

EVALUATION OF THE NOMOPHOBIA'S PREVALENCE AND ITS IMPACT ON SCHOOL PERFORMANCE AMONG ADOLESCENTS IN MOROCCO

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Abstract

Social networks are a new form of addiction to technology and are beginning to take place in the Moroccan society in the last decades, especially among children and adolescents. Furthermore the Nomophobia is a new form of addiction to new generations of mobile phones. Because of the importance of their speed spread and their influence on the person's future and interpersonal relationships, we conducted a study to calculate the degree of Nomophobia in adolescent population. It is through the establishment of a questionnaire for a sample of 541 adolescents including 298 girls and 243 boys of young Moroccans and a test on Nomophobia NMP-Q. The statistical result stated that 69.1% of girls and 63% of boys have Nomophobia in a moderate and severe state, and that the Smartphone is more solicited than the laptop with a negative correlation between school performance and the score of Nomophobia. Thus, poor school performance and mental disorders in adolescents can be explained by taking Nomophobia.

Keywords: *nomophobia, addiction, adolescents relationships, smartphone, social media, NMP-Q*

Introduction

Since the marketing of smartphones, social networks become more and more a necessity in everyday life especially young users. While the revolution of information and communication technologies has not only changed the way we communicate and access information, a massive use of these network tools makes these users very attached to their own smartphones. However, it has also resulted in the emergence of new phobias and mental disorders; this attachment behavior is known as Nomophobia, which refers to the fear of separating or not accessing to their mobiles or computers (SecurEnvoy, 2012, Yildirim, 2014). According to Yildirim and Correia (2015), nomophobia is identified in four dimensions as Inability to communicate; Losing connectedness; Inability to retrieve information; give up convenience. According to a study by Moeller et al. (2012), out of a thousand students of diverse nationality, the experience is to deprive these students of the connection for a day. The results show that many of them self-declared "addicts" to media and digital communication technologies.

Griffith et al., (2016) introduced the notion of “behavioral addictions” to the Internet. It is defined as the repetitive habit which the individual has difficulty avoiding and which increases the risk of illness and / or is associated with personal or social problems. It is often negatively perceived as a loss of control that the individual is aware of his psychological and social risks.

Furthermore, a publication in the magazine TELQUEL (number 800), in June 2017 The internet user accounts for 10% in Africa and 90% in the rest of the world (TELQEL ,volume(N°800),2018), otherwise in the Moroccan digital ecosystem we find percentages of using smartphones via the laptop 46% for laptop and 54% for the smart phone in 2017 (TELQEL ,volume(N°800),2018). Furthermore, in 2018 the average daily time spent using social networks in Morocco is 2 hours and 24 minutes founded in 16 million, which represents 44% of the Moroccan population and the average daily time of use of the Internet is 2 hours and 53 minutes. While for social networks we have 16 million who are active monthly users of Facebook who represent 36% of women and 64% of men with a Facebook user percentage via the phone of 94% (TELQEL, volume(N°800),2018).

The aim of the research was to evaluate the prevalence of nomophobia and its impact on school performance among adolescents in the city of Kenitra (North of Morocco).

Methodology of Research

Population

The sample chosen randomly consisted of 541 participants, of which there are 243 boys and 298 girls who study in middle and high school. The research was carried out in the city of Kenitra, which is located in the Kenitra Rabat Sale region of Morocco, where we contacted the Regional Directorate of Education and Training in Kenitra, to give us permission to carry out investigations in a limited period of one month, April 2017. Otherwise, the questionnaires are distributed in classrooms with the presence of the teachers and under the direction of the directors and our team work followed by an explanation of the tests and items of such questionnaire.

Instrument and Procedures

Questionnaire socio-demographic:

A general questionnaire where we get a personal information about the participant and identify sociodemographic information such as age, gender, activity, grade level and parents, the last semester score, included also questions on the use of smartphones and the most usable applications.

Nomophobia questionnaire (NMP-Q)

The questionnaire developed and validated by Yildirim, & Correia, (2015), is translated to Arabic language (see appendix) with researchers in our research unit to facilitate understanding and keep the same meaning of questions for students.

This questionnaire consists of 20 items on a Likert type scale from 1 to 7 with 1 meaning (strongly disagree) to 7 which means (totally agree). The 4 dimensions that are identified in this questionnaire (NMP-Q) are divided into questions such as: Inability to retrieve information (1-4items): feeling of discomfort caused by the inability to search for information on the Web through the smartphone or the inability to access information anytime; Giving up convenience (5-9 items): the feelings of convenience and peace of mind that smartphones provide, especially in relation to battery, coverage and credits; Inability to communicate (10-15 items): feelings about losing instant communication and not being able to use instant communication services; Losing connectedness (16-20 items): feelings about losing ubiquitous connectivity. This dimension is related to disconnection from one's online identity, especially on social media. The scores vary between 20 and 140 points which gives us 4 states, i.e.: absent, mild, moderate, or severe. It found for the coefficient of Cronbach's Alpha = 0.88.

Data Analysis

All data collected was distributed and processed by Excel, while the statistical analyzes are performed using the software (Statistics for Social Sciences) SPSS version 25 IBM using the reliability test (cronbach's alpha), the descriptive statistics, the bivariate correlation, and the cross-tabulation with chi-square test.

Results of Research

Some descriptive results are presented in the Table 1.

Table1. Descriptive statistics of the socio-demographic questionnaire.

	Effective	Minimum	Maximum	Mean	SD
Age	541	12.0	23.0	15.23	1.62
Smartphone	541	0.00	15	4.00	3.23
Laptop	541	0.00	12.0	0.93	1.83
Score of number of hours connected between laptop and Smartphone	541	0.00	15.00	4.93	3.36
Number of hours remained connected to net (per day)	541	0.00	15.00	3.13	3.26
Facebook Hour/day	541	0.00	15.00	2.72	2.55
WhatsApp Hour/day	541	0.00	11.00	1.72	2.15
Twitter Hour/day	541	0.00	3.00	0.07	0.30
Instagrame Hour/day	541	0.00	10.00	0.86	1.49
Score of hours consumed in Social Networks Per Day	541	0.00	26.00	5.39	4.67
The overall grade for the first semester of the 2016/2017 school year (S3)	541	5.00	19.00	12.43	2.71

It was found as a result that we have a mean age (15 ± 1.62), a mean of smartphone use is (4 ± 3.23), laptop use (0.935 ± 1.83), score of hours connected between Laptop and Smartphone (4.94 ± 3.36), Number of hours remained connected to net per day (3.13 ± 3.26), Facebook (2.72 ± 2.52), WhatsApp (1.72 ± 2.15), Twitter (0.08 ± 0.30), Instagrame (0.86 ± 1.50), Social Media Hours Per Day (5.39 ± 4.67), The overall grade for the first semester at 2016/2017 school (S3)at school is (12.43 ± 2.71) (Table1).

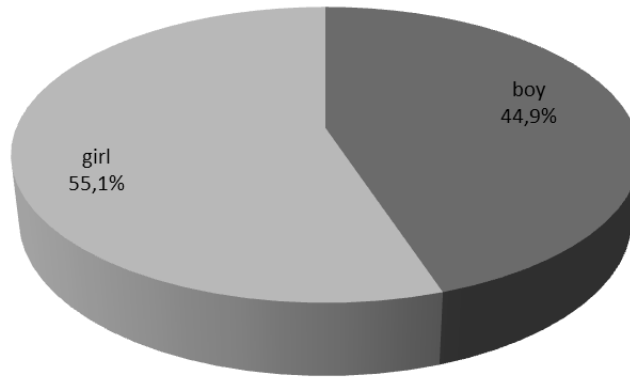


Figure1. Population distribution by gender.

It is possible to remark that there is 55.1% of the participants' girls while the boys are only 44.9% (Figure 1).

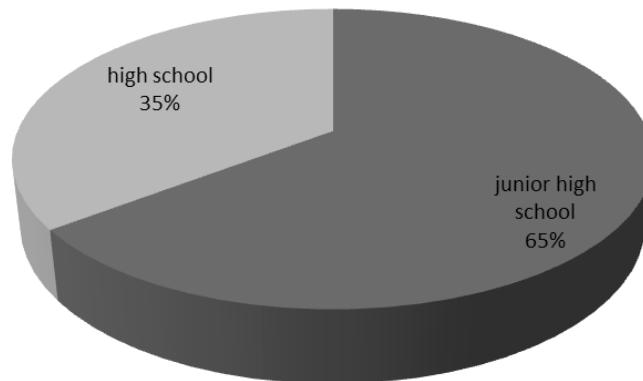


Figure 2. Population Distribution by level of study.

The figure 2 represents 65% of the participants who study at a junior high school and 35% who study at a high school.

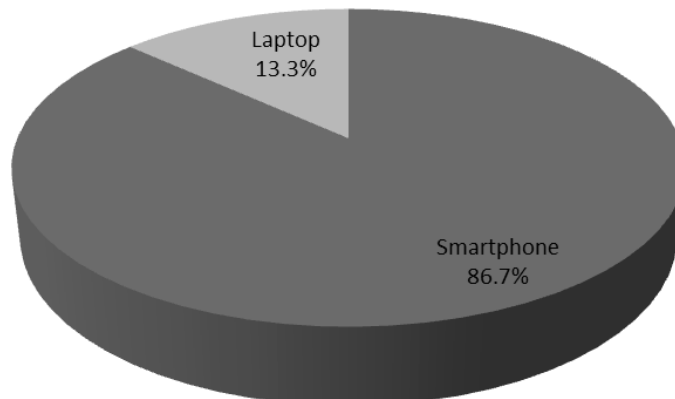


Figure 3. Distribution of the population according to the most used tool to connect.

It was found that Smartphones are more used with 86.7% than laptop 13.3% (Figure 3).

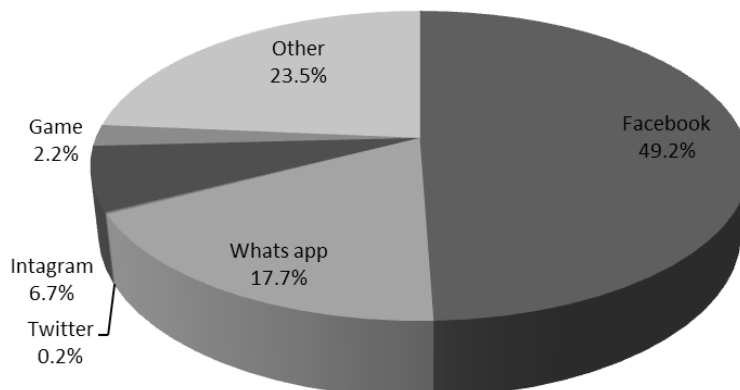


Figure 4. Population distribution according to the first applications used.

It was found a dominance of “Facebook” almost half 49.2% is considered the first application use when the smartphone connected, following “What’s App” 17.7% followed by the other application (which consist mostly of Snapchat and Google) with 23.5 %, as well as the “Instagram” 6.7%, “Twitter” 0.2%, “Games” 2.2%, finally we have 0.6% of people who did not use a specific application when they connected to the Internet through their smartphones (Figure 4).

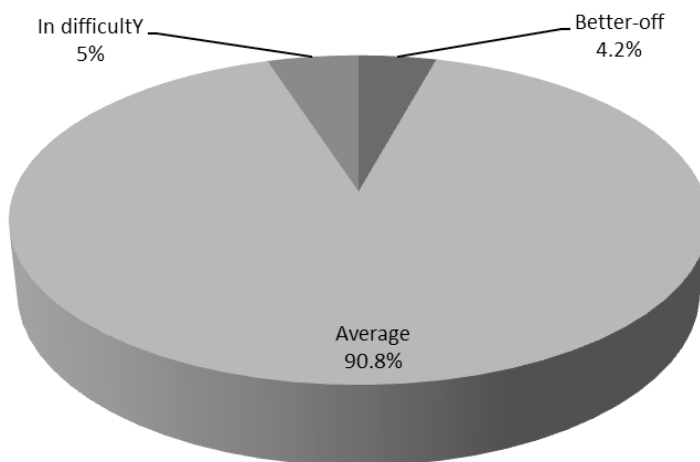


Figure 5. Distribution of population by monthly family return.

The average family social level domain with 90.8% compared to other levels, found that 5% on difficulty and 4.2% for better-off (Figure 5).

Table 2. Validation of the Nomophobia questionnaire (NMP-Q) in the Arabic language.

Total item statistics					
	Mean scale when removing an item	Variance of scale when deleting an element	Full correlation of corrected items	Square of multiple correlation	Cronbach's Alpha when deleting the item
Item1	68.88	627.59	.20	.22	.88
Item 2	68.48	606.98	.39	.32	.87
Item 3	69.71	624.27	.26	.13	.88
Item 4	68.08	596.61	.45	.25	.87
Item 5	68.44	591.30	.45	.33	.87
Item 6	68.62	582.47	.55	.36	.87
Item 7	67.59	601.75	.38	.21	.87
Item 8	68.25	589.71	.47	.33	.87
Item 9	67.68	595.38	.47	.27	.87
Item 10	68.09	581.07	.57	.48	.87
Item 11	68.31	585.32	.53	.51	.87
Item 12	68.24	574.32	.65	.49	.86
Item 13	68.37	586.55	.54	.48	.87
Item 14	68.50	582.47	.58	.41	.87
Item 15	68.15	588.41	.54	.41	.87
Item 16	69.26	601.85	.45	.27	.87
Item 17	68.57	588.79	.56	.38	.87
Item 18	68.63	586.77	.57	.40	.87
Item 19	68.99	597.54	.48	.31	.87
Item 20	68.24	588.41	.50	.30	.87

Cronbach's Alpha is worth 0.879 which is a validation of the Nomophobia Questionnaire (NMP-Q) Arabic version (see the appendix)

Table 3. Correlation between the 4 dimensions of Nomophobia and some items from the sociodemographic questionnaire.

		D1	D2	D3	D4
Age	Correlation coefficient	.112**	-.006	-.035	-.003
	Sig. (bilatéral)	.009	.895	.411	.947
	N	541	541	541	541
Number of hours spent on Smartphone per day	Correlation coefficient	.257**	.307**	.233**	.311**
	Sig. (bilateral)	.0001	.0001	.0001	.0001
	N	541	541	541	541
Score of hours connected to laptop and smartphone	Correlation coefficient	.295**	.316**	.260**	.343**
	Sig. (bilateral)	.0001	.0001	.0001	.0001
	N	541	541	541	541

		D1	D2	D3	D4
Score of hours spent on Social Network Per Day	Correlation coefficient	.313**	.384**	.324**	.404**
	Sig. (bilateral)	.0001	.0001	.0001	.0001
	N	541	541	541	541
The overall grade for the first semester of the 2016/2017 school year	Correlation coefficient	-.080	-.213**	-.224**	-.180**
	Sig. (bilateral)	.062	.0001	.0001	.0001
	N	541	541	541	541
number of hours consumed per day in the net	Correlation coefficient	.230**	.213**	.104*	.166**
	Sig. (bilateral)	.0001	.0001	.016	.0001
	N	541	541	541	541

For age, we find a positive correlation ($r = .112^{**}, p < .009$) with dimension 1 (D1) whereas for The overall grade for the first semester of the 2016/2017 school year (S3) we find a negative correlation for the 3 dimensions (D2, $r = -0.213^{**}, p < .05$), (D3 $r = - .224^{**}, p < .005$), (D4, $r = -.180^{**}, p < .05$) and for the other variables we find a positive correlation for the 4 dimensions with $p < .05$. (Table3).

Cross-tabulation between the State of Nomophobia and the Most Used Hardware to Connect

The main results are presented in Figure 6.

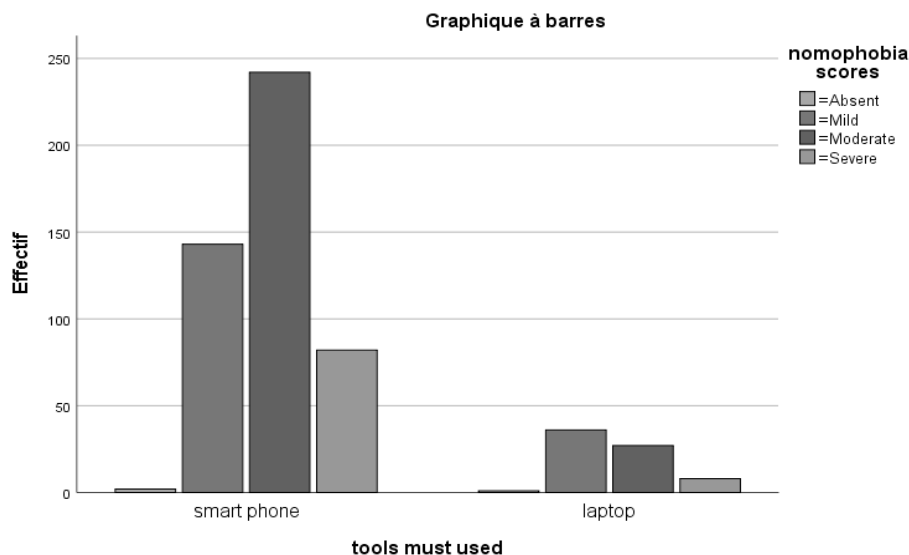


Figure 6. Cross tabs between Nomophobia scores and the frequency of tools used to connect.

A chi-square test was performed, and a relationship was found between Nomophobia score and the frequency of tools used to connect, $\chi^2 (3, N = 541) = 12.242^a, p = .007$.

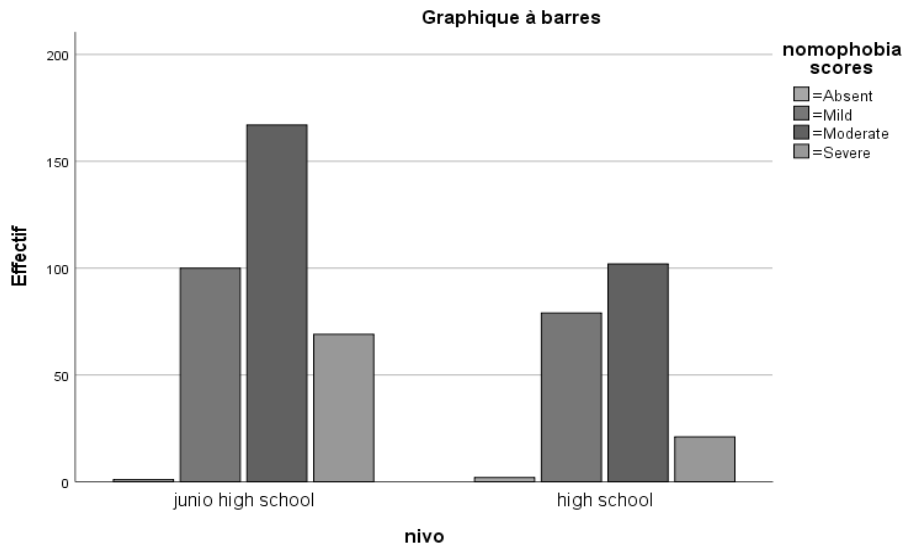


Figure 7. Crosstabs between Nomophobia scores and the frequency of degree of school.

A chi-square test was performed, and a relationship was found between Nomophobia score and the frequency of degree of school, $\chi^2 (3. N = 541) = 12,140^a, p = .007$.

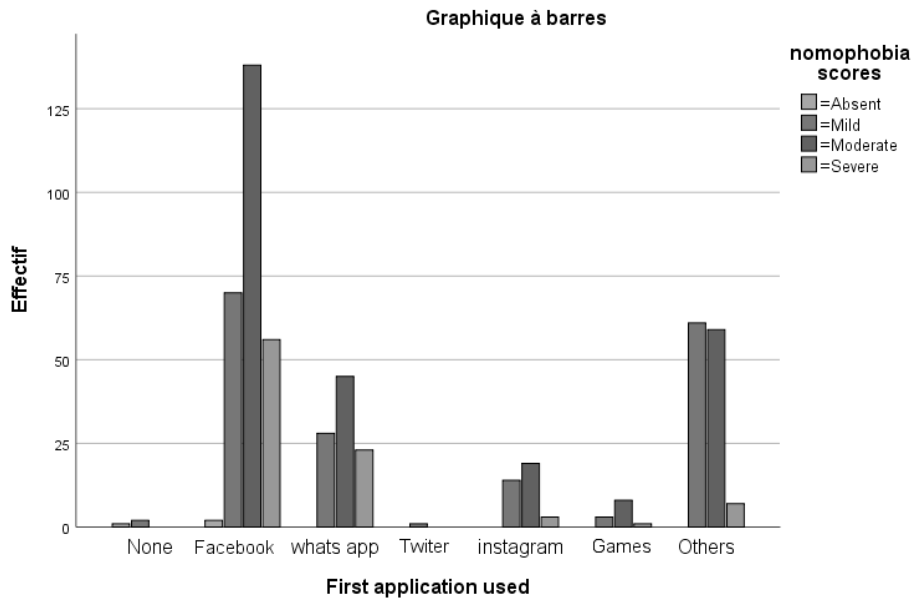


Figure 8. Crosstabs between Nomophobia scores and the frequency of first application used.

A chi-square test was performed, and a relationship was found between Nomophobia score and the frequency of first application used, $\chi^2 (18. N = 541) = 97.248^a, p = .0001$.

Discussion

It is certain that technology can convey information to human beings without any difficulty, but still have their negative side such as the Nomophobia. Our objective affirms that there is a relationship between Nomophobie and academic performance and we found that the massive use of mobile phone has an impact on academic performance among adolescents. A study by Adawi et al (2018) The NMP-Q translated from English to Italian had a Cronbach global alpha of 0.95. It is almost equal between the girl-boy type but this dependence on smartphones (Nomophobia) is more frequent among the pupils in the middle school and it increases according to the Age ($r = .112^{**}$, $p < .009$, but in the high school cycle we found the students of the 1st year high school who were touched by the Nomophobia compared to the other level (1st year bachelor and 2nd year bachelor) which is explained in these last levels (1st year bachelor and 2nd year bachelor) that the students are in a hurry by the courses and preparation for the final exams. A study in Bangalore has shown that 39.5% Nomophobia was reported among medical students and another 27% to be at risk, more in males, the same result found in the study conducted by Sonali et al. (2017). Another study revealed that 22.3% of total population were Nomophobic (Ramadu et al. (2015), students having Nomophobia were maximum from interns (34.28%) and minimum for 2nd year (14%) and risk of Nomophobia is higher for 2nd year (51.2%) and least for final year part-II (31.2%).

And also a negative correlation found with the overall grade of the first semester of the 2016/2017 school year and the 3 dimensions of Nomophobia which means that students with good academic performance are not too attached to their smartphone and the social media. Another study showed that 39.5% of students perceived their academic performance to be poorer due to spending of more time on phone and the association was statistically significant ($p < .05$) (Prasad, et al, 2017), the results of Gezgin, et al. (2018), adolescents were at a moderate level. A study conducted by Dixit S et al., in 2010 revealed that 18.5% of students were Nomophobic as well as the highest number of students being Nomophobic were from 3rd professional part-I (7%) and the least number of students were from internship (1%).

And among the factors that are related with this dependence, we find the first applications to use when smartphones are connected to the internet are social network applications such as facebook and whatsapp. There was a strong significance ($p = .007 < .05$) between the most used tools and the Nomophobia scores which is the Smartphones dominated than the laptop.

Conclusions

The massive use of smartphones has a very dangerous impact on teenagers which is called Nomophobia, this phobia develops later on a dependence which influences the academic performance of teenagers, and the factor which increases the attachment to these smartphones is the application of social networks that have become a virtual force proof manipulating the way of thinking. The communication technology has advantages and disadvantages but the way of use that technology directs teenagers and leads to Nomophobia. Thus, in the future we will try to develop more research about such kind of addiction and phobia trying to give more solutions and a remediation for these phenomena.

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Appendix: The Nomophobia questionnaire (NMP-Q) Arabic language

أوافق يشدة ←							لا أوافق على الإطلاق	يرجى الإشارة إلى أي مدى توافق أو <input type="checkbox"/> توافق على كل عبارة فيما يتعلق بهاتفك الذكي
7	6	5	4	3	2	1		
							1- أحس بعدم الارتياح عندما لا يحق لي الوصول لمعلومة ما من خلال هاتفي الذكي	
							2- أشعر بالملل إن لم أستطع أن أرى معلومات في هاتفي الذكي إن أردت ذلك	
							3- عدم استطاعتي لمعرفة الأخبار (مثل الأحداث، الطقس ...) بهاتفي الذكي قد يصيبني بالغضب	
							4- أشعر بالضجر إن لم أستطع استعمال هاتفي الذكي أو التطبيقات عندما أريد ذلك	
							5- انتهاء بطارية هاتفي الذكي قد يصيبني بالرعب	
							6- عندما أشعر باقترا <input type="checkbox"/> نهاية الاشتراك الشهري للإنترنت أو المكالمات في هاتفي الذكي قد يصيبني بالهلع	
							7 - إن لم يكن لدي إشارة 3G أو اتصال بالواي فاي WI أصبح كل برهة أتفقد هاتفي إن عادت الإشارة أم لا	
							8- إن لم أستطع استعمال هاتفي الذكي أشعر بالخوف من أن أعلق في مكان ما	
							9- إن لم أستطع تصفح هاتفي لبرهة أشعر أنني أود ذلك	
							إذا لم يكن معي هاتفي النقال	
							10- أشعر بالهلع لأنه ليس باستطاعتي التواصل مع أهلي أو أصدقائي	
							11- أشعر بالقلق لأن عائلتي أو أصدقائي لا يستطيعون الوصول إلي	
							12- أشعر بالعصبية لأنني لا أستطيع تلقي رسائل نصية أو مكالمات	
							13- أشعر بالهلع لأنه ليس في استطاعتي ليس في استطاعتي أن أبقى على اتصال مع عائلتي أو أصدقائي	
							14- أشعر بالغضب لأنه ليس في استطاعتي معرفة إن كان أحدهم يحاول الاهتمام بي	
							15- أشعر بالهلع لأن تواصلتي الدائم مع عائلتي أو أصدقائي سينقطع	
							16- أشعر بالعصبية لأنني منقطع عن عالمي الافتراضي	
							17- أشعر بعدم الارتياح لعدم تمكني من البقاء على اطلاع على الأخبار و الشبكات الاجتماعية	
							18- أشعر بالارتباك عندما لا أستطيع التحقق من الإشعارات الحديثة من شبكة الإنترنت	
							19- أشعر بالقلق لأنني لا أستطيع الاطلاع على رسائلي الإلكترونية	
							20- أشعر بالغرابة لأنني لا أعرف ما يجب علي القيام به	

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