

## DISABILITY IN YOUNG PEOPLE, INCREASES THE RISK OF EXCESSIVE INTERNET USE?

### LA DISCAPACIDAD EN LOS JÓVENES, ¿POTENCIA EL RIESGO DEL USO EXCESIVO DE INTERNET?

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#### Abstract

While the Internet has become a channel that promotes access to information and communication, its misuse and overuse can cause various personal and social problems.

This work compares if there is an abusive Internet use among young people with and without disabilities. It also analyzes if the type of disability may influence the excessive Internet use.

230 young people participated (102 nondisabled and 128 disabled, 77 with motor disability and 51 with sensory disability). They answered the Cuestionario de Experiencias Relacionadas con Internet (CERI)[Experiences Related to the Internet questionnaire (ERIQ)], designed to measure Internet addiction. It spread through the network for 16 weeks.

Analyses indicated that participants with disabilities, mainly the ones with motor disability showed an increased use and dependence on technology.

Although this suggests the importance for young people with disabilities of the Internet use, it also indicates that disability, especially motor disability may be a vulnerability factor for an abusive use.

*Keywords: adolescent, disability, internet, social networks, addiction.*

#### Resumen

Al tiempo que Internet se ha convertido en un canal que fomenta el acceso a la información y comunicación, su uso indebido y excesivo puede provocar distintos problemas personales y sociales.

En este trabajo se compara si existe un uso abusivo de Internet entre jóvenes con y sin discapacidad. Asimismo se comprueba si la tipología de la discapacidad puede influir en el uso excesivo de Internet.

Participaron 230 jóvenes (102 sin discapacidad y 128 con discapacidad, 77 con discapacidad motora y 51 con discapacidad sensorial). Contestaron el cuestionario "Experiencias Relacionadas con Internet", diseñado para medir la adicción a internet. Éste se difundió a través de la red durante 16 semanas.

Los análisis indicaron que los participantes con discapacidad, principalmente con discapacidad motora mostraron un mayor uso y dependencia de esta tecnología.

Aunque esto sugiere la importancia que tienen para los jóvenes con discapacidad la utilización de Internet, también indica que la discapacidad, especialmente la discapacidad motora puede ser un factor de vulnerabilidad para utilizarlo de forma abusiva.

*Palabras clave: adolescentes, discapacidad, internet, redes sociales, adicción.*

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In recent years, a rapid interest in the study on the social impact of the Internet has been remarkable (Fowler & Christakis, 2009; Kim et al., 2010; Herrera, Pacheco, Palomar & Zavala, 2010; Subrahmanyam & Greenfield, 2008; Walther & Boyd, 2002).

The ease of access at any time of the day, low costs, elimination of barriers, rapid response and immediate rewards, make the network an attractive space that can make this medium an ideal resource for different groups, being the youth and teens the biggest users (Aboujaoude, 2010; Livingstone & Helsper, 2010; Notley, 2009; Yang & Tung, 2007).

Also, other features of this form of interaction as access to a number of a more heterogeneous and varied information, anonymity, making possible to express more freely than in face-to-face environments, or not having to travel to communicate, are certainly features that increase its use (Echeburua & Corral, 2009; Finn, 1999; Suriá & Beléndez, 2011; Wright & Bell, 2003).

These advantages that are apparent to users can be even higher in some groups (Finn, 1999; Fogel, Albert, Schnabel, Ditkoff & Neugut, 2002; Hoybye, Johansen & Tjornhoj-Thomsen, 2005; Wilson, Grizzle, Tuazon, Akyempong & Cheung, 2011), such as young people with disabilities (Pallanti, Bernardi, & Quercioli, 2006; Suriá, 2012), especially those with reduced mobility as a result of a motor disability.

The ease of access to endless information, without the limitations let young people with physical limitations changes in their life that otherwise may be difficult or even impossible for them (Finn, 1999). This has been evidenced in different areas of life such as academic (Alcantud, Avila & Romero, 2002), social (Suriá, 2012) or career (Aguado, González, Alcedo & Arias, 2003).

However, while the Internet has become a channel that promotes access to information and communication, as any other technological tools, its misuse and overuse can cause various personal and social problems (Beranuy, Lusa, Jordania & Sanchez, 2009; Echeburúa & Corral, 2009; Kim et al., 2010; Seo, Kang & Yom, 2009; Young, 2009; Shaw & Black, 2008; Zboralski et al., 2009).

Therefore, the amount of young people, who interact only through the web and the number of hours they spend in front of the computer is increasing every day,

subtracting the time for other activities performed previously (Cattan, White, Bond & Learmouth, 2002; Echeburúa & De Corral, 2009; Herrera et al., 2010; Livingstone & Helsper, 2010; Notley, 2009; Yang & Tung, 2007; Young 1998; Zboralski et al. 2009).

For example, various studies find a correlation between the connection time to the Internet, with alterations in nutrition (Young & Rogers, 1998), sleep patterns (Mesquita & Reimão, 2010), as well as isolation and loss of friends (Muñoz Rivas & Gámez Guadix, 2010).

Other authors have turned their interest towards the psychological impact, as a study by Kraut et al. (1998), in which the results indicated that the Internet reduced the social circle and affected the psychological well-being, decreasing social activity and replacing the strong links by other weaker than traditional.

Thereby, empirical evidence has shown that certain variables can influence a person to have a higher vulnerability of excessive internet use (Stavropoulos, Alexandraki, & Motti-Stefanidi, 2013; Yau, Potenza, & White, 2013). For example, some personality characteristics such as introversion, low self-esteem, high levels of sensation seeking, impulsivity, inadequate coping with problems, etc., (Griffiths, 2010; Widyanto, Griffiths & Brunson, 2011). Furthermore, deficits in interpersonal relationships increase psychological vulnerability (Echeburúa & Corral, 2009; Muñoz Rivas et al, 2010).

Similarly, certain physical conditions such as stigmatizing diseases (Hoybye et al., 2005) or disabilities (Finn, 1999), could influence the excessive Internet use.

As reflected in the literature on this subject, most authors have focused on the characteristics of personality or sociodemographic variables such as age (Beranuy et al., 2009) or gender (Estévez, Bayón, De la Cruz & Fernández-Liria, 2009) as potential risk factors for excessive internet use. However, little is known about the effects of the Internet excessive Internet use on young people with disabilities. This way following objectives are:

- Know if there are differences in the excessive internet use depending on having or not having disability. Specifically, we expect to find:

H1. Differences between excessive Internet use among young people with and without disability, observing that the participants with disability are more susceptible of an excessive Internet use.

- Find out if the type of disability affects excessive Internet use. So, it is expected to find:

H2. Differences between excessive Internet use among young people with motor disability and young people with sensory disability, observing that young people with motor disability are more susceptible of an abusive use of the Internet.

## METHOD

### Participants

The total were included 270 young people, however, the sample was reduced to young internet users, 230, of whom 127 were women and 103 men, aged between 18 and 32 years (main users of these networks according to existing data). Of these, 42.7 % had higher education and 57.3 % secondary education. The sample was divided according to whether they had a disability or not (102 were young nondisabled and 128 disabled) and depending on the type of disability (77 with motor disability and 51 with sensory disability). Table 1 presents the distribution of the sample by age and sex. Using the  $\chi^2$  test of homogeneity of the frequency distribution, we verified the absence of statistically significant differences among the groups of Sex x Age ( $\chi^2_{(2, 230)} = 5.021, p = .081$ ). Table 1 presents the distribution of the sample by age and sex.

### Instruments

First, a questionnaire was designed to determine the sociodemographic and use profile of the social network. In order to know the abuse of these spaces was used *questionario de Experiencias Relacionadas con Internet (CERI) [Experiences Related to the Internet (ERI)]*, created by Beranuy et al. (2009). This scale is an adaptation of the PRI (De Gracia et al., 2002), which is based on the DSM-IV criteria for substance abuse and pathological gambling. The CERI is a questionnaire with a range of response similar to Likert of four points (1 = none, 4 = a lot). The original version was composed of 19 items, but after performing a factor analysis was reduced to 10 items

divided into two factors that explain 48.32% of the variance. The first factor (intrapersonal conflicts) included 5 items that explain 27.14 % of the variance. This one evaluates issues related to the impact on a personal level. The second factor (interpersonal conflict) included 5 items which explain 21.18 % of the variance. This dimension evaluates issues related to the connections that the person makes in order to relate to others. The whole scale showed an internal consistency of 87%. This instrument was chosen because it was considered valid in Spanish population, youth and adolescents, and also because of its quick and easy application.

In order, the validity through factor analysis was calculated to determine the psychometric properties of the questionnaire in the study sample, being remaining 57.43% of the variance explained by the scale. Formerly the Barlett test of sphericity [ $\chi^2 = 103,552 (p < .001)$ ] and the KMO measure of sampling adequacy (.598) proved to be favorable to the AFECF. Internal consistency was examined by Cronbach's alpha, showing adequate reliability ( $\alpha = .77$ ).

### Procedure

In order to let the participants to complete the questionnaire, the sampling "snowball" was used, and initially the questionnaire was posted on a section specifically for the research with a brief explanation so as to seek cooperation.

In order to release the link, was enter to a virtual space dedicated to the Disability ambit, available in Facebook intended for universal accessibility issues developed by the Disability observatory of the Center for the Support to student of the University of Alicante. Also, it was available in some spaces in Facebook and Twitter created by different associations leaded by people with motor disability (ASPAYM, COCEMFE y APESOA), in which it was explained the goal through a message, in order to complete the questionnaire. The informed consent of the participants was requested and confidentiality of data was guaranteed.

The data collection of the questionnaires was carried out for 3 months.

Table 1. Distribution of frequencies (n and percentages) by Sex and Age

	Age		Woman		Men		Total	
			N	%	N	%	N	%
Group with sensorial disability	18 a 22		8	88.9%	1	11.1%	9	100.0%
	23 a 26		7	46.7%	8	53.3%	15	100.0%
	27 a 32		12	44.4%	15	55.6%	27	100.0%
	Total		27	52.9%	24	47.1%	51	100.0%
Group with motor disability	18 a 22		11	61.1%	7	38.9%	18	100.0%
	23 a 26		8	42.1%	11	57.9%	19	100.0%
	27 a 32		11	27.5%	29	72.5%	40	100.0%
	Total		30	39.0%	47	61.0%	77	100.0%
Group without disability	18 a 22		26	74.3%	9	25.7%	35	100.0%
	23 a 26		11	50.0%	11	50.0%	22	100.0%
	27 a 32		33	73.3%	12	26.7%	45	100.0%
	Total		70	68.6%	32	31.4%	102	100.0%

Table 2. Factor analysis of the scale in Spanish version of the CER1 scale

Items of the scale	Component		α if the element is deleted
	1	2	
When you have problems, does being connected help you escaping from them?	<b>.782*</b>	-.198	.731
Do you think that life without the Internet is boring, empty and sad?	<b>.808*</b>	-.121	.724
Do you get irritated and angry when someone bothers you while you are online?	<b>.489*</b>	.193	.746
Do you find easier or more comfortable to connect with people through the Internet than in person?	<b>.776*</b>	-.026	.721
How often do you make new friends with people connected to the Internet?	<b>.742*</b>	.004	.720
When you are not connected to the Internet, do you feel excited or worried?	<b>.780*</b>	-.147	.728
How often do you anticipate your next connection to the network?	-.070	<b>.864*</b>	.779
When you surf the Internet, do you spend the time without being conscious if it?	.391	<b>.591*</b>	.743
How often do you leave tasks that you are doing by being connected to the network?	.435	<b>.455*</b>	.724

Do you think that your academic or work performance has been negatively affected by using the Internet?      -.186      **.743\***      .793

Explained variance      37.77      19.66      57.43

α      .77

Extraction Method: Main Component Analysis. Rotation Method: Varimax Normalization with Kaiser.

### Data Analysis

Was performed analysis of variance (ANOVA) to analyze the statistical significance of the group differences in the excessive internet use. To analyze the magnitude or effect size of these differences, we used the  $\eta^2$  index.

Subsequently, in the analyses with statistically significant differences, was performed post hoc tests to determine between which groups these differences appeared. Was used the Scheffé method because the groups did not contain the same number of participants and this test does not require equal sample sizes. Was also calculated the effect size (difference of standardized means or d index; Cohen, 1988) to calculate the magnitude of the differences. The data were analyzed with the SPSS version 19.0 statistical package.

### RESULTS

Overall, the average scores of the participants indicated to be between something (2) and pretty (3) in the scale.

When examining the mean scores of the questionnaire based on different groups (group with motor disability, group with sensory disability and without disabilities) (Table 3), all of the ANOVAs yielded statistically significant differences in the total scale, ( $F_{(3,249)} = 62.024, p < .05, \eta^2 = .112$ ), with effect sizes ranging between low ( $d = .57$ ) and high ( $d = .82$ ).

The post hoc comparisons to determine the groups with significant differences showed that the group with motor disability was different from the group without disability in the interpersonal factor except for the one following: Do you get irritated or angry when someone bothers you while you're online? , ( $F_{(3,249)} = 13.461, p = .068, \eta^2 = .007$ ). With regard to this interpersonal factor

and the groups with disability, the participants from the group with motor disability scored higher than the group with sensorial disability in the item: Do you find easier or more comfortable to connect with people through the Internet than in person? ( $d = 1.38$ ) and in the item: How often do you make new friends with people connected to the Internet? ( $d = 1.23$ ).

Also, the participants from the group with sensorial disability scored higher than the group without disability in the following item: Do you find easier or more comfortable to connect with people through the Internet than in person? ( $d = .042$ ), and in the item: How often do you make new friends with people connected to the Internet? ( $d = .068$ ).

To examine intrapersonal factor, statistically significant differences were observed between the group with motor disability and the remaining groups. Thus, the group with motor disability obtained higher means than the group without disability in the following item: When you are not connected to the Internet, do you feel worried? ( $d = 2.10$ ), in the item: How often do you leave tasks you're doing by being connected to the network? ( $d$

$= .084$ ), and in the item: How often do you leave tasks that you are doing by being connected to the network? ( $d = 0.92$ ).

With respect to the groups with disability, the participants from the group with motor disability scored higher in this factor than the group with sensorial disability in the item: When you are not connected to the Internet, do you feel worried? ( $d = .078$ ) and in the item: How often do you leave tasks that you are doing by being connected to the network? ( $d = 1.54$ ). In addition, the group with sensorial disability was statistically different from the group without disability in the following item: When you are not connected to the Internet, do you feel worried? ( $d = .092$ ), in the item: How often do you leave tasks you're doing by being connected to the network? ( $d = .084$ ). When you are not connected to the Internet, do you feel worried? ( $d = .481$ ), and the following item: How often do you leave tasks that you are doing by being connected to the network? ( $d = 1.274$ ).

Table 3. Mean scores of the participants on the scale as a function of whether or not disability

Items of the CERi scale	Sensory disability		Motor disability		Without disability		Total		F	Sig	$\eta^2$
	M	SD	M	SD	M	SD	M	SD			
<i>Interpersonal dimension</i>											
When you have problems, does being connected to the Internet help you escaping from them?	1.80	.78	3.36	.56	2.18	.75	2.73	1.00	94.651	.000	.030
Do you think that life without the Internet is boring, empty and sad?	1.35	.48	2.88	.61	1.76	.73	2.27	.94	82.523	.000	.025
Do you get irritated or angry when someone bothers you while you are online?	2.42	.96	2.62	1.11	2.18	.75	2.34	1.10	13.461	.068	.007
Do you find easier or more comfortable to connect with people through the Internet than in person?	1.71	.99	3.38	.67	1.97	1.05	2.71	1.16	7.851	9.112	.043
How often do you make new friends with people connected to the Internet?	1.57	.96	2.92	.91	1.00	.00	2.38	1.14	64.587	.000	.012
<i>Intrapersonal dimension</i>											
Do you think that your academic or work performance has been affected negatively by using Internet?	1.84	1.07	1.43	.82	1.97	.72	1.60	.94	5.992	.056	.039
When you are not connected to the Internet, do you feel worried?	1.25	.59	2.74	.85	1.05	.77	2.14	1.05	67.057	.000	.116
When you surf the Internet, do you spend the time without being conscious of it?	2.18	.98	2.56	1.11	2.01	.67	2.40	1.14	171.261	.000	.053
How often do you anticipate your next connection to the network?	2.06	1.03	2.97	.98	1.53	.65	1.68	1.01	43.071	.000	.114
How often do you leave tasks that you are doing by being connected to the network?	1.90	1.02	3.03	.82	1.63	.65	2.57	1.06	87.291	.000	.087
Total scale	2.04	1.02	3.09	.096	1.58	.69	2.67	1.02	62.024	.006	.112

## DISCUSSION

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This paper compares if there is an abuse of the Internet among youth with and without disabilities. It also analyzed if the type of disability may influence an excessive Internet use. The purpose is to know if the disability may be a risk factor or vulnerability for Internet addiction.

While it is true that the study of network use among the youngest people was a priority because they are considered the most vulnerable group, the interest in other variables that can influence and/or enhance the abuse in the use of these spaces is remarkable. This may be the case of young people who have any kind of disability.

Thus, as seen in these results, it seems that the variable disability can be related with a higher frequency and time of being connected to the Internet. At the same time, having considered whether disability can influence increased vulnerability to abuse of Internet, results show the following:

Although overall, it is observed that all participants scored moderately high levels on the scale, is the group of young people with disabilities the one with higher scores. This is especially perceived in young people with motor disability. These results are reflected in both cases in the interpersonal dimension and some items concerning the intrapersonal dimension.

Therefore, with respect to the interpersonal dimension, the results show that most young people with and without disabilities are interested in the preference and ease of relationships with others through this medium, using these networks to do more new friendships with others or connecting to the Internet to escape problems, being significant the participants with motor disabilities who agree more with these statements.

The fact that the group of young people with motor disability show higher scores on the interpersonal factor has been found by other authors as Mickelson (1997) or Suriá and Beléndez (2011), who studied online communities dedicated to physical disability, the one who noted that the people who use to the network did not seek support from family and friends in real life because they claimed that they felt much more comfortable online. They also stated that this medium offers some

advantages that are not available at associations and face-to-face groups. For example, it is logical to think that a person with disabilities find a simpler alternative that allows you to communicate without the limitations that entail their mobility problems.

Examining the intrapersonal factor, moderately elevated average scores were observed in the participants, differing in the item related to the frequency of leaving tasks by being connected to the network, and in the item of spending time on the Internet without being conscious of it. In addition, the participants also indicated that they agree with the assumption that they often leave other tasks to spend more time connected to the network.

These results are tuned with the conclusions of various studies that find a negative relationship between the number of hours spent at the computer and the time for other activities performed previously (Herrera et al., 2010, Kim et al., 2010, Livingstone & Helsper, 2010; Seo, et al., 2009; Yang & Tung, 2007; Young 1998; Zboralski et al., 2009).

Thereby, for example Treuer, Fabian and Füredi (2001) examined the effects of the network use into several groups of young net surfers. A high percentage of participants confirmed a feeling of great urge to be 'online' when they had some time without access to the network; and they also said that the world would be boring and empty without Internet while they were extremely nervous if the connection of the network is slow.

Furthermore, Muñoz-Rivas, Navarro & Ortega, (2003) also observed in a group of university students whose Internet use had caused them negative impact on their daily life, neglecting their duties, creating problems with their families, and even the loss of friends because of the time spent on the network.

In the results of this dimension, that is to say, intrapersonal, young people with motor disability are the ones who are more concerned if they are not connected, and they even leave their jobs to connect to the network.

It is possible that most activities of daily life of young people with this kind of disability are affected due to increased time spent online and consequently less time

with their traditional environment (Aguado et al., 2003; Saavedra & Villalta, 2008).

Our results indicate that there seems to be relevant predisposition for using these spaces between the participants, and this is even more significant in young people with disabilities, especially among young people with motor disability. In this type of disability there is a predilection for the establishment and maintenance of virtual social relationships, and a preference as an escape and entertainment. It also happens that to some extent, their use affects the daily lives of these young people as other activities of daily life, to the point that the anxiety is bigger if they are not connected and think that their life would be dull and sad without these spaces.

Therefore, although we couldn't confirm an Internet addiction in the strict sense because we should analyze and discuss these effects against the positive effects that bring to this group of users only, this study suggests that young people with disabilities, especially in the people with motor disabilities use these spaces more than young people without disabilities and that suggest that this group may have higher risk of the negative effects of excessive Internet use.

As shown in the present study the main focus was mainly to understand whether having a disability increases the risk of internet overuse, and the results suggest that the type of disability can enhance to some extent, the network abuse. However, this study has some limitations that must be taken into account.

The first one refers to the study sample, we focused in young people with disabilities and although the type of disability of participants is determined, we should not forget that the concept of disability is very generic, even motor disability or sensory disability opens up a range of characteristics and limitations of each person with this problem, and that is why attempting to cover this broad spectrum in two types of disability can limit the results.

With regard to the methodology, the data collection system through an online questionnaire can modify the results. Therefore, one of the criticisms that have been made to the studies carried out from questionnaires located on web pages, is the use of self selected samples (Estallo, 2001). In these cases, the final sample is not the result of a selection made previously by researchers from statistical criteria, but simply include those participants

who have voluntarily accepted and have decided to collaborate, and that is why this is not the case, therefore of a probability sample.

Finally, in future research it would be interesting to overcome these limitations and extend the study to a higher and representative one for both young people with disabilities and without this problem and compare the use and the risk of abuse in both collectives.

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