**Title:** Minors and problematic Internet use: evidence for better prevention


## Abstract

The expansion of ICT has contributed to the emergence of a new issue of increasing importance: problematic Internet use. Addressing this phenomenon comes with the understanding that it is not isolated from other online risky behaviors or other common problems in adolescence, such as substance use. This suggests the desirability in identifying common factors that can guide preventive work. This empirical study based on a sample of 3,772 Spanish adolescents aged between 12 and 17 years has allowed: a) to verify that the use of Internet and social networking sites is widespread; b) to demonstrate that problematic Internet use is associated with different online risky practices (contacting strangers, sexting, online gambling…), as well as substance use, and c) to identify personal variables related to problematic Internet use and online risky behaviors. The results obtained emphasize the relevance of relying on a transversal approach to prevention, based on values and life skills education.



**Key words**: adolescents; alcohol and other drugs use; online risky behaviors; personal variables; prevention; problematic Internet use

## 1. Introduction

One of the hallmarks of society in the 21st century is the widespread use of Information and Communication technology (ICT), the success of which has contributed to the birth of a new social concern related to adolescents' use of the Internet. Abusive use or misuse of the Internet, social networks and ICT, are primary concerns in the educational community nowadays, as is demonstrated in the Director's Plan (Ministry of Education, Culture and Sport, Interior Ministry and Ministry of Health, Social Services and Equality of Spain, 2016). Beyond the benefits of the Internet and ICT expansion to society, there are many risks that result from its misuse (Livingstone, Haddon, Görzig, & Ólafsson, 2011). Access to xenophobic, racist, homophobic, sexist and/or chauvinist content has contributed in aggravating some intolerant and retrograde attitudes among young people (Golpe, Gómez, Harris, Braña, & Rial, 2017). Additionally, many works have warned about abusive use of the Internet by adolescents, relating it to negative consequences, both physical and psychological (Kelly & Gruber, 2013; Rial, Golpe, Gómez, & Barreiro, 2015).

Moreover, the Internet has become a place for many risky practices, such as cyberbullying, sexting, sextortion, grooming and the access to pornographic and gambling websites (Garaigordobil & Aliri, 2013; Strassberg, McKinnon, Sustaíta, & Rullo, 2013; Wolak, Finkelhor, & Mitchell, 2004), considered to be, in some cases, new forms of crime. Some authors have referred to a new type of addiction (Young, 1998), while others prefer to talk about Pathological Internet Use (Durkee et al., 2016) or, at least, Problematic Internet Use (Shapira et al., 2003). The lack of recognition of a specific diagnostic category in the DSM – 5 (American Psychiatric Association [APA], 2013), along with the lack of agreement regarding the conceptualization and the operationalization, make the estimated prevalence figures very unclear. For example, at a Spanish national level, Oliva et al. (2012) found 0.76% of adolescents and young people with a severe level of Intenet addiction and 21.9%

with a moderate addiction, while the prevalence was 16.3% in a recent study of 41,000 Galician adolescents (Golpe, Gómez, Harris et al., 2017), which had been significantly greater in girls than in boys (17.8% vs 14.7%). At present, many experts use the term Problematic Internet Use while no alternative agreement exists among the scientific community. The term refers to the presence of clinically significant distress or impairment in social, occupational or other important areas of functioning associated to Internet use (Acier & Kern, 2011).

Furthermore, empiric evidence has related Problematic Internet Use to other relatively frequent risky behaviors during adolescence, such as online pathological gambling (Barrault & Varescon, 2012), video game addiction (Gunuc, 2015), parent-child conflicts (Wang, Zhou, Lu, Wu, & Hong, 2011) or even alcohol and other drug use (Cía, 2013; Golpe, Gómez, Braña, Varela, & Rial, 2017; Sun et al., 2012). In fact, there are works that have linked problematic Internet use and substance use to personal variables such as high impulsivity (Chuang et al., 2017), as well as to difficulties in social skills (Schneider, Limberger, & Andretta, 2016; Villa & Suárez, 2016) or to low self-esteem (Aydm & San, 2011; Blachnio, Przepiórka, Senol, Durak, & Sherstyuk, 2016; Khajehdaluee, Zavar, Alidoust, & Pourandi, 2013). Therefore, there is room for considering common ground in both problems, and demonstrates the need to develop an empirical work that shows new evidence in this area. This work would also help to analyze the role that personal variables play in the prevention of Problematic Internet Use.

More explicitly, the present study has three complementary objectives: (1) to have updated data about Internet and social networking usage habits among adolescents, estimating the levels of Problematic Internet Use (PIU); (2) to analyze the relation between PIU and other risky behaviors; and (3) to analyze the weight that some personal variables

(such as impulsivity, self-esteem, assertiveness or other social skills) could hold as prognostic factors, with the purpose of orientating the study at a preventive level.

## 2. Materials and Methods

### *2.1. Participants*

A selective methodology was used, consisting of a survey of compulsory secondary education and baccalaureate students in the provinces of A Coruña and Pontevedra (Spain). For the sample selection, purposive sampling was used, to try to access as wide and heterogeneous sample as possible. A total of 15 secondary schools in different municipalities took part, both public and private/charter, both urban and rural.

The initial number of participants was 3910, although 51 questionnaires were eliminated after an exhaustive review process, either because they had an excessive number of missing values (30) or incoherent response patterns (21). The highest percentage of missing responses for any item was 1.3 percent, which represents an acceptable value (Cohen & Cohen, 1983). In addition, a further 87 cases were eliminated because they were outside the age range under study (12-17 years). Thus, the final sample consisted of 3772 adolescents (50.2% females) aged between 12 and 17 ($M$ = 14.41 and $SD$ = 1.64). Of these, 2582 attended public schools and 1190 were in private or charter schools, with 75.9% in compulsory secondary education (39% in lower secondary education and 36.9% in upper secondary education), and 24.1% were baccalaureate students.

### *2.2. Procedure*

Data were collected in their own classrooms in small groups (between 15 and 20 individuals) through a self-administered paper-and-pencil questionnaire that each student completed individually. Data collection was carried out by a group of psychologists from the University of Santiago de Compostela with extensive experience in this type of work. All participants were informed of the purpose of the study, as well as the confidentiality and

anonymity of their responses. This study counted on the consent and cooperation of both the school leadership and respective parents' associations. The Bioethics Committee of the University of Santiago de Compostela approved this study.

*2.3. Instruments*

Data were collected through an ad hoc questionnaire with questions grouped into five blocks. The first block comprised of questions to assess their Internet and Social Networking usage habits, their availability of mobile phones, and possible online risky practices. A second block was extracted from the latest National Survey on Drug Use in Secondary School students in Spain [ESTUDES 2014-2015] (Spanish National Plan on Drugs, 2016) and the European School Survey Project on Alcohol and Other Drugs (ESPAD Group, 2016) to collect information on consumption habits for both alcohol and other substances. The third block included four screening tools: the Problematic Internet Use Scale in adolescents [PIUS-a] (Rial, Gómez, Isorna, Araujo, & Varela, 2015), the Alcohol Use Disorders Identification Test [AUDIT] (Rial, Golpe, Araujo, Braña, & Varela, 2017) in its self-administered version to estimate at-risk alcohol use, the Spanish version of the CRAFFT Abuse Screening Test (Rial, Harris, Knight, Araujo, Gómez, Braña, ... & Golpe, 2018) to screen at-risk substance use, and the Cannabis Abuse Screening Test [CAST] (Legleye, Piontek, & Kraus, 2011) to estimate at-risk cannabis use. The fourth block was composed of four scales measuring personal variables, such as self-esteem (through the Spanish version of the Rosenberg Self-Esteem scale (RSE) adapted by Martín-Albo, Núñez, Navarro and Grijalbo (2007), impulsiveness (assessed with the Spanish version of the Barratt Impulsiveness Scale (BIS 11-A), adapted by Martínez, Fernández, Fernández, Carballo, & García, 2015), assertiveness (measured through the Assertiveness Scale from the Evaluation Instruments Bank (EIB) of the European Monitoring Centre for Drugs and Drug Addiction), and social skills (evaluated with the Social skills Scale by Oliva et al., 2011). A final section collected information on

sociodemographic variables such as the gender and age of participants and their type of school.

*2.4. Data analysis*

After a descriptive analysis, a bivariate tabulation was carried out using parametric or nonparametric techniques, depending on the nature of the variables: Student's t tests for the comparison of means and eta-squared coefficient ($\eta^2$) to calculate the effect size in quantitative variables, as well as Chi-square test of independence for the comparison of percentages and contingency coefficient (CC) for calculating the effect size in qualitative variables. All statistical analyses were conducted using SPSS software v.20.

## 3. Results

*3.1. Internet, Social Networking sites, and mobile phone*

As shown in Table 1, most of the participants (95.6%) used the Internet regularly. Specifically, 12.9% of the students reported to connecting weekly, whereas 82.7% do it every day. In relation to the connection time, 26% demonstrated intensive use of the Internet (more than five hours per day). With regards to social networking sites, 91.9% were registered on at least one, and 60.7%, on three or more. The most widely accepted social networking site among the minors was Instagram (78.9%), followed by Facebook (56.6%) and Twitter (50.6%). Almost all of the adolescents (95.7%) used instant messaging applications, Whatsapp being the most commonly used (95.6%).

On the other hand, 86.7% had a smartphone, while 41.3% admitted to carrying it to school every day or almost every day in the last 12 months, and 17.6% used it during class time regularly. These figures increase significantly with age, both in relation to carrying the mobile phone to school (12-14 years old = 20.9%; 15-16 = 57.7%; 17-18 = 71.2%; $\chi^2$ = 736.87; $p < .001$; $CC = .41$), and in relation to their regular use during class time (12-14 years old = 1.9%; 15-16 = 10.3%; 17-18 = 16.3%; $\chi^2 = 462.17$; $p < .001$; $CC = .34$).

Meanwhile, seven out of ten adolescents stated that their parents hardly control or limit their Internet or mobile phone usage, and 42.7% revealed having arguments with their parents because of their Internet or mobile phone usage (table 1).

[Insert table 1 here]

*3.2. Problematic Internet use and online risky practices*

Table 2 shows that almost one out of five adolescents (18.2%) could be considered problematic Internet users. Significantly higher rates of PIU were found among girls (20.3% vs 16.2%; $\chi^2 = 10.03$; $p = .002$) and among the older participants (16-17 years old = 23.4% vs 14-15= 20.1% vs 12-13 = 11.5%; $\chi^2 = 59.33$; $p < .001$). The percentage found among participants from private schools was slightly higher than that in the case of public school students (19.7% vs 17.5%), although this difference was not statistically significant. Table 2 also includes the main features problematic users tended to display in terms of their Internet use.

[Insert table 2 here]

In relation to online risky practices, 31.7% of the minors admitted having contacted strangers on the Internet, and 13.7% went a step further and met them in person (Table 3). It is also worth mentioning that 6.5% of the adolescents accessed online gambling and betting sites, 5.8% were victims of threats, harassment or humiliation through the Internet, and 5.1% practiced sexting.

*3.3. Relation between problematic Internet use and risky behaviors*

As shown in Table 3, a positive PIU test result implies not only a greater risk of further Internet addiction but also bears a statistically significant relation with every risky behavior analyzed, especially with contacting strangers through the Internet (CC = .27). The results obtained indicated that PIU is also associated with substance use. Those problematic Internet users presented significantly higher percentages of alcohol use, drunkenness, binge

drinking, tobacco and cannabis use. The same trend is also observed when comparing at-risk substance use among problematic Internet users and non-problematic Internet users (CRAFFT: 37.1% vs 15%; AUDIT: 38.2% vs 12.4%; CAST: 6.5% vs 2.8%).

[Insert table 3 here]

*3.4. Personal variables associated with PIU and online risky practices*

The results obtained showed that problematic Internet users differed significantly in every personal variable. The estimated effect sizes reveal that a high impulsiveness ($\eta^2 = .20$) and a low self-esteem ($\eta^2 = .10$) were elements that best defined the profile of a problematic Internet user (see Table 4).

[Insert table 4 here]

Something similar could be said of those who carried out any of the online risky practices analyzed, characterized by a higher impulsiveness. Statistically significant lower rates of self-esteem were found among those who were victims or perpetrators of online threats, harassment or humiliation, those who contacted strangers, those who practiced sexting, or those who were blackmailed with publishing and disseminating photos or videos of themselves on the Internet. Findings also showed that adolescents who were perpetrators of online threats, harassment or humiliation, visited porn sites, accessed online gambling and betting sites, or contacted strangers and had statistically significant lower rates of assertiveness. Regarding social skills, the pattern is less clear.

[Insert table 5 here]

## 4. Discussion

The results obtained from this study show some revealing baseline data: one out of four adolescents reports using the Internet more than 5 hours a day or using it all day long, 91.9% are registered in at least one social network and 60.7% use three or more. These data are consistent with the data collected from the report of the *Pew Research Center* (Lenhart,

2015), and from the PISA (Programme for International Student Assessment) report (Organisation for Economic Co-operation and Development [OECD], 2017), which show worrying figures of intensive Internet users.

Beyond the amount of time using, or the number of social networks they might use, the present study estimates that an 18.2% of the number of minors could be considered problematic users or, in other words, their Internet and social networking usage interferes with their daily lives to a high degree. Moreover, it also has been proven that PIU is not an isolated phenomenon, but it is also related to many risky behaviors, which show a maladaptive pattern of interaction with the Internet (Gómez, Harris, Barreiro, Isorna, & Rial, 2017). Such a pattern is, firstly, a primary source of conflict at a family level; 42.7% of adolescents report frequent arguments with their parents because of their Internet or mobile phone use, a fact that had already been reported in previous studies (Rial, Golpe, et al., 2015). Problematic use is also related to higher rates of sexting, cyberbullying, contacting strangers and/or online gambling, as Baggio, Gainsbury, Berchtold and Iglesias (2016), Gunuc (2015) or Jung et al. (2014) pointed out. The relation found between contacting strangers and PIU is of particular concern: almost 60% of the problematic Internet users do it and 3 out of 10 actually meet people contacted online in person. This is a breeding ground for grooming, which might be considered the new form of "pedophilia 2.0".

Equally important are the implications that Internet expansion has had in maintaining, and even amplifying, other problems, such as school bullying, which is currently considered one of the main problems in the education community (Cerezo & Rubio, 2017). The 24/7 access to the victim, and the virility of shared content in social networks and instant messaging applications are possibly reasons for the progressive increase in cyberbullying (Ministry of Industry, Energy and Tourism, La Paz University Hospital, Spanish Society of Adolescent Medicine, & Red.es, 2015).

It has also been proven that PIU is related to other great worries within the field of adolescents, as in the case of alcohol and other drugs use. The rates of at-risk use found are up to two or three times greater among problematic Internet users, a fact that supports the results found by Cía (2013), Golpe, Gómez, Braña, et al. (2017) or Sun et al. (2012). This point connects with the idea of an addiction profile among those adolescents (Suris, Akre, Ambresin, Berchtold, Piguet, & Zimmermann, 2014)., and emphasizes the need for an integral prevention, able to act on the common variables of the different problem behaviors.

Some of the variables that have taken up more attention in the literature were personal variables, such as self-esteem, impulsiveness or other social skills (Billieux et al., 2015; Laconi, Vigoroux, Lafuente, & Chabrol, 2017; Mei, Yau, Chai, Guo, & Potenza, 2016; Villa & Suárez, 2016). Our results confirm the findings of studies that relate high impulsiveness to problematic Internet use (Chen, Lo, & Lin, 2015) and different online risky behaviors, like online gambling or sexting (Billieux et al., 2015; Temple et al., 2014). This supports the idea that screens represent scenarios that favor the appearance of impulsive and uninhibited behaviors, less likely in face-to-face interaction.

Problematic Internet users show lower levels of self-esteem, as Mei et al. (2016) pointed out. Similarly, in line with the obtained results by Patchin and Hinduja (2010) or Scholes, Francke and Hemphill (2016), a low self-esteem is a risk factor for cyberbullying and sexting. On the other hand, although the available empirical evidence is much lower with regard to the other explored variables, it is agreed on the appropriateness of promoting good social skills (Villa & Suárez, 2016) and, particularly, assertiveness (Dalbudak et al., 2015) among adolescents. In view of these results, prevention should start with educational measures, based on life skills training, as Faggiano, Minozzi, Versino and Buscemi (2014) or Moshki, Hassanzade and Taymoori (2014) suggest in the field of drug use prevention. Despite having found statistically significant relationships, the effect sizes show a limited

explanatory capacity. Thus, it is necessary to find stronger and more comprehensive explanatory models. In this sense, environmental prevention models might show a more holistic view of the problems under study. These models assume that problems depend not only on the individual personal features, but also on the family, cultural, social, physical and economic context in which they are involved (Burkhart, 2011).

There are possible limitations of this work to be considered, the first one being the sample used. Despite having included information about almost 4000 adolescents, having used a non-probabilistic sample only from two provinces (A Coruña and Pontevedra) limits the external validity of the results. Secondly, the work has a cross-sectional design, thus it is not possible to establish causality relations among variables. Finally, all the variables have been self-reported, so that it is impossible to know with certainty to what extent adolescents could have underestimated or overestimated their usage levels and the amount of time spent on the Internet. However, as some experts from the addictive behaviors field have previously pointed out, self-reported measures have shown to be reliable and even better than other methods when assessing usage levels and risky behaviors (Babor, Kranzler, & Lauerman, 1989; Winters, Stinchfield, Henly, & Schwartz, 1990).

**Funding:** This work was supported by the Spanish National Plan on Drugs (Ref. 2013/046).

**Conflicts of interest:** The authors declare no conflicts of interest.

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Table 1. *Internet and mobile phone usage, and parental involvement*

| **INTERNET USAGE HABITS** | | **%** |
|---|---|---|
| Frequency of use | Never or hardly ever | 1.1 |
| | Occasionally (some times a month) | 3.2 |
| | Weekly (some times a week) | 12.9 |
| | Daily (every day or almost every day) | 82.7 |
| Hours per day | Less than 1 | 14.2 |
| | Between 1 and 2 | 24.4 |
| | Between 2 and 3 | 18.5 |
| | Between 3 and 5 | 16.9 |
| | More than 5 | 10.5 |
| | All day long | 15.4 |
| **SOCIAL NETWORKING SITE USE** | | |
| Registration in online social networks | None | 8.1 |
| | 1 or 2 | 31.1 |
| | 3 or more | 60.7 |
| Membership of online social networks | Instagram | 78.9 |
| | Snapchat | 57.6 |
| | Facebook | 56.6 |
| | Twitter | 50.6 |
| | Pinterest | 5.5 |
| | Others | 39.5 |
| **INSTANT MESSAGING** | | |
| Applications | Whatsapp | 95.6 |
| | Messenger/Skype | 51.1 |
| | Google Talks | 15.4 |
| | Line | 11.1 |
| | Others | 19.1 |
| | None | 2.5 |
| **SMARTPHONE OWNERS** | | 86.7 |
| | | |
| **MOBILE PHONE USAGE AT SCHOOL (in the last 12 months)** | | |
| Have you ever carried your mobile phone to school? | Never or hardly ever | 38.7 |
| | Occasionally | 9.7 |
| | Weekly | 10.2 |
| | Daily | 41.3 |
| Have you ever used your mobile phone during class time? | Never or hardly ever | 74 |
| | Occasionally | 8.4 |
| | Weekly | 10.6 |
| | Daily | 7 |
| **PARENTAL INVOLVEMENT** | | |
| Your parents control and/or limit your Internet or mobile phone usage | Not at all or a little | 72.3 |
| | Quite a while or a lot | 27.7 |
| You have arguments with your parents because of your Internet or mobile phone usage | Never or hardly ever | 57.3 |
| | At least sometime a month | 42.7 |

Table 2. *Descriptive Statistics of Problematic Internet Use and Main Features of Internet Use among Problematic Internet Users*

| **PROBLEMATIC INTERNET USE (≥ 16)** | | **%** |
|---|---|---|
| Global | | 18.2 |
| Gender | Males | 16.2 |
| | Females | 20.3 |
| Age group | 12-13 years old | 11.5 |
| | 14-15 years old | 20.1 |
| | 16-17 years old | 23.4 |
| Type of school | Public | 17.5 |
| | Private/Charter | 19.7 |
| **HABITS OF INTERNET USE AMONG PROBLEMATIC INTERNET USERS** | | |
| Frequency of use | Never or hardly ever | 0.3 |
| | Occasionally (some times a month) | 0.5 |
| | Weekly (some times a week) | 4.5 |
| | Daily (every day or almost every day) | 94.7 |
| Hours per day | Less than 1 | 2.1 |
| | Between 1 and 2 | 11.7 |
| | Between 2 and 3 | 15.4 |
| | Between 3 and 5 | 22.1 |
| | More than 5 | 17.5 |
| | All day long | 31.2 |
| Registration in online social networks | None | 2.9 |
| | 1 or 2 | 15.5 |
| | 3 or more | 81.6 |
| **MOBILE PHONE USAGE AT SCHOOL (in the last 12 months) AMONG PROBLEMATIC INTERNET USERS** | | |
| Have you ever carried your mobile phone to school? | Never or hardly ever | 21.2 |
| | Occasionally | 11.3 |
| | Weekly | 11.6 |
| | Daily | 55.9 |
| Have you ever used your mobile phone during class time? | Never or hardly ever | 54.9 |
| | Occasionally | 13.2 |
| | Weekly | 17.4 |
| | Daily | 14.5 |

Table 3. *Problematic Internet use and risky behaviors*

| **ONLINE RISKY PRACTICES in the last 12 months** | Global (%) | PIU (%) | Non-PIU (%) | $\chi^2$ | CC |
|---|---|---|---|---|---|
| Victim of online threats, harassment or humiliation | 5.8 | 15.0 | 3.8 | 121.30** | .18 |
| Perpetrator of online threats, harassment or humiliation | 4.5 | 13.5 | 2.5 | 147.22** | .20 |
| Active sexting | 5.1 | 12.3 | 3.4 | 87.47** | .15 |
| Being blackmailed with publishing and disseminating photos or videos of yourself on the Internet | 2.9 | 8.0 | 1.8 | 69.46** | .14 |
| Visiting porn sites | 29.6 | 44.8 | 26.1 | 90.10** | .16 |
| Betting and gambling sites | 6.5 | 12.3 | 5.2 | 44.55** | .11 |
| Contacting strangers | 31.7 | 58.9 | 25,7 | 274.59** | .27 |
| Meeting strangers | 13.7 | 30.8 | 9,9 | 197.85** | .23 |
| **SUBSTANCE USE in the last 12 months** | | | | | |
| Drinking alcohol | 51.2 | 65.1 | 48.1 | 61.92** | .13 |
| 3 or more alcoholic drinks per occasion | 32.0 | 46.2 | 28.9 | 73.25** | .14 |
| 6 or more alcoholic drinks per occasion | 17.4 | 26.7 | 15.2 | 49.03** | .12 |
| Getting drunk | 25.3 | 38.6 | 22.5 | 72.67** | .14 |
| Smoking tobacco | 22.6 | 34.8 | 19.8 | 69.10** | .14 |
| Cannabis | 14.1 | 22.7 | 12.1 | 49.89** | .12 |
| Cocaine | 0.8 | 1.4 | 0.7 | 2.44 | - |
| Ecstasy, amphetamines or hallucinogens | 1.0 | 2.0 | 0.7 | 7.26* | .05 |
| **AT-RISK USE in the last 12 months** | | | | | |
| CRAFFT (alcohol and other drugs) | 17.0 | 38.2 | 12.4 | 242.31** | .25 |
| AUDIT (alcohol) | 22.9 | 37.1 | 15.0 | 162.23** | .21 |
| CAST (cannabis) | 3.6 | 6.5 | 2.8 | 21.57** | .08 |

* $p < .05$; ** $p < .001$

Table 4. *Personal variables associated with problematic Internet use*

| **PERSONAL VARIABLES** | PIU (*M*) | Non- PIU (*M*) | *t* | $\eta^2$ |
|---|---|---|---|---|
| Self-esteem | 6.13 | 7.19 | 11.84** | .10 |
| Assertiveness | 6.48 | 7.30 | 9.38** | .06 |
| Social skills | 5.43 | 5.79 | 5.71** | .03 |
| Impulsiveness | 4.53 | 3.56 | -16.74** | .20 |

* $p < .05$; ** $p < .001$

Table 5.*Personal variables associated with online risky practices*

| **PERSONAL VARIABLES** | Victim of online threats, harassment or humiliation | | *t* | Perpetrator of online threats, harassment or humiliation | | *t* | Active sexting | | *t* | Being blackmailed with publishing and disseminating photos or videos of yourself on the Internet | | *t* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | | Yes | No | | Yes | No | | Yes | No | |
| Self-esteem | 5.66 | 7.08 | 10.54** | 6.45 | 7.02 | 3.39** | 6.27 | 7.03 | 4.57** | 5.89 | 7.03 | 5.92** |
| Assertiveness | 7.01 | 7.16 | 1.16 | 5.63 | 7.22 | 8.72** | 6.91 | 7.16 | 1.80 | 6.95 | 7.15 | 1.18 |
| Social skills | 5.49 | 5.75 | 2.46* | 5.63 | 5.73 | 0.93 | 6.08 | 5.71 | -3.35* | 5.81 | 5.73 | -0.60 |
| Impulsiveness | 4.21 | 3.71 | -5.50** | 4.63 | 3.70 | -9.12** | 4.18 | 3.72 | -4.36** | 4.26 | 3.72 | -4.09** |
| **PERSONAL VARIABLES** | Visiting porn sites | | *t* | Betting and gambling sites | | *t* | Contacting strangers | | *t* | Meeting strangers | | *t* |
| | Yes | No | | Yes | No | | Yes | No | | Yes | No | |
| Self-esteem | 6.98 | 7 | 0.37 | 7.16 | 6.98 | -1.39 | 6.50 | 7.22 | 9.95** | 6.45 | 7.08 | 6.28** |
| Assertiveness | 6.61 | 7.38 | 11.45** | 5.84 | 7.24 | 9.80** | 6.78 | 7.32 | 8.08** | 6.66 | 7.23 | 5.88** |
| Social skills | 5.75 | 5.72 | - 0.50 | 5.95 | 5.72 | -2.28* | 5.61 | 5.78 | 3.15* | 5.81 | 5.72 | -1.27 |
| Impulsiveness | 4.03 | 3.62 | -8.72** | 4.38 | 3.70 | -7.17** | 4.09 | 3.57 | -11.29** | 4.23 | 3.66 | -8.73** |

* $p < .05$; ** $p < .001$