The Level of Cyber-bullying (bully, victim) through Smartphone Applications among Students of the Faculties of Education in Jordanian Universities and its Relation to Loneliness

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Abstract: This study aimed to identify the level of the level of Cyber-bullying (bullying, victim) through applications of smart phones among education faculty Jordanian universities and their effect on psychological unity, the researcher was adopted Al-Shennawi Cyber-bullying scale (2018). The sample of the study consisted of (790) students. Data were collected randomly and analyzed using the descriptive statistics; Means, Standard Deviations, and cumulative frequencies; inferential statistics were used; Multivariate analysis of variance, and Scheffe' Test. The results showed that the level of Cyber-bullying (bullying, victim) through applications of smart phones among education faculty Jordanian universities was medium. The results also showed that there were no statistically significant differences between the averages of the students' estimates of Cyber-bullying due to the variable of the university type (government, private). The results indicated that there were statistically significant differences between the averages due to gender difference (bullying in favor of males and victim in favor of females). The results showed an increase in the level of Cyber-bullying as the use of smart phone applications. Finally, the results showed a correlation between the averages of Cyber-bullying and the psychological unit of students.

Keywords: Cyber-Bullying, Mobile Phone Applications, Psychological Unit, Universities Students

1. Introduction

With the huge and ongoing technological progress, these devices are no longer a means of communication, but their uses and applications increasingly vary, and become a vital part of our modern world. In recent years, wireless communications have witnessed a tremendous technological leap starting from the era of wireless digital telecommunications and mobile services, which have strongly imposed themselves on all sectors of society including universities (Shatat, Aldalalah, & Ababneh, 2017).

The use of the means of communication provided with Internet service has the psychological and functional uses and benefits in daily life. It opened a new era of communication and interaction among individuals, and provided a momentum of information and knowledge to its users as the Internet is used by children and adolescents, adults and the elderly, that is to say all age groups (Shahin, 2015). Here, we see that cellular networks and mobile phones have preceded all other advanced ICTs in reaching people, especially in developing countries. The largest segment using this technology are the young

people who are the future and the pillars of evolution, progress and production in the world (Aqad, 2013).

As a fact, the increasing use of technology connected to the Internet, including personal computers, tablets and smart mobile phones, is causing changes in the individuals' behavior on a daily basis, as well as the great benefits of these devices, which may lead to countless social, psychological and health problems (Mufleh, Al-Hersh, Al-Ababneh, & Aldalalah, 2010). Of these effects of the spread of modern means of communication is Cyber-bullying (Luker, 2015). Black (2014) argues that the concept of Cyber-bullying is one of the traditional forms of bullying that takes place in a serious context. Hala (2010) sees that bullying is a sort of aggression against others, whether physically, verbally, psychologically or socially.

Similarly, bullying is considered a form of aggression that occurs when a person takes advantage of his power in a negative way to intentionally harm another person, physically or mentally (Brown, 2011). Shenawi (2014) emphasizes that bullying is a deliberate and repeated aggressive behavior due to the imbalance of power, and aims to harm others through words or beatings, harassment, spreading rumors, isolation and social rejection. Shaw and Cross (2012) asserted that bullying focuses on three main points, namely: intentional victimization, repetitive abuse and power imbalance. There is no doubt that children and young people of this age have a high capacity in dealing with information technology and Internet applications, along with their various tools, and through these capabilities, they can adapt the new technology with their daily uses and activities. Still, children's technological intelligence, abilities and skills associated with being online without much parental control can lead to high risks, such as pornographic watching, exposure to digital drugs, violence and cyber-bullying (Patricia, Kowalski, & Limber, 2007).

With the development of the use of information technology and means of communication in the past, researchers have been interested in the concept of cyber-bullying, which some consider as a form of traditional bullying occurring in a new context (Berne et al., 2013; Stewart, Drescher, Moack, Ebesutani, Young & 2014). What also makes users of the Internet and social networking applications vulnerable to cyber-bullying is when these users spend long hours surfing the worldwide web through their cell phones for social communication (Zhao & Mao, 2017). Cyber-bullying is defined as someone's exposure to threats, humiliation, verbal and moral abuse and embarrassment from someone else via the Internet, digital interaction sites, and mobile applications (Doane, Kelley, Chiang, & Padilla, 2013). Cyber-bullying is also defined as any behavior that is carried out through cyber or digital media, in order to harm and hurt others (Hemphill, Tollit, Kotevski, & Heerde, 2015).

Moreover, cyber-bullying is a form of aggression based on the use of modern means of communication and Internet applications (mobile phones, laptops, camcorders, e-mail, web pages, etc.) in publishing leaflets or comments that cause victimization, promoting of false news, or sending of emails to harass the victim in order to confuse him or her with a state of moral and physical confusion (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Juvoven & Gross (2008) define cyber-bullying as the use of the Internet or any cyber communication device to insult or threaten someone else. Willard (2007) asserts that cyber-bullying is to send or publish malicious texts or images over the Internet or other digital communication devices. Tokunaga (2010) defines it as any behavior done via the Internet or

cyber or digital means of communication, where an individual or a group through repeated contact makes and sends hostile or aggressive messages intended to harm others, and may be the identity of the bully is unknown or known to the victim. This definition is in line with the study of Akbulut and Eristi (2011), which emphasizes that cyber-bullying, is the intentional use of cyber-communication tools to frequently and continually harm an individual or group of individuals. As for the current study, it defines cyber-bullying as the use of social media applications in smartphones by a person or a group of individuals to deliberately and repeatedly harm a particular person or group of individuals.

Cyber-bullying occurs through communications technology, such as smartphones, the Internet, and social media networks where thousands of teenagers communicate daily via social media networks, digital tablets and smartphone applications. Social media networks are the place where bullying is displayed by spreading offensive messages on the victim's personal page, writing comments, publishing a photograph or video on a photo or comment presented by the bully to abuse a certain victim, as well as impersonating the victim by creating a false account for the victim or the hacking of his or her original account (Watts, Wagner, Velasquez, & Behrensd, 2017). For instance, a teenager may be bullied through his or her smartphone, as there are applications that can be used to send messages, including abusive images and videos to the cellphone owner, or make silent or abusive phone calls or video calls. Cyber-bullying can also be practiced through a mobile phone by sending pictures or videos intended to embarrass, ridicule or severely harass the cellphone owner (Osborne, 2012).

Akbulut and Eristi (2011) asserted that cyber-bullying is characterized by the ability of the bully to conceal or not to identify himself or herself, as the bullying may use pseudonyms to protect himself or herself, as well as the ease through which the content is transmitted, and the resultant weak empathy that the bully does not see the effects of his actions on the victim. Akbulut and Eristi (2011) added that due to the lack of control over cyber means of communication, cyber-bullying behavior can reach a wider audience with the ability to quickly spread and exceed time and space limits, which may result in more severe negative consequences compared to normal bullying (Tokunaga, 2010).

Cyber-bullying, such as traditional bullying, is also classified as a direct bullying, as the first refers to cyber-bullying involving the victim directly and falls under this specific type (deliberately sending files with malicious viruses), verbal cyber-bullying (use of the Internet or cellphone for threat or insult), non-verbal cyber-bullying (sending obscene or threatening images or illustrations) and social cyber-bullying. As for the second type, it is the indirect bullying, which refers to bullying that occurs without being immediately noticed by the victim, such as browsing someone's email, masquerading and deceiving someone and pretending to be someone else and spreading what offends the other via mobile phone, email and social media applications.

Beran and Li (2007) point out that cyber-bullying is seen in a lot of different forms via modern means of communication such as cyber anger referring to sending angry emails to the victim and cyber harassment referring to the repetitive sending of abusive messages. There is another form such as cyber dialogue i.e. direct harassment that includes threats of harm, and excessive insult and slander through dialogue and cyber conversations. The cyber degradation is also considered a cyber-form of bullying which includes the sending of words or the publication of offensive, harmful, unrealistic or unfair publications against the victim's character to others. Masquerade is also considered a form of bullying, where the bully

masquerades to be another person and sends messages or leaflets that make the other look bad, as well as profanity and privacy violation which is to send or print leaflets containing information, messages or the victim's photographs. So, the bully makes all possible attempts to exclude the victim from a cyber-group or eliminate him from social media sites, and urge others to do so without justification so that the bully exercises his power on the victim to annoy him.

In view of that, cyber-bullying uses Internet and mobile technologies such as web pages and discussion groups, as well as instant messaging or SMS messages so as to deliberately and repeatedly abuse others, such as communications that seek to intimidate, control, manipulate, repress, falsely defame or humiliate the recipient, alongside intentional and repetitive acts based on hostile behavior intended to harm or to embarrass another person causing him a degree of moral or physical pain. A cyber bully may be known by the target person or a stranger on the Internet or anonymous person, as he may ask to participate from other people on the Internet who do not know the target. Akbulut and Eristi (2011) aimed to study the prevalence of cyber-bullying and abuse among students of educational sciences faculties in public universities in Turkey in a study sample that consisted of 254 students. The results showed that the percentage of cyber-bullying among students was 23% of the sample of the study and that males are more vulnerable to cyber-bullying than females. Bryce and Fraser (2013) see that the use of the Internet, mobile phones, and social media sites by some young people to harass and intimidate each other makes cyber-bullying a major concern for parents, educators, and policy makers. This study examined the perceptions and experiences of cyber-bullying conducted with young people aged 9-19 in the UK, as the findings suggest that cyber-bullying is a serious problem but a relatively routine part of young people's online lives and interactions. The study focused on the fact that one of the most significant problems in cyber-bullying is not to reveal the bullying's identity of the victim, and focused on the direct impact of the harm as more significant and critical issue.

The study of Eden, Heiman and Shemesh (2013) aimed to identify the perceptions, beliefs and concerns of cyber-bullying from the perspective of teachers. 328 teachers equal to (88.4% females and 11.6% males) were randomly selected from all types of schools and vocational centers. They completed an online questionnaire on their perceptions and personal experiences of cyber-bullying. The findings indicate that teachers have noticed that cyber-bullying is a problem in their schools, and about half of the teachers reported that students complain of harassment through mobile phones, the Internet and some of the teachers themselves. It was also seen that the gender of teachers, the level of education, and the age of the students they have taught have affected their level of concern about cyber-bullying. Female teachers were more concerned than male teachers, namely: the teachers of younger children. Special education teachers were also more concerned than government teachers and were more likely to believe that cyber-bullying must be strongly addressed. Accordingly, it was clear that some forms of cyber media are more common to than other forms.

The Pittmana and MacDonalda (2010) surveyed 439 faculty students for the number of times they experienced a series of authoritarian behaviors. The results indicated that 38% of university students knew someone who had been the victim of cyber-bullying, and 21.9% of the study sample was victims of cyber-bullying, and 8.6% were bullies against other people via the Internet. It was clear that some forms of cyber media are more common to other people than other forms. The results of this study also showed that there are no significant gender or race differences in any of the cyber-bullying behaviors.

Johnson (2012) emphasized cyber-bullying is a new and dangerous form of bullying and harassment. Cyber-bullying occurs when a person or people deliberately use cyber technology to harass or threaten another person or group by sending or posting offensive text or images. With the increased availability and daily accessibility of technology, cyber-bullying is high, and victims can be assaulted through chat rooms, websites, instant messages, or mobile phones. Unfortunately, the more the use of technology, the more cyber-bullying incidents occur online. These results are consistent with the results of the Minor, Smith and Brashen's study (2013), which shows that with the increasing use of technology, cyber-bullying has increased, and universities and faculties have introduced more ways to reach students online and by other cyber means. Therefore, it is significant to investigate the prevalence of cyber-bullying in higher education areas. Cyber-bullying is defined as an intention to harass another individual to cause harm through any cyber method, including means of social media, namely: defamation, public disclosure of private facts, and intentional emotional distress. In his study, Dilmaç (2017) presented the relationship among adolescents, the levels of cyber-bullying and despair. The study group was randomly selected from adolescent students in five different schools in Istanbul, one vocational school and four secondary schools during 2015-2016. Among the students are 525 females and 369 males. Of the most important independent variables affecting cyber-bullying is values. In addition, the second most important variable affecting despair is the expected level of cyber domination.

2. Problem of the Study

At start, in the fields of psychology, education and sociology, researchers have shown great interest in the phenomenon of human behavior. However, views on the manifestations and causes of these behaviors and their treatment are still very different. In general, behavioral problems in educational institutions are among the most demanding issues for educators at all levels these days. As we live in a changing world with all its components, this change will be reflected in all areas of life. The explosion of knowledge, scientific development and the revolution of information communication witnessed by this time makes nations race among themselves to occupy a distinguished position, as all of this requires comprehensive public health, since it is only possible to communicate with science in the presence of individuals in a healthy and peaceful environment, noting that the goals of mental health cannot be achieve away from science and knowledge. Moreover, with the presence of means of communication connected to the Internet at hand, all agree that these means, especially the mobile phone is now a scientific revolution in itself, this service is no longer a luxury, but has become a dire need in some cases, but the first and last issue is how the use can effectively use and organize his or her times, especially if the user was a university student. The university students in the Hashemite Kingdom of Jordan are more exposed to many tempting situations through the use of the smartphone, which may lead them to conduct behaviors contrary to the prevailing standards and ethics. Based on the above, it is clear that the problem of the study is based on the knowledge of the fields and based on its experience and the researcher's review of theoretical literature and previous studies such as the study of (Zhao & Mao, 2017; Watts, Wagner, Velasquez, & Behrensd, 2017; Dilmaç, 2017; Akbulut & 2010). It was also found that Jordanian university students use the mobile phone excessively and unreasonably that may be reflected on their behavior, which may make them vulnerable to what is known as cyber-bullying. Minor, Smith & Brashen (2013) reported that the more the use of modern means of communication, the greater the chance of cyber-bullying is. The availability of networks and the wide use of them among young people and after studying many studies and researches, including the studies of Marrakech (2014),

Shaheen (2013) and Neirab (2016), it is shown that there is a relation between the misuse of the Internet and the sense of psychological loneliness.

3. Objective and Questions of the Study

The aim of this study was to identify the level of cyber-bullying (bully, victim) through smartphone applications among students of the faculties of education in Jordanian universities and its relation to loneliness by answering the following questions:

- To what extent have the students of faculties of education in Jordanian universities been involved in cyber-bullying (victim, bully) through mobile applications?
- Is there a difference in the level of cyber-bullying (victim, bully) due to the type of university (public, private), for students of faculties of education in Jordanian universities?
- Is there a difference in the level of cyber-bullying (victim, bully) due to the difference of gender (male, female), for students of faculties of education in Jordanian universities?
- Is there a difference in the level of cyber-bullying (victim, bully) due to the duration of the use of mobile phone (less than an hour, from one hour to 5 hours, more than 5 hours), for students of faculties of education in Jordanian universities?
- Is there a relation to cyber-bullying through the use of mobile phone applications in the psychological loneliness of students of faculties of education in Jordanian universities?

4. The Importance of the Study

Most of the studies focused on the uses of modern means of communication in general. As for this study, it is specifically concerned with mobile phones, which gives it the status of concentration. The results of this study are accurate and direct in the nature of its uses among Jordanian university students. The importance of this study stems from the fact that the mobile phone constitutes an unprecedented communication phenomenon, in which a variety of segments of society participate to play a number of communication roles. The university students represent an important segment of its users and followers. The special relation between the young generation of university students and the mobile phone could strongly attract the attention of the researchers interested in this phenomenon, so it is necessary to conduct further studies on the nature of this relation and its limits as a phenomenon worthy of research and investigation. The importance of the study also lies in observing the use of mobile phone and its applications between follow-up or active use only, monitoring the university students with it, as well as their mobile phone uses. It is also important to study the future of the use of mobile phone in light of its use by younger generations, which raises the scientific questions of researchers about the future of these means and developments of the relation of users with them. This study also aims to provide a theoretical framework derived from the results of which may benefit those who are interested in the mental and psychological health of students of Jordanian universities. Finally, this study is expected to be a prelude to conducting numerous procedural studies and to different societies.

5. Procedural Definitions

Cyberbullying: is the use of social media applications in smartphones by a person or a group of individuals to deliberately and repeatedly harm a specific person or a group of individuals.

Bully: is a student who uses mobile applications to hurt others.

Victim: He is the student who has been abused by using cell phone applications by bullies.

Mobile applications: are the most popular social networking applications (WhatsApp, Facebook).

Psychological Loneliness: a situation in which the student feels lonely and away from others, lacks of love and attention by others and cannot get rid of feelings of loneliness and isolation despite the presence among others.

6. Limitations of the Study

Objective Limitations: The current study will be limited to the subject of the level of cyber-bullying among students of the faculties of education in Jordanian universities.

Human Limitations: This study will be applied to the students of the faculties of education in the Jordanian public and private universities at the bachelor level.

Spatial Limitations: The study will be limited to the universities of Jadara and Yarmouk in Jordan.

Time Limitations: This study will be applied in the first semester of the academic year 2017/2018.

7. Method and Procedures

7.1 Study Population

The study population shall consist of all students of the Faculty of Educational Sciences who are enrolled in a bachelor's program in Jordanian universities, and registered for the first semester of the academic year 2017-2018.

7.2 The Study Sample

The study sample consisted of (790) male and female students from the Faculty of Education at Yarmouk and Jadara Universities who registered for compulsory and elective courses in the first semester of the academic year 2017-2018. The sample was selected in the available way due to the researcher's work as a faculty member.

7.3 The Methodology of the Study

The researcher followed the descriptive survey method in order to determine the level of cyber-bullying (bully, victim) through smartphone applications in the students of faculties of education in Jordanian universities and their impact on their psychological loneliness.

7.4 The Study Instruments

In order to apply the study and obtain the information, the researcher used an instrument in the form of questionnaires built by Al-Shennawi (2014) to measure the level of bullying. The scale consists of 52 items divided into two sub-scales, each consisting of 26 items, one of which is the scale of the victim and the other is the scale of the bully, as both answered by a five-point scale from never = 1: always = 5.

Next, the participant is asked to select one of the alternatives that reflects his experiences during the past six months (the victim's scale), or that he expresses that he is doing these behaviors (the bully's scale), noting that the characteristics of the psychometric level of the scale have been studied too. To be familiar with the level of psychological loneliness, the researcher has used the Arabic version of the Russell scale (1996), translated and adapted to the Arab environment by Marrakech (2014). The scale in its 20-item final form may have three alternatives (never, sometimes, always), corresponding to grades 1, 2, 3.

7.5 The Validity of Study Instruments

For the purposes of this study and the application of the scale on the Jordanian environment, the validity of the study instrument was confirmed by presenting it in its initial form to a group of 14 of arbitrators, experts and specialists. The aim is verify the characteristic of apparent validity by recognizing their opinions and observations about the validity of the test's questions and its fields in measuring what has to measure in terms of drafting, clarity, arrangement, addition and deletion. Thus, researchers verified the validity of the instruments.

7.6 The Reliability of Study Instruments

The survey sample consisted of 43 students from outside the study sample and within the population in order to measure the stability coefficient of the study instruments. The researcher used the method of test and retest. The stability factor of the complete instrument was calculated, where the value of Cronbach Alpha of the cyber-bullying's scale was 0.84, while the internal consistency was 0.86. The value of Cronbach Alpha of the scale of the victim was 0.86 and the value of internal consistency was 0.91. The value of Cronbach Alpha of the instrument as a whole was 0.86, the internal consistency was 0.89, but the stability coefficient of Cronbach Alpha for the loneliness scale was 0.80, and the value of internal consistency was 0.93. Based on the aforementioned result, the instrument is applicable for study purposes.

8. Results and Discussions of the Study

The study aimed to identify the level of cyber-bullying (bully, victim) through smartphones applications among students of the faculties of education in Jordanian universities and their impact on psychological loneliness through answering the following study questions:

Q1. To what extent have the students of faculties of education in Jordanian universities been involved in cyber-bullying (victim, bully) through mobile applications?

Table 1: The arithmetic means of the students on the first part of the cyber-bullying scale (victim)

No.	Item	A.M
1	Threats by cell phone.	1.64
2	Receiving obscene SMS.	1.50
3	Mocking and ridiculing you through chat rooms.	1.89

4	Posting your own images after distortion through social media.	1.68
5	Spreading rumors and lies about you through websites.	1.84
6	Threat of physical abuse through email messages.	1.47
7	Using inappropriate names through social media.	1.63
8	Slandering you by your friends through emails or SMS.	1.81
9	Rejecting your participation in chat rooms.	2.02
10	Posting your own videos via social media after making abusive edits.	2.07
11	Ridiculing you via SMS.	2.11
12	Excluding from chat rooms.	2.45
13	Receiving disrespectful pictures against your will.	2.07
14	Posting your personal secrets online.	3.23
15	Impersonating your personality on social media sites and showing you poorly.	2.87
16	Intentionally eliminating you from online games on the Internet to embarrass you.	2.57
17	Ignoring your feedbacks through social media sites.	1.83
18	Receiving email-based programs aimed at obtaining your personal information.	1.52
19	Imposing opinions and beliefs on you via repeated emails.	2.21
20	Ridiculing your appearance through social networking sites.	1.68
21	Receiving messages and calls to engage in morally inappropriate chat.	1.79
22	Blocking or excluding you from instant messaging programs.	2.1
23	Disturbing through individuals who impose themselves on you via instant messaging programs (WhatsApp, Facebook Messenger ... etc.)	2.18
24	Accessing your personal account and posting your own conversations via social networking sites.	2.14
25	Receiving disrespectful messages through social media.	1.51
26	Posting photos or videos that hurt you through social media.	1.71
	Sum	1.98

Table 2: Students' arithmetic means on the first part of the cyber-bullying scale (bully)

No.	Item	A.M
1	Threatening a colleague by a cell phone.	1.851898734
2	Sending abusive SMS to a colleague.	1.841772152
3	Ridiculing and mocking of your colleague through the chat rooms.	2.272151899
4	Posting a colleague's private photos after being distorted by social media.	1.767088608
5	Spreading rumors and lies about your colleague through websites.	1.913924051
6	Threatening your colleague with physical abuse through emails.	2.287341772
7	Posting inappropriate names about a colleague through social media.	1.939240506
8	Slandering a colleague by your friends through emails or SMS.	1.85443038
9	Rejecting a colleague's participation in the chat rooms to embarrass him	1.791139241
10	Posting videos of a colleague after editing them via social media.	1.806329114
11	Ridiculing your colleague via SMS	1.899739583
12	Deleting a colleague from your chat rooms	1.911392405
13	Sending disrespectful images to your colleagues.	1.803797468
14	Spreading the personal secrets of your colleague online to embarrass him.	1.817721519
15	Impersonating a colleague on social media sites and showing him badly.	1.981012658
16	Intentionally deleting a colleague from online games to embarrass him.	2.163291139
17	Intentionally ignoring your colleague's comments via social media sites.	2.196202532
18	Sending email-based programs aimed at obtaining personal information for your colleagues.	1.948101266
19	Imposing your opinions and beliefs on others through repeated emails.	1.993670886
20	Ridiculing the appearance of a colleague through social networking sites.	1.973417722
21	Sending messages and calls to participate in inappropriate chat.	1.691119691

22	Blocking or excluding a colleague from instant message programs to harass him.	1.9
23	Imposing you on a colleague through instant messaging programs (WhatsApp, Facebook Messenger, etc...)	1.97721519
24	Accessing a friend's email password or similar to by one of your colleagues without his knowledge.	2.096202532
25	Sending disrespectful messages through social media.	1.730379747
26	Posting inappropriate photos or videos that hurt your colleague through social media.	1.502531646
	Sum	1.919658171

We note that the behavior of cyber-bullying came in a medium degree, whether being a victim as shown in Table (1) and the role of bully as shown in Table (2).

This result is due to the development of mobile phones and the development of social communication applications and their hugely widespread among different groups of society, especially university students who use them largely because they keep up with the technological development in the phones as a kind of distinction among the students that gives them a social status. They also try to gain the latest phones to maintain their overall appearance. Cyber-bullying occurs via communications technology, such as mobile phones, smartphones and the Internet, as this type of bullying has negative effects on individuals in society, like bullying in civilian life. Still, we see it more affecting because the bullying occurs on the individual via cyber devices in secret between two parties, but in civilian life, it occurs among individuals, thus we can find those who reduce the bullying with the help of external parties.

Similarly, we found that cyber-bullying increased its influence and power with the spread and development of phone applications. The social media programs such as Instagram, Twitter, WhatsApp, Snap Chat, and Facebook varied to be a double-edged sword according to the user. Some may deceive the victim via this program, and the strong one may be weaker for those who are stronger than him or her in this area based on the shrewdness and naivety between the parties. We also find that bullying takes place through the daily interaction of thousands of students via social networking applications, digital tablets and other social media through various means and methods such as posting an offensive message on the wall of the user's personal page or write rude and abusive comments on a person's photo or posting a picture or video to ridicule the person who appears in the picture or video, socially underestimate and extort him as well as fabricating a fake profile page to disturb others or expose them to problems. The researcher also believes that the result is based on the current way of life and the concern of the family members and their commitment to the tasks and duties they need to accomplish to provide the requirements and needs for life despite living under one roof, noting the concern of the student class with the social media affects their relationship and family interaction. Thus, he feels psychological loneliness and isolation as well. Psychological and physiological formation of the

personality of those at this age cannot be ignored, as the most important part lies in the search for his psychological identity to build his character. This makes him live in some psychological conflicts with the method of education and early life's experience that may lead to his isolation in order to find himself and feel a sense of independence, believing that this is the best solution to overcome the problems. University students have made social networking applications an essential activity in their lives and a daily habit by spending long hours in most days of the week. The result is also attributed to the improper use of social networking applications that provide a great deal of freedom without censorship or restrictions, making it a fertile ground for participation in all areas, such as expressing political, social, cultural and economic views in a frank and democratic manner where anyone can express his feelings and views and receive feedback from readers so that he feels that his voice can reach a wide audience leading him to feel more consent. In addition, most users share these sites through aliases; they do not ask users to reveal their true identity allowing them to have an unrestricted participation and gain a wider area of freedom that enables them to say whatever they want without shame or fear and express their opinions without restrictions. This right is one of the most important pillars of the communication process in the information society. These sites have become one of the most powerful influences in guiding public opinion and have become a field where a wide variety of cultures and civilizations meet. Entertainment and amusement are at the top of the list of university students' motivation for these applications, as well as following-up the advertisements. One of the reasons why students use social networking applications may be due to the ease of access to the latest developments in the field of fashion and style, which indicates that social networking sites have become the best option to follow all new things.

Q2. Is there a difference in the level of cyber-bullying (victim, bully) due to the type of university (public, private), for students of faculties of education in Jordanian universities?

To answer this question, the arithmetical means and standard deviations of the responses of the students on the cyber-bullying scale were calculated according to the type of university variable (public, private) as shown in Table (3).

Table 3: The arithmetical means and standard deviations of the responses of the students on the cyber-bullying scale according to the type of university variable (public, private)

	Categories	No.	A.M	S.D
Victim	Public	510	56.4608	20.34181
	Private	280	57.3679	20.33493
	Sum	790	56.7823	20.33112
Bully	Public	510	49.4627	17.42707
	Private	280	48.8893	15.36551
	Sum	790	49.2595	16.71789

Table (3) shows an apparent variance in the arithmetical means and standard deviations of the responses of students on the cyber-bullying scale by the university type variable (public, private). To illustrate the significance of the statistical differences between the arithmetic means, one-way ANOVA was used according as shown in Table (4).

Table 4: The single variance of student responses on the cyber-bullying scale by variable of type of university (public, private)

	Source	Sum of Squares	Degrees of Freedom	Mean of Squares	F Value	Sig.
Victim	Among groups	148.725	1	148.725	.360	.549
	Inside groups	325987.826	788	413.690		
	Total	326136.552	789			
Bully	Among groups	59.444	1	59.444	.212	.645
	Inside groups	220456.360	788	279.767		
	Total	220515.804	789			

Table (4) shows that there are no statistically significant differences at the level of significance (α = 0.05) due to different types of university (public, private) on both the victim and the bully.

The researcher explains this result that students in public and private universities live under the same social, physical, educational, cultural and psychological conditions, in addition to the similarity of university requirements and courses. Furthermore, the students of both universities have the same job opportunities and competitiveness after graduation, as this similarity helped in increasing the use of social networking applications via smartphones for long hours due to the increase in the number of friends, colleagues and smartphone-based experiences. They also used it as a kind of entertainment and access to local and international news, as well as information and quick knowledge about their university subjects.

Q3. Is there a difference in the level of cyber-bullying (victim, bully) due to the difference of gender (male, female), for students of faculties of education in Jordanian universities?

To answer this question, the arithmetical means and standard deviations of the responses of students on the cyber-bullying scale were calculated according to gender variable (male, female) as shown in Table (6).

Table 6: shows the arithmetical means and standard deviations of the responses of students on the cyber-bullying scale according to gender variable (male, female)

	Categories	No.	A.M	S.D
Victim	Male	324	53.8333	19.66224
	Female	466	58.8326	20.55608
	Total	790	56.7823	20.33112
Bully	Male	324	50.9228	17.95394
	Female	466	48.1030	15.71788
	Total	790	49.2595	16.71789

Table (6) shows an apparent variance in the arithmetical means and standard deviations of the responses of the students on the cyber-bullying scale according to gender variable (male and female). To illustrate the significance of the statistical differences between the arithmetic means, one-way ANOVA was used in Table (7).

Table 7: shows the single variance of student responses on the cyber-bullying scale by gender variable (male and female)

	Source	Sum of Squares	Degrees of Freedom	Mean of Squares	F Value	Sig.
Victim	Among groups	4776.608	1	4776.608	11.713	.001
	Inside groups	321359.944	788	407.817		
	Total	326136.552	789			
Bully	Among groups	1519.677	1	1519.677	5.468	.020
	Inside groups	218996.127	788	277.914		
	Total	220515.804	789			

Table (7) shows statistically significant differences at the level of statistical significance ($\alpha = 0.05$) due to gender variable (male, female) in the field of victim, where the F value was (11.713) with a statistical significance (0.001). There were also statistically significant differences at the level of ($\alpha = 0.05$) among the means of the field of bullying due to the gender variable (male, female), with an F value of (5.468) and statistical significance of (0.020). To the researcher, this result stemmed from the pressures and burdens of life experienced by males to find work to save university and private expenses, as opposed to females, which motivates him to find a way out of these pressures. So, he is looking for a victim to relieve his pressure and tension on him or her and to try the other stories he learned about cyber bullying to provide a source of money, or for sexual reasons. Neirib (2008) noted that psychological and social factors are the major cause of the spread of violence, leading to turbulent behavior, and the door is open to males to learn from their peers more than females by virtue of the freedom of being late, overnight out of the house, less control on male by parents especially in university life, aggressive behavior learned through observation and imitation, as well as the great amount of social relations for males.

As for the females, they do not have the courage to bully like males, for they are the weakest part and easy to harm them, and the community sympathizes with the male and shows male differently from the female, where her fault is unforgivable. It can also be attributed to the fact that females are looking for a husband in these difficult economic situations so that it is easy to deceive her and take her heart by the lover who is really a cyber-bully. This can be attributed to the ease of cyber bullying with some kind of hacking skills and use of technology to obtain audio and visual material for females. With few changes in the image or video, it becomes like a weak point to press on her through modern technology, leading to increase cyber stalking and prosecution, cyber blackmail, cyber sexual harassment, surveillance and espionage on computers and smartphones, in addition to the ability of the bully to impersonate the well-known names and persons known to trick girls and women, especially in chat rooms, Facebook and many others. As a fact, girls do not know how to behave in these situations for fear of parents and scandal. Cyber bullying is no longer confined to the country of bully, but became a cross-border crime; where he can badly exploit social media and its means such as Facebook, Twitter and others in influencing large numbers of people, especially female students. It should be noted that the misuse of these applications makes them an easy prey for sexual exploitation via the Internet through making sexual movements or insults or dating that result in sexual assault, or getting photos and others. Cyber bullying usually occurs among students who know each other outside social networking applications, as they may use their weaknesses, for example, if the victim is poor, obese, lazy or excellent at school, or is

simply jealous of the victim if he has a large number of friends, he will deliberately mutilate his image more broadly through his abusive comments, alongside his associated people who will help him in bullying. On the other hand, there may be an exchange of roles such as the victim who will respond in the same manner of bullying, especially if he knows the weaknesses of the bully. Although the bully is a person who feels the pain inside him, and does not feel comfortable in the depths of himself, but still he shows the opposite.

Q4. Is there a difference in the level of cyber bullying (victim, bully) due to the duration of the use of mobile phone (less than an hour, from one hour to 5 hours, more than 5 hours), for students of faculties of education in Jordanian universities?

To answer this question, the arithmetic means and standard deviations of the responses of students on the cyber bullying scale were calculated according to mobile phone usage variable (less than 1 hour, from 1 hour to 5 hours, more than 5 hours) as shown in Table (8).

Table 8: The arithmetic means and standard deviations of the responses of students on the cyber bullying scale according to mobile phone usage

	Categories	No.	A.M	S.D
Victim	Less than 1 hour	278	51.9353	51.9353
	From 1 – 5 hours	300	57.5667	57.5667
	More than 5 hours	212	62.0283	62.0283
	Total	790	56.7823	56.7823
Bully	Less than 1 hour	278	45.6942	45.6942
	From 1 to 5 hours	300	50.2367	50.2367
	More than 5 hours	212	52.5519	52.5519
	Total	790	49.2595	49.2595

Table (8) shows an apparent variance in the arithmetic means and standard deviations of the responses of students on the cyber bullying scale according to mobile phone usage variable (less than 1 hour, from 1 hour to 5 hours, more than 5 hours). To illustrate the significance of statistical differences among the arithmetic means, one-way ANOVA was used in Table (9).

Table 9: The single variance of student responses on the cyber bullying scale according to mobile phone usage variable

	Source	Sum of Squares	Degrees of Freedom	Mean of Squares	F Value	Sig.
Victim	Among groups	12550.221	2	6275.110	15.748	.000
	Inside groups	313586.331	787	398.458		
	Total	326136.552	789			
Bully	Among groups	6118.167	2	3059.084	11.229	.000
	Inside groups	214397.637	787	272.424		
	Total	220515.804	789			

Table (9) shows statistically significant differences at the level of statistical significance ($\alpha = 0.05$) due to variable mobile phone usage (less than 1 hour, from 1 hour to 5 hours, more than 5 hours) in the field of victim, where the F value was (15.748) with a statistical significance (0.000). There were also statistically significant differences at the level of ($\alpha = 0.05$) among the means of the field of use of mobile phone (less than 1 hour, from 1 hour to 5 hours, more than 5 hours), where the F value was (11.229) with a statistical significance of (0.000). In order to show statistically significant differences between the arithmetic mean, the post-comparisons were used based on the Scheffe test method as shown in Table (10).

Table 10: The post-comparisons based on the Scheffe test method

Victim	Method of View	Method of View	Sig.
	Less than 1 hour	From 1 to 5 hours	.003
		More than 5 hours	.000
	From 1 to 5 hours	Less than 1 hour	.003
		More than 5 hours	.045
	More than 5 hours	Less than 1 hour	.000
		From 1 to 5 hours	.045
Bully	Less than 1 hour	From 1 to 5 hours	.004
		More than 5 hours	.000
	From 1 to 5 hours	Less than 1 hour	.004
		More than 5 hours	.295
	More than 5 hours	Less than 1 hour	.000
		From 1 to 5 hours	.295

Table (10) shows statistically significant differences at the level of significance ($\alpha = 0.05$) among the arithmetic means for the duration of mobile phone use (less than 1 hour, from 1 hour to 5 hours, more than 5 hours). The differences in the first domain of the victim were for the benefit of each of the users of the half more than 5 hours and from one 1 to 5 hours and less than an hour. In the second domain, bullying was for the benefit of users of half of more than 5 hours with no difference with the users from 1 hour to 5 hours and in the last was the use of less than an hour.

In detail, this result may be attributed to the fact that bullying starts with the individual from the excessive use of social communication applications in addition to the Internet through the various search engines, creating feelings of isolation and introversion that increase with increasing hours of use. it also has a significant impact on the social and family relations in a more formal way, i.e. the use increases, the social and family gap increases (Aldalalah, Mufleh, & Ababneh, 2017).

The variety of Internet services such as video clips, movies, music, songs, text and multimedia images increases the user's attraction, deepens the user's relation to the its Internet and increases the hours of use because this article is similar to what Bdimeno, as the user is always following-up them. In addition, Facebook and other applications with the provision of visual, audio and text material in various political, scientific, cultural and news areas make them a source of attracting a large group of young people, including these students, especially for the availability of Internet service in phones at a simple cost. Due to the fact that the internet is also continuously available and everywhere, it is considered a motivation

for use, where the user can move through the pages of Facebook from a friend to his friends and his friends due to the presence of many victims that may motivate him to practicing bullying, especially if he is a beginner in the field of bullying, Most importantly, all this is a result of the leisure time, isolation and cyber addiction in which the bully lives. The addict may suffer from some of the symptoms that accompany addiction such as distress, emotional fluctuation when deprived of the use of these applications and the desire to use them and to live in conflict and loneliness. As a result, cyber social communication is a way of nourishing the sense of lack of social aspect, which develops into cyber bullying as a result of loneliness. For instance, we find the bully contacting with individuals outside the family range to practice bullying to enhance the internal feeling of satisfaction and happiness for this behavior.

Q5. Is there a relation to cyber bullying through the use of mobile phone applications in the psychological loneliness of students of faculties of education in Jordanian universities?

Table 11: The relation between the cyber bully and psychological loneliness

Loneliness	Cyber Bullying		
.591(**)	1	Pearson Correlation	Cyber Bullying
.000		Sig. (2-tailed)	
790	790	N	
1	.591(**)	Pearson Correlation	Loneliness
	.000	Sig. (2-tailed)	
790	790	N	

The study showed a correlative relationship between cyber bullying (victim) and feeling of psychological loneliness .591 Table (11). This result can be attributed to the features of smartphones in providing cyber services to the user such as taking him away from the reality in which he lives to a cyber-world, where he can see the entire world. In addition, the use of mobile phone applications of social networking and the Internet increase the average of the introversion, loneliness and depression and reduce social involvements, where he becomes socially isolated even among people, causing more aggression as confirmed by Wang (2003), Petrie and Genn (1998) and Maito and Greg (2001). At last, this can be attributed to the transition of students to university life without the gradual introduction and linkage with the secondary stage. The student moves to the university with a new educational system and comrades from different environments and large numbers. For example, university professors differ from teachers in schools in terms of communication with students and intimate relations mostly, as all this affects the males psychologically and increases their pressure. Winder and Ravil Shahta (1996) state that what enhances the cyber bullying is the ability to unload the pressures that collide with them in two

different realities. This can be attributed to the fact that bullying in real life ends at the end of the semester; but cyber bullying does not end so as it is extended, which makes the victim live in psychological pressure and tension leading him separate to from the community because he is feeling dissatisfied.

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