Social educators and their relationship with the Internet. Use or abuse of this medium

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Abstract

Social educators, due to their professions, encompass two spheres of action. These professionals are not common subjects in research studies, and even less if the research addresses their use or abuse of technology. The following article seeks to determine the relationship of these professionals with the Internet, from the perspective of their problematic use of it. For this, a quantitative method was utilized with an ex-post facto design, extracting the data from the Spanish version of the Internet Addiction Test (IAT) questionnaire, with a sample of students enrolled in the Social Education Degree (N=206). The results showed scarce significant differences as a function of the sociodemographic variables such as gender or academic year, as well as a problematic use more than an addiction. These results show that perhaps the technological addictions are deviating towards other resources or media that are different to the Internet, in this new era of virtualization

Keywords

Internet; university student; problematic use; social educator

I. Introduction

The development of Information and Communication Technologies (from here on ICT) has led to the growth of specific resources, which, as the Internet, have generalized not only the access to a great diversity of materials, but communication, social relations, learning, an economic system, etc., have been brought closer to the general population. As indicated by Kitazawa et al. (2018), these elements have substantially changed our lifestyles, ultimately becoming an essential part of it. In this sense, at the worldwide level, the *Ditrendia* report in 2019 underlined that there were 4.388 million Internet users of different ages and socioeconomic levels. If we focus on Spain, the National Statistics Institute (2020) pointed out that in 2020, 92.3% of the Spanish population aged 16 to 74 years old, navigated the Internet daily, increasing their consumption by 2.5 points as compared to 2019. Thus, it can be considered that although the use and consumption of the Internet increases daily, this does not imply that all the population sectors use it in the same manner. Initially, and as pointed out by Moral and Suarez (2016), the manner in which we conceived our relationship with the Internet changed in the last decade, also transforming the advantages and the disadvantages of its use, and our attitude towards it.

It can be pointed out that the main elements which make us think of the internet in a positive manner, revolve around factors that allow us to broadcast knowledge without time-space constraints, in infinite and varied ways. This provides us with the opportunity to take part in teaching and learning processes and to freely express thoughts and ideas (Anand, 2018; Lemus, Barcenas and Barrentero, 2020).

On the other hand, the studies conducted on the excessive use of the Internet have shown that it tends to provoke social isolation, low self-esteem, depression, or interpersonal problems, aggressiveness, neuroticism, insomnia, or decreased self-control (Neelapaijit, Pinyopornpanish, Simcharoen, Kuntawong, Wongpakaran and Wongpakaran, 2018; Babakr, Majeed, Soran and Kakamad, 2019).

All of these factors have provoked a divergence in the scientific community around the naming of the problem, as there is a tendency which urges us to talk about addiction to the Internet (Griffiths, Kuss, Billieux and Pontes, 2016; Kumar, Kumar, Badiyani, Singh, Gupta and Ismail, 2018), and another which prefers to refer to it as a problematic use of the Internet (Ozgur, Demiralay and Demiralay, 2017; Van Rooij, Ferguson, van de Mheen and Schoenmakers, 2017; Asam, Samara and Terry, 2019).

On the other hand, if we use the *Diagnostic and Statistical Manual of Mental Disorders*, better known as DSM-V, developed by the American Psychiatric Association (APA) (2013), we do not find a reference which defines the Internet as an element of risk in general (Marín, Sampedro and Vega, 2017; Marín-Díaz, Sampedro y Vega, 2018), only mentioning it when referring to behaviors associated to bet placement in games, such as online casinos or poker games (Cho, Kwon, Choi, Lee, Choi, Choi and Kim, 2014). Along this line, the National Plan on Addictions 2018-2020 (Ministry of Social Services and Equality, 2018), only includes the term “addiction”, when referring to behaviors which lead to substance abuse, as well as others that do not include it, despite the fact that when speaking about its absence, the plan only points to pathological gaming as an addictive behavior, just as the APA (2013).

In this sense, and faced with this panorama, we are inclined to think and speak about a problematic use of the Internet, in agreement with Van Rooij et al. (2017) and Chen, Pakpour, Leung, Potenza, Su, Lin and Griffiths (2020), given that behaviors associated *per se* to an addiction are not observed in the case we are dealing with, as they do not justify a disorder at the medical level.

Pontes, Caplan and Griffiths (2016), as well as Chen et al. (2020), have indicated that the problematic use of the Internet has been associated to an increase in anxiety, depression, an elevated deficit in attention, deterioration of family and social relations, increase in loneliness, a low emotional state, and a start and/or increase in the consumption of substances. These circumstances led us to set aim of the study at the social level, and more specifically, on the professionals who are associated with it.

In our opinion, professionals such as social workers, social educators, or teachers, must clearly know the risks that their users will face, and for this, their viewpoints and/or opinions about specific themes or areas must be known and considered, in order to implement the best intervention strategy. This is especially important if teaching will part of the work, or of any other type of intervention that will be conducted. Among all of these professionals, the study will focus on the figure of the social educator.

We cannot forget that the figure of the social educator plays an important role in the adaptation and socialization of an individual in and within a society (Sampedro, 2016). For this, we consider that addictions, either digital or non-digital, or their problematic use, must be known by them. The different Social Education degree offerings at Spanish universities have tried to bring the ICT to these professionals in diverse university subjects and academic years, as well as the knowledge about behavioral disorders that can be provoked by addiction to substances or the problematic use of different media. In the case of the University of Cordoba (http://www.uco.es/organiza/centros/educacion/es/social-planificacion-de-las-ensenanzas), these professionals are trained on the use and consumption of digital resources in an efficient and non-problematic or addictive manner, in technology-related subjects in the 2nd year of the degree (*Technologies and Communication Media in Social Education*).

Along with the education received, and given the beliefs that social educators have attained not only through their process of education, but also through socialization processes throughout their lives, these professionals have created a way of understanding their addictions and problematic uses, of perceiving them, and also, of determining the manner in which to treat them. Therefore, we believe that knowing their perception about addictions is highly important, because already in 2005, Cheung and Huang pointed out that the university students perceived that the Internet not only influenced their education processes, but also determined their posterior professional actions.

II. Method and Materials

On the one hand, the present research is descriptive, through the use of a quantitative, cross-sectional questionnaire which provides reliable data, and on the other hand, it also utilizes a deductive and structured research strategy.

a. Objectives

As we have previously indicated, the main objective of the present work was to *determine if the future social educators considered themselves to have an addictive behavior or problematic use of the Internet, as well to study the comprehensive influence promoted by the independent variables of gender and academic year*. This objective is further defined by the following specific objectives:

- To explore the factorial structure that appears from the application of the *Internet Addiction Test* (IAT) in this sample.
- To determine if there are significant differences in the university students studied, with respect to the use of the Internet as a function of gender or age.

- To explain the factors that have an influence on the assessment made by the students, about the problems due to the time spent connected; as well as their consideration as a function of the academic year.

Considering these objectives, the hypotheses are the following:

- Hypothesis 1: The analysis of the factorial structure of the IAT is more adequate when it is distributed into three factors.
- Hypothesis 2: The gender and academic year do not produce significant differences in any of the IAT factors.
- Hypothesis 3: Gender is a factor which contributes to the model created to explain the problems due to the time spent connected.
- Hypothesis 4: The academic year of the students modifies the factors that compose the model created to explain the problems due to the time spent connected.

b. Sample

A non-probabilistic, convenient sampling procedure was utilized to select the sample (Otzen and Manterola, 2017), as the instrument was utilized with the students to whom the researchers had access during academic year 2017-2018.

The sample was composed by a total of 206 students, of which 81.6% were women, and 18.4% men, with a mean age of 21.9 (SD=4.919) (see Figure 1). As for their academic year, 28.2% were in their 1st year, 24.3% in their 2nd year, 21.8% in their third year, and lastly, 25.7% were in their fourth and last year.

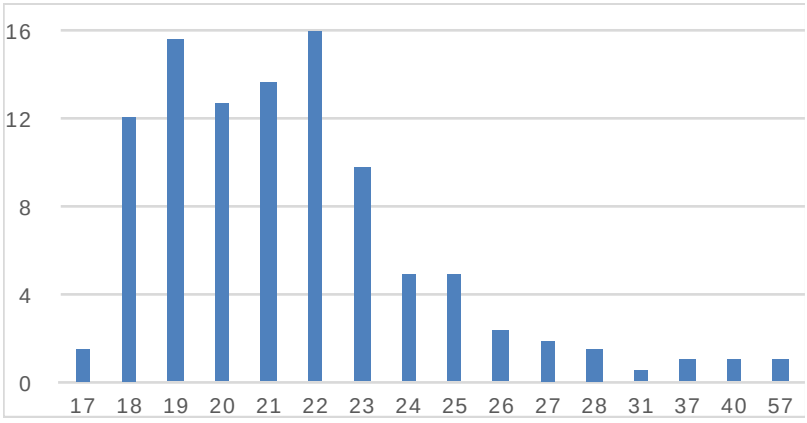

Figure. 1. Sample distribution according to age
Source: Created by authors

c. Instrument

The instrument utilized for the collection of data was an adaptation by Watters, Keefer, Kloosterman, Summerfeldt and Parker (2013) of the instrument created by Young (1998), named *Internet Addiction Test* (from here on, IAT). This questionnaire was adapted and validated with a population from Cordoba by Marín et al. (2017).

The questionnaire was anonymous, and it was composed of 23 closed-end, and 1 open-ended question, these were polythematic and distributed into two blocks. The first referred to socio-demographic data (gender, age, and academic year), and the second was composed of 20 items from the Watters et al. instrument (2013). The responses were provided through the use of a Likert scale, where 1 = rarely, and 5 = always.

The factorial structure was determined through an Exploratory Factorial Analysis (EFA), using the principal components method as the factor extraction procedure, which obtained the following fit indices: KMO= 0.828, Bartlett's sphericity test at $p < 0.001$, $chi^2=1531.242$ and a total explained variance of 52.59%, providing the following structure with 3 dimensions as the result (see Table 1), which was similar to the results found by Mak and Young (2020), and Puerta-Cortés, Carbonell and Chamarro (2012), in their corresponding studies.

	FACTORS		
	F1	F2	F3
Item 17 I feel worried when I'm not connected, or I imagine being connected	.880		
Item 16 I feel depressed, in a bad mood, or nervous when I'm not connected, and I feel better when I re-connect	.759		
Item 13 I become angry when someone bothers me while I'm connected	.602		
Item 15 I think about when I'm going to be connected again	.575		
Item 11? I become defensive if someone asks me: What do you do on the Internet?	.555		
Item 14 I block unpleasant thoughts in my life with pleasant thoughts related with the Internet	.540		
Item 18 I try to hide the amount of time I spend connected	.527		
Item 19 I prefer the feeling I get when I'm connected than the intimacy with my partner or the direct relationship with my friends	.517		
Item 10 My grades or academic activities are negatively affected by the amount of time I spend on the Internet		.879	
Item 9 The time spent on the Internet negatively affects mi performance or productivity at work		.828	
Item 20 I prefer to spend more time on the Internet than to go out with other people		.614	
Item 12 I don't sleep because I'm connected all night		.509	
Item 3 I neglect household tasks to be connected for longer		.481	
Item 1 I connect to the Internet longer than foreseen			.765
Item 4 I tend to say "just a few more minutes", when I'm connected			.746
Item 5 I try to decrease the time I spend on the Internet, but I can't do it			.708
Item 6 People close to me frequently complain about the amount of time I'm connected			.585
Item 7 I fear that life without the Internet would be boring, empty, or sad			.495
Eigenvalue	6.3	1.7	1.5
% Explained variance	34.93 %	9.42%	8.24 %

Table 1. Exploratory factor analysis of the IAT
Source: Author created

As shown in Table 1, items 8 (I establish new relationships with Internet users), and 2 (I check my email before starting a new task), given that they did not obtain loads higher than .40 (Mavrou, 2015).The description of the factors is shown below:

- Factor 1. Emotions and feelings on the use and non-use of the Internet (α=.826). This is composed by 8 items such as items 17 (I feel worried when I'm not connected or I imagine being connected); 13 (I become angry when someone bothers me while I'm connected); or 14 (I block unpleasant thoughts in my life with pleasant thoughts related with the Internet).
- Factor 2. Modification of routine behaviors due to Internet use (α=.771). This is composed by 5 items. "The time spent on the Internet negatively affects mi performance or productivity at work" (9); "I don't sleep because I'm connected all night" (12); or "I neglect household tasks to be connected for longer" (3).
- Factor 3. This factor was associated to problems due to the length of time connected. It includes aspects such as "People close to me frequently complain about the amount of time I'm connected" (6); or "I tend to say "just a few more minutes", when I'm connected" (4); A total of five items were found in this factor.

Lastly, to verify the reliability of this instrument, Cronbach's alpha was calculated, with a result of .881. Thus, considering the parameters by Mateo (2012), and in line with those obtained by por Marín Sampedro and Vega (2017) and Marín-Díaz, Muñoz-González and Hidalgo-Ariza (2020), this can be considered a high reliability.

d. Procedure

The instrument was administered in person in the classrooms. The students were read a participation consent form for the collection of data, so that only the questionnaires from those who chose to collaborate in the study were utilized. During this process, the researchers remained outside the classroom to guarantee the anonymity of the participants and to respect the wish of those who did not want to participate.

e. Analyses conducted

The following analytical tests were conducted with the SPSS (v.23) statistics package:

- A descriptive study of all the items in the questionnaire (measures of centrality [mean], and dispersion [standard deviation].
- A second descriptive analysis of the 3 dimensions obtained.
- An analysis of variance to verify the existence of a relationship between the 3 dimensions of the questionnaire and the independent variables: gender, and academic year. For this, the *Mann-Whitney U* and *Kruskal-Wallis K* were calculated.
- The relation between the dimensions that comprised the questionnaire were verified with bivariate correlations.
- Multiple regression analysis were performed to show which model better explained the relationship between the diverse factors, also considering the independent variables as elements of selection.

III. Results

a. Descriptive study

Table 2 shows the descriptive study of all the items that comprised the questionnaire. It shows that the students rarely agreed with items 20 (M=1.20 and SD=.509); item 15 (M=1.34 and SD=.627),

or item 18 (M=1.39 and SD=.749); while they somewhat agreed with the statement "I become defensive if someone asks me: What do you do on the Internet?" (Item 1, M=3.34 and SD=1.129).

Likewise, the descriptive study of the three dimensions (or factors), showed that Factor 1 obtained a M=1.98 (SD=.870); Factor 2, M=2.36 and SD=1.223; and Factor 3, M=3.04 (SD=.978).

b. Analysis of variance

The analysis of variance was performed through the Mann-Whitney U (for the variable gender), and Kruskal-Wallis K (for the academic year) tests.

For differences in the variable "gender" in Factor 3, the Mann-Whitney U test for independent variables showed significance, U (156,38) = 2399.000, Z=-1.827 and p=.049, with the women showing a higher rank sum with respect to the men. On the other hand, significant differences were not found in Factors 1 and 2 for this variable.

The differences due to the academic year, obtained through the Kruskal-Wallis K test, for Factor 2, showed significance $\chi^2(3, 191) = 6.843$ and p=.05, where the mean range was greater for 2nd year students, with the lesser range found in 1st years students. However, no significant differences were found for Factors 2 or 3 for this variable.

c. Correlational analysis

To try to verify the existence of a relationship between the three dimensions from the IAT in this study, a correlational study was performed, considering Pearson's correlation values, where the existence of a positive and average relationship was observed between the diverse factors. Table 2 shows the moderate relationship between F1 and F2 (R=.511 and p<.001); likewise for F1 and F3 (R=.523 and p<.001); and for F2 and F3 (R=.524 and p<.001).

		F1	F2	F3
F1	R	1	.511**	.523**
	p		.000	.000
F2	R		1	.524**
	p			.000
F3	R			1
	p			

Table 2. Correlational analysis between the three dimensions
Note: **. The correlation is significant at 0.01 (two-tailed).
Source: author created.

d. Regression analysis

The model that best explained the relationship between the three dimensions is that which considers F3 as the dependent variable, with the independent variables being F2, F1, and gender, through a multiple linear regression, whose results are found in Table 3.

Variables	B	SE	Beta	t	Sig.	Zero order	partial R	Semi-partial R	Tolerance	VIF
Constant[a]	1.425	.193		7.370	.000*					
Factor 2[a]	.474	.081	.383	5.842	.000*	.524	.390	.326	.724	1.381
Factor 1[a]	.505	.097	.337	5.196	.000*	.523	.353	.290	.738	1.356
Gender[a]	-.460	.119	-.218	-3.860	.000*	-.146	-.270	-.215	.978	1.022

Table 3. F3 multiple linear regression[b]
Note. a. Predictive variables: Constant, F2, F1 and Gender. b. Dependent variable: F3. *. Level of significance p=0.05
Source: author created.

The results showed that 40% of the variance was explained by these variables in the general model of Problems due to the time spent connected F(3, 190)=43.814 and p<.001, and a Durbin-Watson value of 2, which indicates the interdependence of the residues (Gil, 2015), where the elements in the equation (see Table 3) were: F2 (t=5.842 and p<.001), F1 (t=5.196 and p<.001), and gender (t=-3.860 and p<.001); with the resulting equation being: F3=1.4+0.47F2+0.50F1-0.46Gender.

The residues of this regression were studied with non-multicollinearity, which was ensured by the variance inflation factor (VIF) obtained in each of the variables (see Table 4); and on the other, the homoscedasticity of the residues and their linearity (Hancock, Stapleton and Mueller, 2019), observed in the figures, complied with these assumptions, as well as the normality values.

When trying to observe how the model that associates these 3 factors of the IAT was explained depending on the academic year, given that this variable is not observed in the model, it was used as the selection variable.

For the 1st year students, the equation that explained the Problems due to the time spent connected (F3), was =.267+0.99F1+0.49F2, where the corrected R^2 is .404, F(2, 51)=17.307 and p<.001, with a Durbin-Watson value of 1.6; and the elements in the equation (see Table 4) are: F1 (t=3.307 and p=.002) and F2 (t=3.286 and p=.002). The residues of this multiple linear regression complied with all the normality, non-multicollinearity, and homoscedasticity parameters.

Variables	B	SE	Beta	t	Sig.	Zero order	partial R	Semi-partial R	Tolerance	VIF
Constant[a]	.267	.389		.685	.497					
Factor 1[a]	.994	.300	.385	3.307	.002*	.527	.420	.357	.862	1.161
Factor 2[a]	.486	.148	.383	3.286	.002*	.526	.418	.355	.862	1.161

Table 4. F3[b] multiple linear regression for 1st year students
Note. a. Predictive variables: Constant, F1 and F2. b. Dependent variable: F3. *. Level of significance p=0.05
Source: author created.

While for the 2nd year students, the Problems due to the time spent connected (F3) was explained by 40.2% (R^2=.402), F(3, 42)=9.422 and p<.001, with a Durbin-Watson value of 2.1; and the elements that comprised the F2 equation (t=2.859 and p=.007), F1 (t=2.502 and p=.016), and gender (t=-2.374 and p=.022).

Variables	B	SE	Beta	t	Sig.	Zero order	partial R	Semi-partial R	Tolerance	VIF
Constant[a]	1.768	.399		4.427	.000*					
Factor 2[a]	.507	.177	.403	2.859	.007*	.500	.404	.341	.716	1.398
Factor 1[a]	.435	.174	.349	2.502	.016*	.486	.360	.299	.732	1.366
Género[a]	-.699	.294	-.296	-2.374	.022*	-.106	-.344	-.283	.914	1.094

Table 5. F3[b] multiple linear regression for 2nd year students
Note. a. Predictive variables: Constant, F2 and F1 and Gender. b. Dependent variable: F3. *. Level of significance p=0.05
Source: author created.

Table 5 shows the parameters which composed the equation, with the same F3 for the 2nd year students =1.77+0.51F2+0.43F1-0.70Gender. Likewise, due to the VIF, the non-multicollinearity of the residues was observed in this multiple linear regression for the 2nd year students.

The results also showed that 53.4% (R^2=.534) was explained by the following variables in the model of Problems due to the time spent connected for the 3rd year students = F(2, 40)=25.111 and p<.001, and a Durbin-Watson value of 1.8 which indicated the interdependence of the residues (Gil, 2015), where the elements in the equation (see Table 6) were: F1 (t=3.881 and p<.001) and F2 (t=2.325 and p=.025), with F3 for the 3rd years students being = 0.56+0.84F1+0.34F2. Likewise, just as the previous multiple linear regressions, the residues complied with the parameters.

Variables	B	SE	Beta	t	Sig.	Zero order	partial R	Semi-partial R	Tolerance	VIF
Constant[a]	.556	.252		2.204	.033*					
Factor 1[a]	.844	.217	.516	3.881	.000*	.705	.523	.409	.627	1.595
Factor 2[a]	.340	.146	.309	2.325	.025*	.624	.345	.245	.627	1.595

Table 6. F3[b] multiple linear regression for 3rd year students
Note. a. Predictive variables: Constant, F1 and F2. b. Dependent variable: F3. *. Level of significance p=0.05
Source: author created.

Lastly, for the 4th year students, for the Problems due to the time spent connected (F3), the equation which explains them was F3 = 1.36+0.68F1, where the corrected R^2 is = .243, F(1, 49)=17.090 and p<.001, with a Durbin-Watson values of 1.8; and the element in the equation (see Table 7): F1 (t=4.134 and p<.001). The residues of this multiple linear regression followed the normality, non-multicollinearity, and homoscedasticity parameters.

Variables	B	SE	Beta	t	Sig.	Zero order	partial R	Semi-partial R	Tolerance	VIF
Constant[a]	1.359	.281		4.838	.000*					
Factor 1[a]	.678	.164	.509	4.134	.000*	.509	.509	.509	1.000	1.000

Table 7. F3[b] multiple linear regression for 4th year students
Note. a. Predictive variables: Constant and F1. b. Dependent variable: F3. *. Level of significance p=0.05
Source: author created.

IV. Discussion and Conclusions

A priori, and as indicated by Babakr (2019), the ICT in general, and the Internet in particular, have contributed, in most cases, to the improvement in the quality of life of people. On the contrary, the scientific community is in agreement when pointing out that the time spent connected to the Internet has increased considerably, with this beginning to become a problem that affects our health (Anand, 2018; Rahmani, Moghaddam and Aarabi, 2019). This is the reason why many studies have been conducted about this subject, which has resulted in the creation of various instruments which have underlined our relationship with the Internet, as well as tools that are needed for their development. In this sense, we find the *Internet Addiction Test* (IAT), created by Young (1989), which without a doubt, has been utilized the most.

To verify if the instrument would maintain its original factorial structure with the sample utilized, it was verified that just as the works by Puertas-Cortés, Carbonell and Chamorro (2012), Hilt, Bouvet and Collins (2015), and), Marín et al. (2017) and Mak and Young (2020), it was homogenously distributed into 3 factors, although the results were different from the studies by Álvarez and Fernández (2019), who reduced it to 2, or the works by Matalinares, Raymundo and Baca (2017), and Ndasauka, Pitafi and Kayange (2019), which indicated the existence of 4 factors. In this way, we corroborated that the starting hypothesis was proven (Hypothesis 1: The analysis of the factorial structure of the IAT is more adequate when it is distributed into three factors).

Shifting our attention to the second objective set forth (*To determine if there are significant differences in the university students studied, with respect to the use of the Internet as a function of gender or age*), it was verified that gender conditioned the problematic use of the Internet. More specifically, women showed a behavior that was closest to a problematic use of the Internet as compared to men (Jiménez-Albiar, Piqueras, Mateu-Martínez, Carballo, Orgilés and Espada, 2012), as opposed to the results obtained by Ozgur et al (2014) and Li and Mau (2018), who indicated that the male university students showed a more problematic behavior than the female ones. Nevertheless, the results obtained in the present study were observed in the problems due to the time spent connected. This was once again highlighted when trying to clarify hypothesis 3 (*Gender is a factor which contributes to the model created to explain the problems due to the time spent connected*), where it was observed that men had an average of .46 less problems due to the time spent connected as compared to the women (with the rest of the variables being equal).

The third objective set forth (*To explain the factors that have an influence on the assessment made by the students, about the problems due to the time spent connected; as well as their consideration as a function of the academic year*), underlined that initially, the future social educators had low levels of problematic use when referring to the disconnection to the Internet, reduction in navigation time, or when thinking about life as boring without the Internet (Marín et al, 2017); Peña, Rojas-Solis and García-Sánchez, 2018). Nevertheless, when introducing the variable academic year, we found a certain trend towards addiction, given that they spent more

time on the Internet than forecasted, thereby confirming hypothesis 4 (*The academic year of the students modifies the factors that compose the model created to explain the problems due to the time spent connected)*. The 1st and 2nd year students were the ones who indicated a problematic attitude with respect to the emotions; as we observed, it was the younger future social workers who showed this, as opposed to the work by Ozgur et al. (2014).

Ultimately, given the results obtained, and considering the starting objective set *(To determine if the future social educators considered themselves to have an addictive behavior or problematic use of the Internet, as well to study the comprehensive influence promoted by the independent variables of gender and academic year*), we can indicate that the social educators from the University of Cordoba showed a non-addictive problematic use of the Internet, just as the results obtained by Marín et al. (2017).

Lastly, as pointed out by Kim and Glassman (2013), the Internet is not monolithic, it is under continuous development, offering infinite resources to whoever gazes upon it, so that we cannot stop conducting studies which measure the state of the relationship of university students, in particular, and society in general, with the Internet.

VI. Limitations

The generalization of the results obtained was the main limitation, given that the sample could not be defined as being representative of the Social Educator. Nevertheless, they allowed us to take the first step in the start of a research line, which can transcend the frontiers of the University of Cordoba, the place where the study was conducted. This is where we find the value of the study, because the instrument, once validated with this educational environment, will allow us to replicate it not only in the same territorial context of Andalusia, but it will also allow us to branch out to other Autonomous Communities in Spain, as well as other countries where the Social Educator degree is taught.

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