



Use and abuse of social media by adolescents: a study in Mexico

Uso y abuso de las redes sociales por parte de los adolescentes:
un estudio en México

Mg. Rubicelia Valencia Ortiz¹ rubivalencia@gmail.com



Dr. Carlos Castaño Garrido² carlos.castano@ehu.eus



¹ Universidad del País Vasco - Macmillan Education (México)

² Departamento de Didáctica y Organización Educativa de la Universidad de País Vasco (Bilbao, España)

RESUMEN

El uso abusivo y problemático de las diferentes tecnologías ha conducido al desarrollo de una línea de investigación centrada en el estudio de la adicción a estas y sus consecuencias. Por ello, algunos estudios se han enfocado en internet y su relación con problemas de tipo físico-biológico, social y familiar. Esta investigación se planteó examinar el nivel de adicción de los jóvenes mexicanos a las redes sociales online mediante la adaptación de la escala de Sahin (“Social Media Addiction Scale-Student Form”). Además, se analizó la existencia de respuestas diferenciadas en términos de género en la muestra utilizada que consistió en 605 estudiantes de preparatoria (296 hombres y 309 mujeres). Los resultados muestran que los estudiantes no se autoperciben como adictos a las redes sociales online. Por otro lado, no hay diferencias significativas en sus respuestas en términos de género. Estos resultados deben ser considerados dentro de sus limitaciones relacionadas con las características de la muestra y el hecho de que se examinaron las autopercpciones de los estudiantes ■

ABSTRACT

The abusive and problematic use of a variety of technologies has led to the development of research focusing on the study of addiction to such technologies and the consequences this brings. Therefore, some studies have focused on the Internet and its relationship with physical-biological, social and family problems. This research sought to examine the extent of addiction of young Mexicans to online social media networks by adapting the Sahin scale (“Social Media Addiction Scale-Student Form”). In addition, we analyzed the existence of differentiated responses in terms of gender in the sample used, which consisted of 605 high school students (296 men and 309 women). The results indicate that students do not perceive themselves as addicted to online social media networks. In other aspects, there are no meaningful differences in registered responses due to the gender of the participant. These findings should be considered within their limitations related to the characteristics of the sample and the fact that the students' self-perceptions were examined ■

PALABRAS CLAVE

redes sociales online, uso abusivo, adicción, jóvenes y adolescentes, autopercpciones.

KEYWORDS

online social media networks, abusive use, addiction, youth and adolescents, self-perceptions

1.- Addiction to online social media

Online social media networks (OSM) whose use has progressively been increasing, especially among young people, have become a driving force for the Internet, with their strong social presence. Hence, we might ask; what is understood by social media networks? And to answer this question, we must first recognize that we may find a diverse range of definitions and theories about what they are and what they are not; but in general, the vast majority of such definitions assume that it is a place where a group of people interact, share information, communicate and interact with each other and create communities. Under this perspective, we must recognize that social networks have always existed, the internet has brought immediacy for communication and the expansion of its scenario (Fuentes, Esteban & Carol, 2015)

In contrast to face-to-face social networks, OSM show a number of different characteristics: absence of physical or face to face contact, at times there may not be a relationship between the individual's identity in the real world (offline) and in the online world, they lead to a way of social relationship for those individuals who in their real life have difficulties maintaining social relationships, possibility of simultaneous communication among a large number of participants, and the ease to break or suspend relationships or contacts (Musial & Kazienko, 2013).

In any case, we must begin with the idea that the volume of people and interactions does not make these OSM meaningful, but rather the set up of a new model for communication and relating among the communicators becomes an element for the democratization of information and the creation of proconsumers (Della-Porta, 2015).

In the framework of this research it is important to notice that its use is spreading among young people and adolescents. A study recently carried out in Spain (Orange, 2018) shows that young people start using social media networks from the age of 14 and the most active users are between 16 and 24 years old. In Mexico, Islas and Carranza (2011) reviewed different investigations where it was revealed that the use of social networks was advancing at a rapid pace in this country, with percentages higher than the international averages.

This increase in its use and speed of adoption are determined by different aspects, among which stand out the strong presence of youths and teenagers acquiring mobile devices (García & Fernández, 2016;

Gértrudix, Borges & García, 2017). In Spain, 45,90% of parents say that their children have had their first smartphone since the age of 14 (Orange, 2018) and 93,2% of children use it as a preferred means of connecting to the internet.

As it has been noted, OSM have become one of the influential means for young people to keep in touch and interact, to extend their relationships, to locate and inquire information and are also serving as an element for entertainment, a means of coexistence and creation of new communication languages (García & Fernández, 2016; Bastarrechea, 2017; Gértrudix, Borges & García, 2017; Orange, 2018).

Faced with these possibilities offered by the OSM, different negative effects are appearing in young people as a consequence of some of its intrinsic characteristics and the communication context they generate, such as: anonymity, ease of access, speed of access, disinhibition, affordability, and absence of physical contact (Griffiths, 1995; Fuentes, Esteban & Caro, 2015), as well as lengthy exposure, which produces what some authors have called addiction to OSM.

Besides this, and due to the importance, they are acquiring for young people - their main users, social media is playing an important role in the construction of their social identity (Renau, Oberst & Carbonell, 2013).

For Basteiro, Robles, Juarros and Pedrosa (2013), addiction to OSM is reduced with the age of the person, and the characteristics of physical and psychological immaturity of youths and adolescents, and the strong consumption that they make of OSM , may prove to have greater negative repercussions on them than on adults; hence the great interest of its analysis and reflection.

1.1.- Addiction to social media

Additionally, the abusive and problematic use of different technologies is leading to the development of a line of analysis and concern and research focused on the study of addiction to them, and the possible consequences such addictions imply. Thus, a large volume of studies has specifically focused on the abusive use of the internet, and its association with physical-biological, social and family problems (Echeberúa, 2012; Fernández-Villa et al, 2015; Young, 2015). The term “Internet addiction” began to be investigated in 1996 with a study that reviewed more than 600 cases of frequent internet users who exhibited clinical signs of addiction measured through an adapted version of the criteria of the “Diagnostic and Statistical Manual of the mental disorders - DSM-IV” for the pathological gambling (Young, 2015).

For Chóliz and Marco (2012), internet addiction is seen when an individual displays a series of behaviors: 1) tolerance: constantly needing to be more connected, 2) abstinence, you feel discomfort when the connection is interrupted , 3) the medium is used more than originally intended, 4) desire to stop using the Internet, but not being able to quit, 5) excessive use of time in activities related to the Internet, 6) quitting other activities in order to use more Internet, and 7) Using the internet despite knowing that it is hurtful.

Different works indicate that addiction to this technology has consequences in different aspects, such as: difficulties with cognitive flexibility (Dong, Lin, Zhou & Lu, 2014), problems for decision making (D'Hondt, Billieux & Maurage, 2015), increased level of anxiety (Wegmann, Stodt & Brand, 2015), omitting to carry out certain activities (Chóliz & Marco, 2012), in the development of working memory (Dong, Devito, Du & Cui, 2012), or conflicts in concentration (Rücker, Akre, Berchtold & Suris, 2015).

But studies of the consequences of abuse have not only focused on the Internet, but also on a variety of technologies ranging from Information Technology and Communication in general (García-Oliva, Piqueras & Marzo, 2017; Gairin & Mercader , 2018), online games (Bertrán & Chamarro, 2016; Martín, Matalí, García, Pardo, Lleras & Castellano, 2017), videogames (González, Espada & Tejeiro, 2015; Espejo, Chacón, Castro, Zurita & Martínez , 2018), mobile phones (Pedrero, Rodríguez & Ruiz, 2012; Gaspar y Cuesta, 2015; Ruiz, 2015; Polo, Mendo, León & Castaño). And of course in the OSM.

The abusive use of the OSM is originating a line of work called “Addiction to online social networks”, which can be perceived as a particular type of Internet addiction (Sahin, 2018). But before delving into the latter, we will approach the term addiction and distinctions regarding OSM.

As it has been shown by different authors (Echeberúa, 2012) during a prolonged period of time the term addiction has been associated with the consumption of drugs and chemical substances. In fact, this is included in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2002), where the term is defined as an abuse and dependence of any type of psychoactive substances. However, contrary to this definition, different researchers maintain that the development of an addictive process can occur without the intervention of said substances. And it could be defined as a compulsive and excessive use, which causes a deterioration in the daily functioning of the individual therefore becoming an addictive behavior (Watters, Keefer, Kloosterman, Summerfeldt & Parker, 2013).

In any case, there is no consensus in the academy regarding whether the abusive use of the internet and social networks should be considered as an addiction; some argue that addiction to a technology is

often confused with addiction to a behavior; therefore, according to this position, it is more adequate to differentiate true addictions from excesses and transitory problems of abusive, problematic, inadequate or intensive exposure to a technology (Kuss, Griffiths, Karila & Billieux, 2014; Carbonell, 2014; Carbonell & Oberst, 2015; Pontes, Szabo & Griffiths, 2015). Carbonell (2014), for example, have made some criticisms and assure that talking about addiction to information and communication technologies is more a social construct that has recently gained popularity rather than a pressing reality; in any case, he argues, it is an addiction of a secondary nature that is associated with a primary addiction and is often confused with the dependence on a technology and more than a psychological disorder it is simply a hobby or habit. On the other hand, these authors also argue that it is not an addiction because it is not included in the “DSM-5 Diagnostic Criteria Reference Guide” (American Psychiatric Association, 2013).

Regardless of the position we adopt, it is undeniable that an abusive use of technologies has negative consequences for the person, insofar as they generate a disruption in our lives (Fuentes, Esteban & Caro, 2015) and especially in the vulnerable group of adolescents (Chóliz & Marco, 2012). This has had an impact on the search for instruments for diagnosis, where the self-perception scales, usually referred to as the “Social Network Addiction Test (SNAT)”, have progressively gained ground (Basteiro, et al., 2013; Escurra & Salas, 2014; Tutgun-Ünal & Deniz, 2015; Banyai, et al., 2017; Simó, et al., 2017); this work is based on the scale elaborated by Sahin (2018).

The application of some of these scales has provided references regarding the extent of addiction or abusive use that the youth and adolescents as a collective have had with respect to it. So Sahin (2018) notes the fact that people who spend too much time in them have the desire to be notified of something immediately, which can cause virtual tolerance, virtual communication, and virtual problems. On the other hand, Echeberúa (2012) and Echeberúa and De Corral (2010) affirm that social media networks can trap the adolescent because these separate them from personal contact and produce social isolation, distorting the real world and can produce symptoms of abstinence when they do not have access to them; causing sleep deprivation and neglect of other activities including academic ones. Basteiro et al. (2013) demonstrates the existence of a positive linear relationship between neuroticism, extraversion and depressive symptomatology regarding the abuse of OSM. Furthermore, Llamas and Pagador (2014) suggest that their abuse amplifies in adolescents confusion between the real and virtual world. This addiction has been related to other types of variables such as low self-esteem, depression and lack of social skills (Herrera, Pacheco, Palomar & Zavala, 2010); and health problems (migraines, lumbar pain,

overweight or obesity, insufficient rest), psychological aspects (risk of eating disorders, risk of mental disorder, depression), family problems and discrimination (Fernández-Villa, et al., 2015).

2.- Methodology

2.1.- Research Aims

The research objectives being pursued are as follows:

- A) Validate and adapt the “Social Media Addiction Scale-Student Form” scale (SMAS-SF) (Sahin, 2018) for high school students in the Mexican context.
- B) Know the extent of addiction that young Mexicans have towards OSM, according to the SMAS-SF scale (Sahin, 2018).
- C) And analyze whether the gender of the student and adolescent influences the addiction shown towards the OSM, according to the SMAS-SF scale (Sahin, 2018).

2.2.- Research Sample

The respondents were 605 young people who were studying high school (296 men - 48.93% and 309 women - 51.07%), and who were attending courses in various centers in Mexico City, on the ILCE campus, who were studying teaching majors and they had attended the 2017 ILCE Award, and the Latin American Educational Technology Network.

The sampling was non-probabilistic (Alamino, 2006; Sabariego, 2012), which is determined by the ease of access that the researcher has to the subjects that make up the population.

2.3.- Instrument

The validated and adapted instrument was the “Social Media Addiction Scale-Student Form” elaborated by Sahin (2018) for young Turks. The scale, in its original version, consisted of 29 items with Likert construction and five response options, ranging from “strongly agree” to “strongly disagree”.

The scale was administered by internet.

Research followed the following different phases: 1) translation and construction of the scale; 2) application of the scale; 3) analysis of its reliability and construct validity: (a) Exploratory Factor Analysis, previously calculating the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's sphericity test (Cerny & Kaiser, 1977); (b) reduction of the items until reaching perfect factorization

(Seçer, 2013); (c) successive realization of a factorial analysis and the application of different adaptation and adjustment indices for contracting the adequacy of the model (Kline, 2005); and (d) reliability and internal consistency of the scale, Cronbach's alpha and "composite reliability" have been calculated using the Jöreskog's rho (Cho, 2016); and 4) hypothesis contrast.

Finally, the choice of the "SMAS-SF" scale was based on different reasons, namely: its novelty, the theoretical foundation made by the author for its elaboration and the robust process followed for its construction that can be reviewed in the Sahin document (2018).

The statistical analyzes were carried out using the statistical packages AMOS 24 and SPSS 24.

3.- Obtained Results

To start, the factorial analysis was carried out on the total of the 29 items of the questionnaire, the results of the sample adequacy measure KMO and the Bartlett sphericity test, which are shown in Chart 1.

Chart 1. Test of KMO and Bartlett

Measure Kaiser-Meyer-Olkin measure of sampling adequacy	,941
Bartlett sphericity test	Approx. Chi- squared
	Degrees of freedom
	Significant

In regards to the analysis of the main components of the 29 items totalling the questionnaire, it should be noted that four factors were discriminated with a percentage of final explained variance of 50,46. What indicates that it is a suitable adjustment, this only led us to the elimination of a single item (24.- "I use social media even when walking on the road in order to be instantly informed about developments"), by simultaneously loading on two factors.

The four identified factors, also present in other scales, are the following: satisfaction / tolerance (Sahin, 2018), problems (Van den Eijnden, Lemmens & Valkenburg, 2016), obsession to be informed (Escurra & Salas, 2014; Sahín, 2018), and need / obsession to be connected (Choliz and Marco, 2012; Escurra and Salas 2014). All of them are made up of a diversity of items, which we present in Chart 2, including the means and standard deviations reached in each of the dimensions.

Chart 2. Identification and denomination of factors, and items that comprise it

Satisfaction for being connected on Online Social media (m=2,32 – s. d.=0,75)	Problems (m=2,13 – s.d.=0,76)
4. I see social media as an escape from the real world (m=2,34–s.d.=1,08).	15. I pass over my homework because I spend much time on social media. (m=2,20–s.d.=1,08).
5. A life without social media becomes meaningless for me. (m=2,12– s.d.=1,10).	16. I feel bad if I am obliged to decrease the time I spend on social media. (m=2,21– s.d.=1,09).
6. I prefer to use social media even there are somebody around me. (m=2,31– s.d.=1,06).	17. I feel unhappy when I am not on social media. (m=2,31– s.d.=1,14).
7. I have physical problems because of social media use. (m=1,96– s.d.=1,02).	19. I use social media so frequently that I fall afoul of my family. (m=1,85– s.d.=0,92).
8. I express myself better to the people with whom I get in contact on social media. (m=2,51– s.d.=1,18).	21. I do not even notice that I am hungry and thirsty when I am on social media. (m=1,91– s.d.=1,04).
9. I am as I want to seem on social media. (m=2,24– s.d.=1,09).	22. I notice that my productivity has diminished due to social media. (m=2,54– s.d.=1,18).
10. I usually prefer to communicate with people via social media. (m=2,54– s.d.=1,12).	23. I have physical problems because of social media use. (m=2,00– s.d.=1,02).
11. Even my family frown upon, I cannot give up using social media. (m=2,62– s.d.=1,23).	
13. I prefer virtual communication on social media to going out. (m=2,28- s.d.=1,02).	

Obsession for being informed (m=2,89 – s.d.=0,79)	Need/obsession to be connected (m=2,83 – s.d.=0,78)
20. The mysterious world of social media always captivates me. (m=2,55– s.d.=1,00). 25. I like using social media to keep informed about what happens. (m=3,28– s.d.=1,15).	1. I am eager to go on social media. (m=2,98– s.d.=1,07). 2. I look for internet connectivity everywhere so as to go on social media. (m=2,89– s.d.=1,15).
26. I surf on social media to keep informed about what social media groups share. (m=3,02– s.d.=1,08).	3. Going on social media is the first thing I do when I wake up in the morning. (m=2,60– s.d.=1,20).
27. I spend more time on social media to see some special announcements (e.g. birthdays). (m=2,68– s.d.=1,11).	12. I want to spend time on social media when I am alone. (m=3,12– s.d.=1,16).
28. Keeping informed about the things related to my courses (e.g. homework, activities) makes me always stay on social media. (m=3,00– s.d.=1,11).	14. Social media activities lay hold on my everyday life. (m=2,45– s.d.=1,07). 18. Being on social media excites me. (m=2,94– s.d.=1,07).
29. I am always active on social media to be instantly informed about what my kith and kin share. (m=2,79– s.d.=1,15).	

In order to analyze and validate the accuracy of the four factors identified in our study, we carried out confirmatory factorial analyzes, of both first and second order, and to know the importance that each factor has in the model, we performed a confirmatory factorial analysis of Second level, whose results can be seen in Figure nº 1. From this, it can be concluded that the loads in the factor “Satisfaction” are between 0,54 and 0,69, in the “Problems” between 0,58 and 0,71, in the “Information” section, between 0,56 and 0,68, and in the “Need to be connected” section, between 0,47 and 0,69, values that denote high levels of correlation. At the same time, the levels of relationship between the different factors are quite high, standing between 0,57 (problem with information) and

0,82 (satisfaction with need to be connected). The loads of each factor can be considered quite high on the system and range from 0,68 to 0,94 and, secondly, that the greater load has the factor “Satisfaction”.

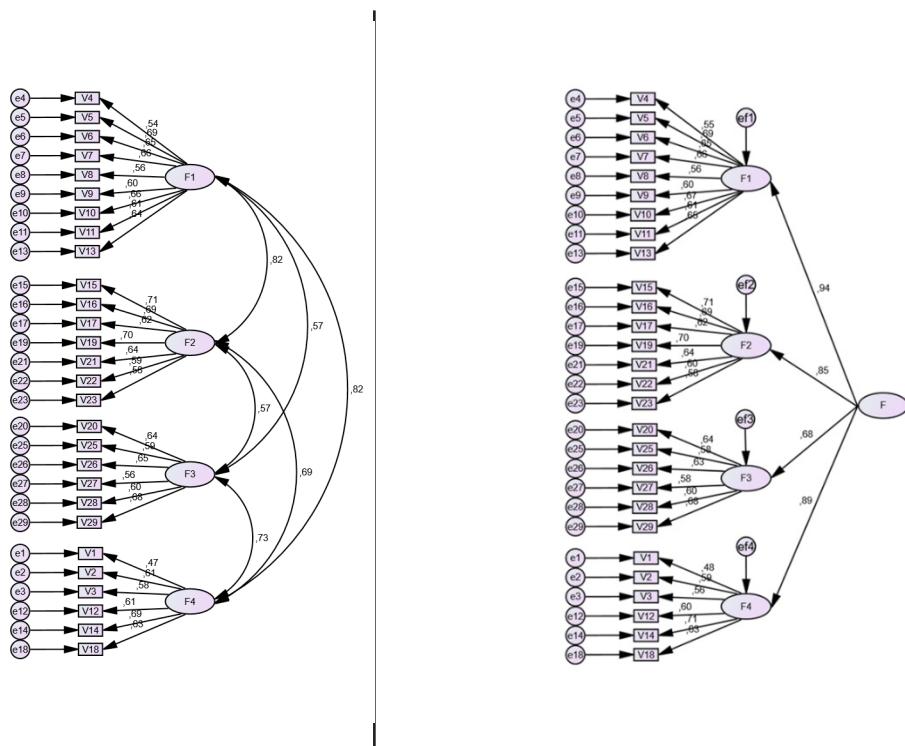


Figure 1. Model of confirmatory factorial analysis of first and second order

The obtained χ^2 / df values, according to Kline (2005), indicate that the proposal has an acceptable goodness of fit.

Finally, we performed the “composite reliability” analysis using the Jöreskog’s rho (Cho, 2016), which facilitates obtaining the internal consistency of the indicator block (Lévy, 2006) and are presented in Chart 3. These values suggest a high index reliability, both in the globality of the instrument and in the different dimensions that comprise it, since they exceed the value 0,7 (Nunally & Berstein, 1994).

Chart 3. Rho de Jöreskog's for the globality of the instrument and factors

Variable	Jöreskog's rho (c)
Total instrument	0,923
F1 Satisfaction	0,853
F2 Problems	0,838
F3 Information	0,800
F4 Need to be connected	0,767

Once these results are presented, we will begin our analysis with respect to the scores obtained, and based on what can be seen from the scores presented in Chart 2, the young people surveyed do not perceive different aspects related to OSM as problematic, since only in two items (26.- "I surf on social media to keep informed about what social media groups share" and 27.- "I spend more time on social media to see some special announcements (e.g. birthdays)." the score average is 3; at the same time we can point out that, in a large volume of items, the average score is below the central value of 2,5: 5. "A life without social media becomes meaningless for me" (2,12), 7. "I prefer friendships on social media to the friendships in the real life" (1,96), 9. "I am as I want to seem on social media", 13. "I prefer virtual communication on social media to going out" (2, 28), 14. "Social media activities lay hold on my everyday life" (2,45), 15. "I pass over my homework because I spend much time on social media" (2,20), 16. "I feel bad if I am obliged to decrease the time I spend on social media" (2,21), 17. "I feel unhappy when I'm not on social media" (2,31), 19. "I use social media so frequently that I fall afoul of my family" (1,85), 21. "I do not even notice that I am hungry and thirsty when I am on social media" (1,91), 22. "I notice that my productivity has diminished due to social media" (2,41), and 23. "I have physical problems because of social media use" (2,00).

Additionally, the low typical deviations obtained point to the existence of a certain homogeneity in the answers offered by young people and adolescents.

A fact that also reinforces what we are discussing is that the average and standard deviation obtained in the overall instrument was 2,50 and 0,63, respectively, which reveals a perception of non-addiction to OSM by respondents.

What's more, the average scores obtained do not indicate a perception of being trapped by OSM, since they do not show a high level of obsession to connect and to be informed through OSM, nor do they

consider that its use entails problematic situations to forget about friends or family relationships, or that their performance has decreased due to their use, or the creation of a physical problem; nor did they express high levels of satisfaction whilst being connected to them.

Chart 4, shows the average values and standard deviations reached in the different dimensions and items of the questionnaire according to the student's gender.

Chart 4. Averages and typical deviations according to the gender of the respondents

	G	M	D.tp
1. I am eager to go on social media.	H	3,03	1,113
	M	2,93	1,036
2. I look for internet connectivity everywhere so as to go on social media.	H	2,94	1,188
	M	2,83	1,106
3. Going on social media is the first thing I do when I wake up in the morning.	H	2,52	1,213
	M	2,67	1,187
4. I see social media as an escape from the real world.	H	2,29	1,078
	M	2,39	1,081
5. A life without social media becomes meaningless for me.	H	2,15	1,134
	M	2,09	1,074
6. I prefer to use social media even there are somebody around me.	H	2,30	1,130
	M	2,31	,997
7. I prefer the friendships on social media to the friendships in the real life.	H	2,01	1,046
	M	1,92	,993
8. I express myself better to the people with whom I get in contact on social media.	H	2,56	1,180
	M	2,46	1,172
9. I am as I want to seem on social media.	H	2,31	1,098
	M	2,16	1,069
10. I usually prefer to communicate with people via social media.	H	2,66	1,145
	M	2,42	1,086
11. Even my family frown upon, I cannot give up using social media.	H	2,57	1,211
	M	2,67	1,247

	G	M	D.tp
12. I want to spend time on social media when I am alone.	H	3,04	1,218
	M	3,19	1,092
13. I prefer virtual communication on social media to going out.	H	2,26	1,050
	M	2,29	,993
14. Social media activities lay hold on my everyday life.	H	2,42	1,061
	M	2,48	1,071
15. I pass over my homework because I spend much time on social media.	H	2,21	1,078
	M	2,20	1,089
16. I feel bad if I am obliged to decrease the time I spend on social media.	H	2,18	1,086
	M	2,23	1,095
17. I feel unhappy when I am not on social media.	H	2,33	1,150
	M	2,28	1,129
18. Being on social media excites me.	H	2,90	1,121
	M	2,98	1,022
19. I use social media so frequently that I fall afoul of my family.	H	1,86	,935
	M	1,85	,915
20. The mysterious world of social media always captivates me.	H	2,50	1,070
	M	2,59	1,083
21. I do not even notice that I am hungry and thirsty when I am on social media.	H	1,96	1,054
	M	1,86	1,029
22. I notice that my productivity has diminished due to social media.	H	2,44	1,183
	M	2,38	1,185
23. I have physical problems because of social media use.	H	2,04	1,049
	M	1,95	,992
25. I like using social media to keep informed about what happens.	H	3,20	1,192
	M	3,36	1,104
26. I surf on social media to keep informed about what social media groups share	H	3,05	1,050
	M	2,99	1,108
27. I spend more time on social media to see some special announcements (e.g. birthdays).	H	2,63	1,100
	M	2,72	1,122
28. Keeping informed about the things related to my courses (e.g. homework, activities) makes me always stay on social media.	H	2,92	1,097
	M	3,08	1,116

	G	M	D.tp
29. I am always active on social media to be instantly informed about what my kith and kin share	H	2,74	1,142
	M	2,83	1,157
Satisfaction for being connected on Online Social media	H	2,35	,754
	M	2,30	,740
Problems	H	2,15	,760
	M	2,11	,768
Obsession for being informed	H	2,84	,790
	M	2,93	,783
Need/obsession to be connected	H	2,81	,800
	M	2,85	,755
Total	H	2,50	,635
	M	2,51	,621

We will now contrast the following hypothesis:

Null hypothesis (H0): There are no significant differences among young people according to gender in the responses offered to the adaptation of the questionnaire “Social Media Addiction Scale-Student Form” (SMAS-SF) (Sahin, 2018), with an error alpha risk of 0,05

Alternative hypothesis (H1): There are significant differences among young people according to gender that show in answers offered to the adaptation of the questionnaire “Social Media Addiction Scale-Student Form” (SMAS-SF) (Sahin, 2018), with an alpha risk to make a mistake of 0,05

To achieve this, we applied the Student's t test for independent samples, although we must point out that Levene's test (1960) was initially obtained to analyze the equality of the variances. In Chart 5 we present the t values reached, for each item, as well as for the four factors and the globality of the instrument, and its significance for 603 degrees of freedom.

Chart 5. Student's T for the analysis of gender significance (** = significant at 0.01)

	Test Levene		t de student	
	F	Sig.	t	Sig.
1. I am eager to go on social media.	0,822	0,365	1,201	0,230
2. I look for internet connectivity everywhere so as to go on social media.	0,980	0,323	1,154	0,249
3. Going on social media is the first thing I do when I wake up in the morning.	0,112	0,738	-1,532	0,126
4. I see social media as an escape from the real world.	0,269	0,604	-1,151	0,250
5. A life without social media becomes meaningless for me.	2,105	0,147	0,646	0,518
6. I prefer to use social media even there are somebody around me.	7,135	0,008	-0,076	0,939
7. I prefer the friendships on social media to the friendships in the real life.	0,064	0,800	1,137	0,256
8. I express myself better to the people with whom I get in contact on social media.	0,003	0,960	1,025	0,306
9. I am as I want to seem on social media.	1,401	0,237	1,729	0,084
10. I usually prefer to communicate with people via social media.	1,423	0,233	2,551	0,011**
11. Even my family frown upon, I cannot give up using social media.	0,910	0,341	-0,924	0,356
12. I want to spend time on social media when I am alone.	3,401	0,066	-1,566	0,118
13. I prefer virtual communication on social media to going out.	1,311	0,253	-0,334	0,738
14. Social media activities lay hold on my everyday life.	0,014	0,906	-0,654	0,514
15. I pass over my homework because I spend much time on social media.	0,387	0,534	0,137	0,891
16. I feel bad if I am obliged to decrease the time I spend on social media.	0,342	0,559	-0,570	0,569

	Test Levene		t de student	
	F	Sig.	t	Sig.
17. I feel unhappy when I am not on social media.	1,445	0,230	0,571	0,568
18. Being on social media excites me.	7,510	0,006	-0,938	0,349
19. I use social media so frequently that I fall afoul of my family.	0,229	0,632	0,136	0,892
20. The mysterious world of social media always captivates me.	0,022	0,883	-0,941	0,347
21. I do not even notice that I am hungry and thirsty when I am on social media.	0,162	0,688	1,126	0,260
22. I notice that my productivity has diminished due to social media.	0,004	0,951	0,629	0,530
23. I have physical problems because of social media use.	3,556	0,060	1,075	0,283
25. I like using social media to keep informed about what happens.	2,648	0,104	-1,747	0,081
26. I surf on social media to keep informed about what social media groups share.	0,365	0,546	0,612	0,541
27. I spend more time on social media to see some special announcements (e.g. birthdays).	0,047	0,828	-1,031	0,303
28. Keeping informed about the things related to my courses (e.g. homework, activities) makes me always stay on social media.	0,130	0,718	-1,873	0,062
29. I am always active on social media to be instantly informed about what my kith and kin share.	0,195	0,659	-0,981	0,327
Satisfaction for being connected on Online Social media	0,005	0,945	0,744	0,457
Problems	0,121	0,728	0,620	0,535
Obsession for being informed	0,003	0,955	-1,421	0,156
Need/obsession to be connected	3,044	0,082	-0,587	0,557
Total	0,102	0,750	-0,064	0,949

As we can see, in general we do not reject the different H0 formulated; consequently, we can indicate that there are no significant differences among young people according to gender in the responses offered to the adaptation of the "Social Media Addiction Scale-Student Form" questionnaire (SMAS-SF), with a

level of significance of $p \leq 0,05$. It is only rejected in one of the items ("I usually prefer to communicate with people via social media."), and in this case the differences are favorable to men over women.

3.- Conclusions

From the analysis of the obtained results it can be stated that:

- a) The adaptation carried out for the Mexican context of the SMAS-SF instrument developed by Sahin (2018), has been shown to be reliable and to have levels of reliability, and containing factors of identification, similar to those obtained by this author in the construction of his instrument with students from Turkey. In this sense, we think that the elaborated instrument can provide a useful tool to collect information on the degree of addiction on the part of the students of the age group analyzed.
- b) Four factors have been identified that could explain this addiction or abusive use of social networks: satisfaction / tolerance, problems, obsession to be informed, and the need / obsession to be connected.
- c) Based on the obtained results, conclude that adolescents have shown strong signs that in their opinion they are not addicted to the OSM. This finding coincides with those obtained by other authors and in different contexts (Linne, 2015; Marín, Sampedro and Muñoz, 2015). The comments are also related to what was indicated by Kuss, Griffiths, Karila and Billieux (2014), Carbonell (2014 and 2015), Carbonell and Oberst (2015) and Pontes, Szabo and Griffiths (2015), which highlight the behavior maintained by youths and adolescents before the OSM, which cannot be considered as addiction to a behavior; but rather as excessive and abusive use, which in contrast our data does not confirm.
- d) It cannot be concluded that as a result of the time spent in OSM , students neglect the completion of their tasks ("15. I pass over my homework because I spend much time on social media. -2,20" and "22. I notice that my productivity has diminished due to social media -2,41 ") which is in line with the findings obtained by Tuñez and Sixto (2012), Marín, Sampedro and Muñoz (2015), and Plaza (2018).

- e) Nor have there been any reported findings that its use affects the dynamic of his family or social life ("11. Even my family frown upon, I cannot give up using social media -2,62" and "19. I use social media so frequently that I fall afoul of my family -1,85" A fact that coincides with what Caldevilla (2010) obtained in his research.
- f) In regards to the hypothesis referring to whether there were significant differences in the perceptions that students maintained regarding their addiction to the OSM according to gender, in this work such differences have not been obtained, nor in the different items of the questionnaire, nor in the four identified factors. In this sense, our findings coincide with those obtained by Basteiro, Robles, Juarros & Pedrosa (2013), Fernández-Villa, et al., (2015) and Ruiz (2016).

The findings should be considered within the limitations presented by our work, among which we can highlight that we have worked on the self-perceptions that students had about OSM, and they may not be very aware of it, and the characteristics of the sample.

Bibliographic references

- American Psychiatric Association (2013). *Guía de consulta de los criterios diagnósticos del DSM-5*. Madrid: Médica Panamericana.
- Banyai, F., Zsila, A., Király, O., Maraz, A., Elekes, Z., Griffiths, M.D., Andreassen, C. & Demetrovics, D. (2017). Problematic social media use: results from a large-scale nationally representative adolescent sample. *PLoS ONE*, 12(1), 1-13.
- Basteiro, J., Robles, A., Juarros, J. & Pedrosa, I. (2013). Adicción a las redes sociales: creación y validación de un instrumento de medida. *Revista de Investigación y Divulgación en Psicología y Logopedia*, 3(1), 2-8.
- Carbonell, X. (2014). ¿Qué son las adicciones tecnológicas? Internet, MMORPG y redes sociales. En Carbonell, X. (coord.). *Adicciones tecnológicas qué son y cómo tratarlas*, (pp. 53-85), Madrid: Síntesis.
- Cerny, C.A., & Kaiser, H.F. (1977). A study of a measure of sampling adequacy for factor-analytic

- correlation matrices. *Multivariate Behavioral Research*, 12(1), 43-47.
- Cho, E. (2016). Making Reliability Reliable: A Systematic Approach to Reliability Coefficients. *Organizational Research Methods*, 19(4), 651-682. DOI: 10.1177/1094428116656239.
- Chóliz, M. & Marco, C. (2012). *Adicción a Internet y redes sociales. Tratamiento psicológico*. Madrid: Alianza.
- D'Hondt, F., Billieux, J. & Maurage, P. (2015). Electrophysiological correlates of problematic Internet use: Critical review and perspectives for future research. *Neuroscience and Biobehavioral Reviews*, 59, 64–82. doi:10.1016/j.neubiorev.2015.10.005.
- Dong, G., Devito, E. E., Du, X. & Cui, Z. (2012). Impaired inhibitory control in “internet addiction disorder. *Psychiatry Research*, 203, 153–158. doi:10.1016/j.psychresns.
- Dong, G., Lin, X., Zhou, H. & Lu, Q. (2014). Cognitive flexibility in internet addicts: fMRI evidence from difficult-easy and easy-to-difficult switching situations. *Addictive Behaviors*, 39, 677–683. doi:10.1016/j.addbeh.2013.11.028.
- Echeberúa, E. (2012). Factores de riesgo y factores de protección en la adicción a las nuevas tecnologías y redes sociales en jóvenes y adolescentes. *Revista Española de Drogodependencia*, 37(4) 435-447.
- Echeberúa, E. & Del Corral, P. (2010). Adicción a las nuevas tecnologías y a las redes sociales en jóvenes: un nuevo reto? *Adicciones*, 22(2), 91-95.
- Escurra, M. & Salas, E. (2014). Construcción y validación del cuestionario de adicción a redes sociales (ARS). *LIBERABIT*, 20(1): 73-91.
- Fernández-Villa, T., Ojeda, J., Almaraz Gómez, A., Cancela, J.M., Delgado-Rodríguez, M., García-Martín, M., Jiménez-Mejías, E., ... Martín, V. (2015). Uso problemático de internet en estudiantes universitarios: factores asociados y diferencias de género. *Adicciones*, 27(4), 265-275.
- Fuentes, J.L., Esteban, F. & Caro, C. (2015). *Vivir en Internet. Retos y reflexiones para la educación*. Madrid: Síntesis.

- García, M.C. & Fernández, C. (coords.) (2016). *Si lo vives, lo compartes. Cómo se comunican los jóvenes en un mundo digital.* Barcelona: Fundación Telefónica-Ariel.
- Gértrudix, M., Borges, E., & García, F. (2017). Vidas registradas. Redes sociales y jóvenes en la era algorítmica. *Telos*, 107, 62-70.
- Griffiths, M. (1995). Technological addictions. *Clinical Psychology Forum*, January, 14-19.
- Herrera, M., Pacheco., M., Palomar, J. & Zavala, D. (2010). La Adicción a Facebook Relacionada con la Baja Autoestima, la Depresión y la Falta de Habilidades Sociales. *Psicología Iberoamericana*, 18(1), 6-18.
- Islas, C., & Carranza, R. (2011). Uso de las redes sociales como estrategias de aprendizaje. ¿Transformación educativa? *Revista Apertura*, 3(2), Recuperado de <http://www.udgvirtual.udg.mx/apertura/index.php/apertura3/article/view/198> (5/06/2013).
- Jöreskog, K. & Sörbom, D. (1993). *Lisrel 8: Structural equation modeling with the simplis command language.* USA: Scientific Software International.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling.* New York: The Guilford Press.
- Kuss, D., Griffiths, M., Karila, L. & Billieux, J. (2014). Internet Addiction: A Systematic Review of Epidemiological Research for the Last Decade. *Current Pharmaceutical Design*, 20, 4026-4052.
- Lévy, J-P. (2006). *Modelización con estructuras de covarianzas en ciencias sociales: temas esenciales, avanzados y aportaciones especiales.* Coruña: Netbiblo.
- Llamas, F. & Pagador, I. (2014). Estudio sobre las redes sociales y su implicación en la adolescencia. *Enseñanza & Teaching*, 32(1), 43-57. DOI: <http://dx.doi.org/10.14201/et20143214357>.
- Marín, V., Sampedro, B. & Muñoz, J.M. (2015). ¿Son adictos a las redes sociales los estudiantes universitarios? *Revista Complutense de Educación*, 26(Número especial), 233-251.
- Martín, M., Matalí, J., García, S., Pardo, M., Lleras, M. & Castellano, C. (2017). Adolescentes con Trastorno por juego en Internet (IGD): perfiles y respuesta al tratamiento. *Adicciones*, 29(2), 125-133.
- Nunally, J. C., & Bernstein, I. (1994). *Psychometric theory.* New York: McGraw-Hill.

- O'Dwyer, L. & Bernauerr, J. (2014). *Quantitative research for the qualitative researcher*. Los Angeles: Sage.
- Orange (2018). Guía sobre el uso responsable de la tecnología en el entorno familiar. Madrid: Orange.
- Pedrero, E., Rodríguez, M.T., & Ruiz, J.M. (2012). Adicción o abuso del teléfono móvil. Revisión de la literatura. *Adicciones*, 24(2), 139-152.
- Pontes, H. M., Szabo, A., & Griffiths, M. D. (2015). The impact of Internet based specific activities on the perceptions of Internet addiction, quality of life, and excessive usage: A cross-sectional study. *Addictive Behaviors Reports*, 1, 19-25.
- Renau, V., Oberst, U. & Carbonell, X. (2013). Construcción de la identidad a través de las redes sociales online: una mirada desde el construcccionismo social. *Anuario de Psicología*, 43(2), 159-170.
- Rücker, J., Akre, C., Berchtold, A. & Suris, J. C. (2015). Problematic Internet use is associated with substance use in young adolescents. *Acta Paediatrica*, 104, 504–507. doi:10.1111/apa.1297.
- Sabariego, M. (2012). El proceso de investigación (parte 2). En Bisquerra, R. (coord.), *Metodología de la investigación educativa* (127-163). (3^a. ed.). Madrid: La Muralla.
- Sahin, C. (2018). Social Media Addiction Scale - Student Form: The Reliability and Validity Study. TOJET: *The Turkish Online Journal of Educational Technology*, 17(1), 168-182.
- Seçer, İ. (2013). *SPSS ve LISREL ile pratik veri analizi ve raporlaştırma*. Ankara: Anı Yayıncılık.
- Simó, C., Martínez, A., Ballester, M.L., & Domínguez, A. (2017). Instrumentos de evaluación del uso problemático del teléfono móvil/smartphone. *Salud y drogas*, 17(1), 5-14.
- Tutgun-Ünal, A. & Deniz, L. (2015). Development of the Social Media Addiction Scale. *AJIT-e: Online Academic Journal of Information Technology*, 6(21), 51-70. DOI: 10.5824/1309-1581.2015.4.004.x.
- Van den Eijnden, R., Lemmens, J. & Valkenburg, P. (2016). The Social Media Disorder Scale. *Computers in Human Behavior*, 61, 478-487.
- Watters, C. A., Keefer, K. V., Kloosterman, P. H., Summerfeldt, L. J. & Parker J. D. A. (2013). Examining the structure of the Internet Addiction Test in adolescents: A bi-factor approach. *Computers in Human Behaviour*, 29(6), 2294-2302. DOI: <http://doi.org/10.1016/j.chb.2013.05.020>.

- Wegmann, E., Stodt, B. & Brand, M. (2015). Addictive use of social networking sites can be explained by the interaction of Internet use expectancies, Internet literacy, and psychopathological symptoms. *Journal of Behavioral Addictions* 4(3), 155–162.
- Young, K. (2015). The Evolution of Internet Addiction Disorder. En Montang, Ch. y Reuter, M. (eds.), *Internet Addiction, Neuroscientific Approaches and Therapeutical Interventions* (pp. 3-17). Switzerland: Springer International Publishing.

Cómo citar este artículo:

Valencia-Ortiz, R. & Castaño Garrido, C. (2019). Use and abuse of social media by adolescents: a study in Mexico Uso y abuso de las redes sociales por parte de los adolescentes: un estudio en México. *Pixel-Bit. Revista de Medios y Educación*, 54, 7-28. <https://doi.org/10.12795/pixelbit.2019.i54.01>