

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

بسم الله الرحمن الرحيم





MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكترونى والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



Prevalence of Smartphone Addiction and its Correlates in a Sample of Ain Shams University Students

Thesis

Submitted for Partial Fulfillment of M.D. Degree in **Psychiatry**

 $\mathfrak{B}_{\mathfrak{P}}$

Islam Ibrahim Mokhtar Ibrahim
M.B.B.C.H. MS.C

Under Supervision of

Prof. Dr. Ahmed Saad Mohamed

Professor of Psychiatry
Faculty of Medicine, Ain Shams University

Prof. Dr. Tarek Ahmed Okasha

Professor of Psychiatry
Faculty of Medicine, Ain Shams University

Prof. Dr. Mahmmoud Mamdouh Elhabeiby

Professor of Psychiatry
Faculty of Medicine, Ain Shams University

Prof. Dr. Sheiren Ahmed Khalil

Professor of Psychiatry Faculty of Medicine, Ain Shams University

Dr. Mahmmoud Hassan Aly Morsy

Lecturer of Psychiatry
Faculty of Medicine, Ain Shams University

Faculty of Medicine, Ain Shams University

Acknowledgments

First and foremost, I feel always indebted to **Allah** the Most Beneficent and Merciful.

First of all, I want to thank all students who participated this study, without them we wouldn't be able to finish this work.

I wish to express my deepest thanks, gratitude and appreciation to **Prof. Dr. Ahmed Saad Mohamed**, Professor of Psychiatry, Faculty of Medicine, Ain Shams University, for his meticulous supervision, valuable instructions and generous help.

Special thanks are due to **Prof. Dr. Tarek Ahmed Okasha**, Professor of Psychiatry, Faculty of Medicine, Ain Shams University, for his sincere efforts, fruitful encouragement.

I am deeply thankful to **Prof. Dr. Mahmmoud Mamdouh Elhabeiby**, Professor of Psychiatry, Faculty of
Medicine, Ain Shams University, for his great help,
outstanding support, active participation and guidance.

Last but not least my sincere thanks and appreciation to **Prof. Or. Sheiren Ahmed Khalil**, Professor of Psychiatry, Faculty of Medicine, Ain Shams University for her meticulous supervision and kind guidance in this study.

Thanks to **Dr. Mahmmoud Hassan Aly Morsy,** Lecturer of Psychiatry, Faculty of Medicine, Ain Shams University, for his kind supervision, encouragement.

I would like to express my hearty thanks to all my family for their support till this work was completed.

Islam Ibrahim Mokhtar Ibrahim

Tist of Contents

Title	Page No.
List of Tables	i
List of Figures	ii
List of Abbreviations	v
Introduction	1
Rationale of the study	5
Hypothesis of the Study	6
Aim of the Study	7
Review of Literature	
Behavioral Addictions with Special Four Smartphone Addiction	
Mental Health	27
Relationship between Smartphone Addiction and Health Problems	
Patients and Methods	49
Results	56
Discussion	93
Limitations	113
Conclusion	114
Recommendations	115
Summary	116
References	122
Arabic Summary	

Tist of Tables

Table No.	Title	Page No.
Table 1: Table 2:	Prevalence data of smartphone addict. The overall economic burden of disorders	mental
Table 3:	Descriptive data of sociodemographics	
Table 4:	Descriptive data of Smartphone ad	
	and psychiatric disorders	
Table 5:	Relationship between sociodemograph	nic data
	and prevalence of smartphone addiction	on67
Table 6:	Relationship between prevalence of d	ifferent
	psychiatric disorders and prevale smartphone addiction	
Table 7:	Relationship between prevalence	
16.616 77	depression measured by BDI	
	sociodemographic data	
Table 8:	Relationship between prevalence	
	depression measured by BDI and	
	psychiatric disorders	
Table 9:	Relationship between prevalence of	
	measured by BAI and sociodemograph	ic data 78
Table 10:	Relationship between Anxiety measu	ared by
	BAI and other psychiatric disorders	80
Table 11:	Relationship between sleep distu	ırbance
	measured by PSI and sociodemograph	ic data 82
Table 12:	Relationship between sleep distu	ırbance
	measured by PSI and other psy	
	disorders	84
Table 13:	Relationship between smoking measure	•
	FTND and sociodemographic data	
Table 14:	Correlation between smartphone ad	
	and other psychiatric disorders	89

List of Figures

Fig. No.	Title	Page No.
Figure 1:	Years lived with disability (YLD)	34
Figure 2:	Sex distribution of sample	
Figure 3:	Faculty distribution of sample	
Figure 4:	Prevalence of smart phone addict	
8	sample	
Figure 5:	Prevalence of Depression Disorder	measured
3	by BDI in the sample	
Figure 6:	Prevalence of Anxiety Disorder me	
J	BAI in the sample	•
Figure 7:	Prevalence of Sleep disturbance	measured
<u> </u>	by PSI in the sample	
Figure 8:	Prevalence of Smoking measured l	by FSN in
_	the sample.	-
Figure 9:	Prevalence of suicidal thinking me	asured by
	C-SSRS in the sample	65
Figure 10:	Prevalence of NSSI measured by 0	C-SSRS in
	the sample	
Figure 11:	Prevalence of Suicidal behavior me	easured by
	C-SSRS in the sample	66
Figure 12:	Relationship between smartphone	addiction
	and sex of the sample	69
Figure 13:	Relationship between smartphone	addiction
	and depression measured by BDI	
Figure 14:	Relationship between smartphone	
	and anxiety measured by BAI	
Figure 15:	Relationship between smartphone	
	and sleep disturbance measured by	
Figure 16:	Relationship between smartphone	
	and smoking measured by F	
	Smoking Scale	
Figure 17:	Relationship between smartphone	
	and suicidal thinking measured by	C-SSRS71

Tist of Figures cont...

Fig. No.	Title	Page No.
Figure 18:	Relationship between smartphone and NSSI measured by C-SSRS	
Figure 19:	Relationship between smartphone and suicidal behavior measured by	addiction
Figure 20:	Relationship between depression by BDI and sex of the students	
Figure 21:	Relationship between depression by BDI and Faculty of students	
Figure 22:	Relationship between depression by BDI and anxiety measured by E	
Figure 23:	Relationship between depression by BDI and sleep disturbance me PSI.	easured by
Figure 24:	Relationship between depression by BDI and suicidal thinking me C-SSRS.	measured easured by
Figure 25:	Relationship between depression by BDI and NSSI measured by C-S	measured
Figure 26:	Relationship between anxiety me BAI and sex of students	easured by
Figure 27:	Relationship between anxiety me BAI and sleep disturbance measur	easured by
Figure 28:	Relationship between anxiety me BAI and suicidal behavior measu SSRS	easured by ared by C-
Figure 29:	Relationship between sleep d measured by PSI and Faculty of st	isturbance
Figure 30:	Relationship between sleep d measured by PSI and suicidal measured by C-SSRS	isturbance thinking
Figure 31:	Relationship between sleep d measured by PSI and NSSI measured by PSI a	isturbance ured by C-

Tist of Figures cont...

Fig. No.	Title	Page No.
Figure 32:	Relationship between sleep measured by PSI and suicidal bel	
Figure 33:	Relationship between smoking n FTND and sex of the students	neasured by
Figure 34:	Correlation between smartphon measured by SAS-SV and measured by BDI	depression
Figure 35:	Correlation between smartphon measured by SAS-SV and Anxiet by BAI.	e addiction ty measured
Figure 36:	Correlation between smartphon measured by SAS-SV and sleep measured by PSI.	e addiction disturbance
Figure 37:	Correlation between depression n BDI and sleep disturbance measu	neasured by
Figure 38:	Correlation between depression n BDI and Anxiety measured by BA	neasured by
Figure 39:	Correlation between anxiety m BAI and sleep disturbance measu	neasured by

Tist of Abbreviations

Abb.	Full term
ADAMHA	Alcohol, Drug Abuse and Mental Health Administration
APA	American Psychiatric Association
BAI	Beck anxiety inventory
BDI	Beck depression Inventory
BFAS	Bergen Facebook Addiction Scale
CBT	Cognitive behavioral therapy
CERM	Questionnaire of Experiences related to the Cell (Cuestionario de Experiencias relacionadas con el móvil)
COS	Cell Phone Over-Use Scale
CPAS	Cell-Phone Addiction Scale for Korean Adolescents
CPDQ	Cellular Phone Dependence Questionnaire
C-SSRS	Columbia Suicide Severity Rating Scale
DASS	Depression Anxiety Stress Scale
DENA	Questionnaire to Detect New Addictions (Cuestionario de Detección de Nuevas Adicciones)
DRD2	Dopamine receptor gene
	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
ECPUS	Excessive Cellular Phone Use Survey
FSS	Fagerstrom Smoking Scale
FTND	Fagerström Test for Nicotine Dependence
ICD-10	International Classification of Diseases, Tenth Edition
ICD-8	International Classification of Diseases
ILO	International Labour Office

Tist of Abbreviations cont...

Abb.	Full term
	International Telecommunication Union Cell-Phone Addiction Assessment
	Questionnaire
LTP	Long-term potentiation
MAT	Mobile Addiction Test
MIUI	Mobile Internet Usage Index
MPAA	Mobile Phone Activities and Addiction of Parents
MPAI	Mobile Phone Addiction Index
MPAS	Mobile Phone Addiction Scale
MPDQ	Mobile Phone Dependence Questionnaire
MPIQ	Mobile Phone Involvement Questionnaire
MPPUS	Mobile Phone Problem Use Scale
MPPUS	Mobile Phone Problem Use Scale
MPUB	Mobile Phone Usage Behavior Scale
MP-UQ	Mobile Phone Use Questionnaire
MPUS	Mobile Phone Usage Scale
MRCPAS	Manolis/Roberts Cell-Phone Addiction Scale
NSSI	Non-Suicidal Self-injury
OCD	Obsessive-compulsive disorder
PCPU-Q	Problem Cellular Phone Use Questionnaire
PKMzeta	Protein kinase M zeta
PMPUQ	Problematic Mobile Phone Use Questionnaire
PSQI	Pittsburgh Sleep Quality Index
PUMP	Problematic Use of Mobile Phones

Tist of Abbreviations cont...

Abb.	Full term
SAMI	Smartphone Addiction Measurement Instrument
SAS	Smartphone Addiction Scale
SAS-SV	Smartphone Addiction Scale, Short version
SMS-PUDQ	SMS Problem Use Diagnostic Questionnaire
SPAI	Smartphone Addiction Inventory
SPAQ	Smartphone Addiction Questionnaire
SPSS	Statistical package for social science
STDS	Self-perception of Text-message Dependency Scale
TMDS	Text-message Dependency Scale
TMG	Test Messaging Gratification Scale
TMP	Test of Mobile Phone Dependence
VTA	Ventral Tegmental Area
WHO	World Health Organization

Introduction

The 21st century has witnessed ever-increasing technological advances leaving an imprint on all aspects of life. One of these advances is the smartphone and its numerous applications or apps offering quick access to the Internet and social media through various apps such as WhatsApp, Facebook, Twitter and Skype. The smartphone has also facilitated the transmission of SMSs and fax, and navigating the Internet. Furthermore, the smartphone includes entertainment such as games, mobile Camera, video, Bluetooth, multimedia, radio, Youtube, movies, GPS, and other applications (Abo-Jedi, 2008).

Despite the many uses and advantages of smartphones, there are disadvantages. Smartphones can distract drivers who talk or text on the phone while driving, potentially leading to traffic accidents (Cazzulino et al., 2014). Smartphone use is also a distractor among pedestrians while walking or crossing the street (Schwebel et al., 2012; Thompson et al., 2013). Smartphone use is associated with neck and shoulder pain because of one's posture while using a smartphone (Shan et al., 2013), as well as hand dysfunction (INal et al., 2015). Mobile phone use is associated with poor physical fitness (Lepp et al., 2013; Rebold et al., 2016), and worse academic performance (Lepp et al., 2014; Prabu et al., 2015).

As a result, terms such as "Smartphone addiction" (Casey, 2012; Lee et al., 2014) "mobile phone addiction"



(Park, 2005; Ahmed et al., 2011; Szpakow et al., 2011) "problematic mobile phone use" (Billieux et al., 2008; Takao et al., 2009), "mobile phone dependence" (Satoko et al., 2009; Choliz, 2012), "compulsive mobile phone use" (Matthews et al., 2009) and "mobile phone overuse" (Perry and Lee, 2007), have all been used to describe more or less the same phenomenon, that is, individuals engrossed in their Smartphone use to the extent that they neglect other areas of life. The most commonly used terms to describe this kind of addiction are "mobile phone addiction" and, recently, "Smartphone addiction".

Smartphone addiction is considered as the inability to control the smartphone use despite negative effects on users. The use of a smartphone not only produces pleasure and reduces feelings of pain and stress but also leads to failure to control the extent of use despite significant harmful consequences in financial, physical, psychological, and social aspects of life (Shaffer, 1996; Van Deursen et al., 2015; Young, 1999).

Smartphone addiction is considered to be rooted in Internet addiction due to the similarity of the symptom and negative effects on users (Goldberg, 1996; Young, 1998).

Smartphone addiction could be categorized behavioral addiction. Behavioral and chemical addictions have seven core symptoms in common, that is, salience, tolerance,