the researchers provided a consent form to the students. Each participant signed the informed consent form and the all information was confidential and anonymous.

Finally, the researchers gave the participants pens and the questionnaire papers and was available to help participants if something was unclear. Participants were asked to write down their email address if they wanted to receive feedback.

Statistical Analysis

All the scoring of the obtained data from survey scales was done according to standardized instructions of scales. The data were analyzed using the statistical program for social science (SPSS version 20.0) and significant levels of 0.1 and 0.5 were used for the analysis. Descriptive statistics and Pearson correlation were also calculated.

RESULTS AND DISCUSSION

Results

This chapter will point out the detailed statistical analysis of the research data. The data were analyzed using the statistical program for social science (SPSS version 20.0) and significant levels of 0.1 and 0.5 were used for the analysis.

The clinical, personal and social-demographic characteristics of the entire sample (N=153) are presented including their ages, programs, number of friends, and hobbies. The descriptive statistics of the Internet use information (N= 153) are presented for average time spent online per week, source of access, and online sites frequently visited. The descriptive statistics of Internet use and psychological well-being (N= 153) are presented. All the descriptive statistics involve frequencies, percentage, mean, and standard deviation.

Person correlation analysis was computed, to examine the relationship between Internet addiction and psychological well-being, as well as to examine the relationship between average use for Internet users per week and Internet addiction in female medical students in Saudi Arabia.

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Table 2: Descriptive Statistics of Information of Internet Use (N= 153)

Variables	Frequency	Percentage	M	SD
(1) Average time spend per week online				
≤ 5 hours	13	8.5%		
5-10 hours	26	16.3%		
11-15 hours	12	7.8%		
16-20 hours	14	9.2%	4.82	2.21
21-25 hours	11	7.2%		
26-30 hours	19	12.4%		
≥ 30 hours	59	38.6%		
(2) Source of Access				
Tablet	5	3.3%		
Laptop	5	3.3%		
Mobile	74	48.4%		
More than one source	69	45.1%		
(3) Online frequently visited choice				
Music, movies	12	7.8%		
Games	1	0.7%		
Weather	1	0.7%		
Chat	12	7.8%		
Study or work	7	4.6%		
Acquire information	1	0.7%		
Shopping	2	1.3%		
Communication	19	12.4%		
Other purposes	2	1.3%		
More than 3 choices	95	62.1%		

Table 3: Descriptive Statistics of Internet Use and Psychological Wellbeing (N= 153)

Characteristics	Frequency	Percentage	M	SD
(1) Internet use				
Normal	21	13.7%		
Mild	54	35.3%	50.80	17.0
Moderate	70	45.8%		
Severe	8	5.2%		
(2) Psychological Wellbeing				
Very Low	26	17%		
Low	39	25.5%		
Average	26	17%	37.15	8.9
High	33	21.6%		
Very High	29	19%		

Table 4: Correlation of Internet Use and Psychological Well-Being among Students (N=153)

Variables	sig (2- Tailed)	N	r
Internet Addiction	.000	153	
Psychological Wellbeing	.000	153	-.353**

** Correlation is significant at the 0.01 level (2-tailed).

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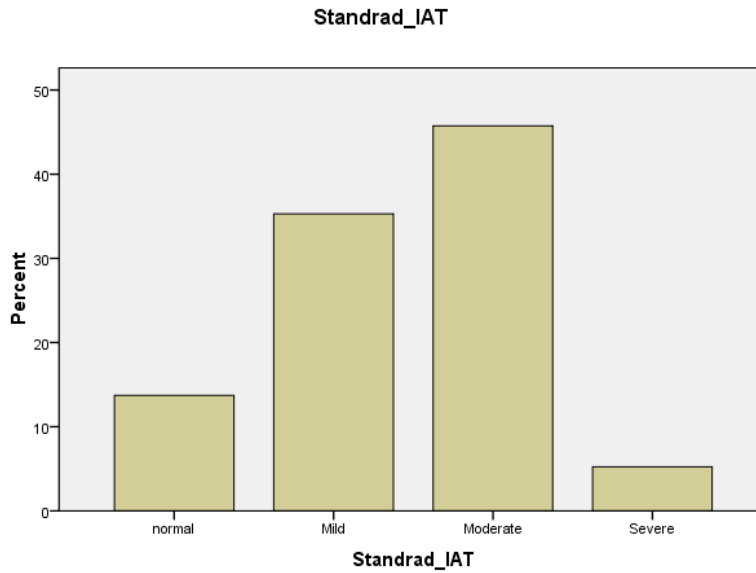


Figure 1: Internet Use Percentage

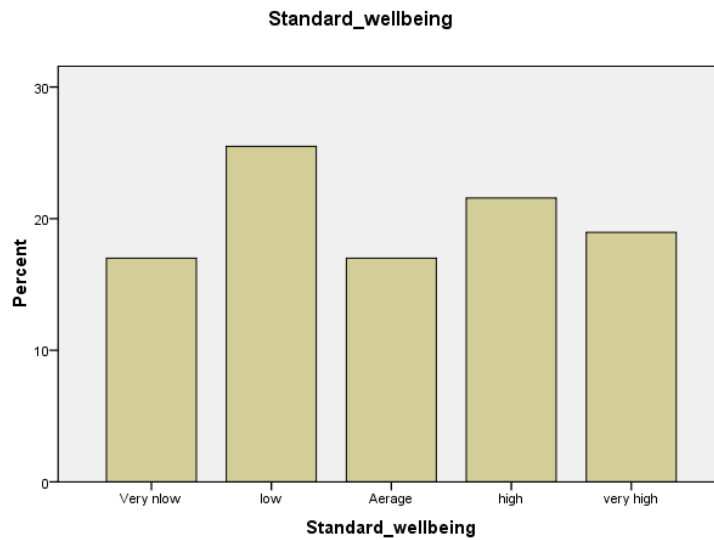


Figure 2: Psychological Wellbeing Percentage

Table 5: Correlation of Internet Addiction and Average Internet Use among Students (N=153)

Variables	sig (2- Tailed)	N	r
Internet Addiction	.000	153	.159*
Psychological Wellbeing	.000	153	

* Correlation is significant at the 0.05 level (2-tailed).

Discussion

Internet usage has become widespread and people are often not aware of negative effects or consequences of excessive use of the Internet. Many researchers have dealt with issues about Internet addiction in the Middle East. However, there have no studies about it conducted in Saudi Arabia, specifically related to its association with psychological well-being. This research will highlight the importance of Internet use

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among youth. Experts need to spread awareness among the society and youth groups about the negative effect of Internet use, particularly about its effects on their relationships with family. The experts also should emphasize its negative effect on their emotional state. Thus, they will encourage people to find ways to use the Internet that do not affect our lives negatively. In addition, researchers can have an influence on society as they will increase the awareness and caution about this issue. In addition, this research recommends ways for caregivers teach their children them how to use the Internet in an ethical and safe way.

This research uses a correlation design. The sampling is Saudi female medical students from Princess Nourah University. The sample in this study consists of 153 students. Table 1 shows that the $M \pm SD$ age of our sample was 1.05 ± 0.211 years (range = 19-26 years). Out of the total number of participants ($N=153$), 94.11 % were between 19-22 years and 5.88% were between 23-26 years. They were selected randomly, 19% from College of Health and Rehabilitation Science ($n= 29$), 19.6% of the College of Pharmacy ($n=30$), 20.9% of the College of Nursing ($n=32$), 19% of the College of Human Medicine ($n=32$), and 19. 6% of the College of Dentistry ($n=30$).

The number of friends has been shown in Table 1. Out of the total number of participants ($N=153$), 52.28% have 1-5 friends, 16.99% have 6-10 friends and 30.71% have more than 10 friends. The highest percentage was between 1 and 5 friends, which can explain the result that there is 45.8% of students who suffer from moderate Internet addiction and 5.2% suffer from severe Internet addiction (Table 3). As a reason of the low number of friends, students can be less engaged in social interaction and more engage in Internet use.

Types of hobbies have been shown in Table 1. Out of the total number of participants ($N=153$), 53.9% have no hobbies, which explains the result that there is 45.8% of students who suffer from moderate Internet addiction and 5.2% suffer from severe Internet addiction (Table 3). Thus, students have no hobbies and more free time to fill by using Internet. Of the remainder, 19.7% have other hobbies, 15.8% have a hobby of reading and writing, 9.2% enjoy a hobby in arts and painting, and 1.3% enjoy sports.

Table 2 shows that the $M \pm SD$ was 4.82 ± 2.21 for the average time spent per week online. The maximum percentage was 38.6% for spending 30 or more hours per week online. The minimum percentage was between 21 and 25 hours. The highest percentage for the source of access is mobile access (48.4%) and the lowest percentage for the source of access is tablet and laptop (3.3%). The highest percentage for reasons to go online is communication (12.4%) and the lowest percentage is for games, weather and to acquire information (0.7%).

Table 3 shows that the $M \pm SD$ was 50.80 ± 17.0 for the Internet use. There are 45.8% of the students who suffer from moderate Internet addiction and 5.2% who suffer from severe Internet addiction (Figure 1). This result is consonant with a previous study done by Al-Gamal *et al.*, (2015), that measured the prevalence of Internet addiction (IA) and its association with psychological distress and coping strategies among university students in Jordan. In that study, the prevalence of IA was 40% among the students. Another study confirms this result, emphasized that the prevalence and risk factors of Internet addiction in high school students were high (15.1%) among high school students (Şaşmaz *et al.*, 2013). Also, another study indicates that there is ninety nine percent of college students reported using social media (Al-Menayes, 2015).

Table 3 shows that the $M \pm SD$ was 37.15 ± 8.9 for psychological well-being. There are 17% of students who suffer from very low psychological well-being and 19% who enjoy very high psychological well-being (Figure 2).

Table 4 proves that there is a negative correlation between psychological well-being and Internet use in female medical students in Saudi Arabia ($r= -.353$). The correlation is significant at $p > .01$. Thus, this result, rejects the second null hypothesis that there is no relationship between Internet use and psychological well-being of female medical students in Saudi Arabia and accepts the second alternative hypothesis that there is a relationship between Internet use and psychological well-being of female medical students in Saudi Arabia. The individuals with high Internet use will have lower psychological well-being. There are many previous studies compatible with this result. According to Van *et al.*, (2008),

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the instant messenger use was positively associated with depression and loneliness was negatively related to instant messenger.

This result runs contrary to a previous study that emphasized that there is no association between time spent online and daily well-being (Gross *et al.*, 2002). Another study that unfavorably proved that older Internet users were more positive than non-users in terms of psychological well-being and personal characteristics (Chen & Persson, 2002). These inconsistencies could be explained by the difference in variables such as the sample background and country, sample size, and age.

Table 5 indicates that there is a weak correlation between average Internet use per week and Internet addiction in female medical students in Saudi Arabia ($r = .159$). The correlation is significant at $p > .05$. Thus, this result, rejects the second null hypothesis that there is no relationship between average Internet use per week and Internet addiction in female medical students in Saudi Arabia, and it accepts the second alternative hypothesis that there is a relationship between average Internet use per week and Internet addiction in these students. Therefore, the more time a person spends using the Internet, the more addicted they are likely to become. This result is compatible with a previous study done by Van *et al.*, (2008), that showed that the use of instant messenger and chatting in chat rooms were positively related to compulsive Internet use.

Conclusion

This study was conducted to find out the relationship between Internet addiction and psychological well-being. The result emphasized that 45.8% of students suffer from moderate Internet addiction and 5.2% suffer from severe Internet addiction. Also, it has proved that there is a negative correlation between psychological well-being and Internet use, and there is a weak correlation between average Internet use per week and Internet addiction. Thus, the individuals with high Internet use will have lower psychological well-being. In addition, the more time a person spends using the Internet, the more addicted they will be.

Among various findings, we highlighted a few major issues. One of the major reasons connected with Internet addiction was related to having excessive time to spend on using the Internet and having a lack of a recreational activity. Moreover, it might result in a lack of awareness of the beneficial use of the technology. Related to Table 2 with online frequently visited choice, it is the most frequently visited choices related to the interrelation and communication. However, there is the significant relationship between Internet addiction and psychological well-being. Internet addiction significantly has a relationship with an average time of using the Internet. Internet addiction is a real problem that could negatively affect a person's life. Internet addicts should seek an intervention.

Recommendations and Limitations

There were several limitations of the experiment. The students came from the same university, which limits the generalization of the result. Also, there was not a gender difference because it is applied only to females. The sample size was small and consisted only of medical students. Thus, this could impact the generalization of the study. In addition, the questionnaire was written in the English language without an Arabic translation, which could affect the survey takers' choices because the samples were Arabic natives. Thus, this could affect the accuracy of their choices.

In the future, more research is needed to investigate the pathological aspects of Internet addiction. Also, more research should be done with a more diverse group of participants and with convergent ages. Also, more experiments will have to dissect more factors: for example, the relation between Internet addiction and self-esteem.

Another research study should discuss more about Internet addiction in children. Also, a good topic for research would be the effect of specific personality traits that may make the person more vulnerable to Internet addiction.

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