

● A. García, M.C. López-de-Ayala and B. Catalina
Madrid (Spain)

Received: 27-10-2012 / Received: 13-06-2013
Accepted: 23-03-2013 / Published: 01-09-2013

DOI: <http://dx.doi.org/10.3916/C41-2013-19>

The Influence of Social Networks on the Adolescents' Online Practices

Hábitos de uso en Internet y en las redes sociales de los adolescentes españoles

ABSTRACT

The aim of this article is to study in depth the changes taking place in the habits of adolescents using online communication, particularly due to the dramatic arrival of social networks in their daily lives, and the sociocultural implications of these processes. The research methodology focuses on a self-administered questionnaire applied nationally. Based on the results of a survey of a representative national sample of 2,077 adolescents (12 to 17-year-olds), this study has sought to update the information about online practices among Spanish adolescents, specifically with regard to the remarkable development of social networks. Similarly, the behavior of both regular users of social networks and of non-regular users has been compared, with the aim of detecting the influence of social network use on general online life, and we have considered the following variables: gender, age, funding type of the educational establishment and social class. Among the main conclusions of the study, we emphasize a more intensive use of the Internet as regards time and activities by those who are more frequent users of social networks, and especially the activities they carry out to keep in touch and share content with their equals.

RESUMEN

Profundizar en los cambios que se están perfilando en los hábitos on-line de los adolescentes, en particular debido a la fuerte irrupción de las redes sociales en su vida cotidiana, así como en las implicaciones socioculturales de estos procesos, es el objeto de este trabajo. La metodología de investigación se centró en un cuestionario autoadministrado aplicado a escala nacional. Sobre una muestra representativa nacional de 2.077 adolescentes (de 12 a 17 años), se ha buscado actualizar la información relativa a las prácticas on-line entre los menores y adolescentes españoles, con atención específica a la extensión del fenómeno de las redes sociales e identificando su influencia sobre las prácticas de los adolescentes en la Red. De igual modo, se comparan los usos entre los usuarios habituales de las redes sociales y los que no las tienen entre sus prácticas cotidianas, con la idea de detectar la influencia del uso de las redes sociales en los usos generales en Internet y controlando esa relación en función de cuatro variables: sexo, edad, titularidad del centro al que asisten los adolescentes y clase social. Entre las principales conclusiones destacamos el uso más intensivo en tiempo y en actividades de los usuarios que utilizan muy frecuentemente las redes sociales, con especial incidencia en aquellas actividades que les permiten mantener el contacto y compartir contenidos con sus pares.

KEYWORDS / PALABRAS CLAVE

Social networks, Internet, usage habits, adolescents, communication, media generation, network identity.
Redes sociales, Internet, hábitos, adolescentes, comunicación, generación multimedia, identidad digital.

- ◆ Dr. Antonio García-Jiménez is Tenured Professor of the Department of Communication Sciences I in the Faculty of Communication Sciences at the Universidad Rey Juan Carlos (Madrid, Spain) (antonio.garcia@urjc.es).
- ◆ Dr. María-Cruz López-de-Ayala-López is Tenured Professor in the Faculty of Communication Sciences at the Universidad Rey Juan Carlos (Madrid, Spain) (mariacruz.lopezdeayala@urjc.es).
- ◆ Dr. Beatriz Catalina García is Visiting Professor of the Department of Communication Sciences I in the Faculty of Communication Sciences at the Universidad Rey Juan Carlos (Madrid, Spain) (beatriz.catalina@urjc.es).

1. Introduction

Since 2008, social networks have experienced exponential growth in Spain, with regular users jumping from 22.6% to 72.3% between 2008 and the last quarter of 2010 according to the Spanish National Institute of Communication Technologies (INTECO, 2011). According to data from the Spanish National Institute of Statistics (INE, 2012), 88.5% of young Internet users aged 16-24 participate in social networks and in 2009, Bringué and Sádaba (2009) found that 71% of Spanish adolescents (12 to 18-year-olds) already used them, with this figure increasing with age. At the same time, there is no doubt that the emergence of social networks and the ensuing integration of many online applications (Garmendia, Garitaonandia & al., 2011; Patchin & Hinduja, 2010) has fostered a change in general online practices, displacing certain habits and favoring others.

The main aim of this article is to detect and analyze the most recent online uses and behavior of adolescents and the influence of social networks on that group in Spain. More specifically, we incorporate a comparison between the online habits of different social network user profiles, from more intensive users to non-users, with the aim of identifying the influence on general online practices of the arrival of social networks. The work being presented here is situated at the theoretical and methodological crossroads of similar studies, with special relevance in relation to Sonia Livingstone's work focusing on the relationship of children and young people with the Internet, within the framework of EU Kids Online. This project has focused strongly on the online practices and experiences of young people in a European framework, on the risks that they can face, such as cyberbullying, pornography, or invasions of privacy, and aspects such as digital skill and literacy levels (www2.lse.ac.uk/media@lse/research/EUKidsOnline/Home.aspx). This perspective has given rise to a broad bibliography (Livingstone, 2008; Livingstone & Helsper, 2010; Livingstone & Brake, 2010; Livingstone & al., 2011), to which other studies in this direction, the result of increasing research efforts in recent years, must be added (Valcke & al., 2011).

The hypotheses we are examining in this study are the following:

H1. It is anticipated that greater use of social networks also entails more time spent online.

H2. The use of social networks means a shift from other, earlier applications focusing on communication with peer groups. Therefore, it is expected that social network users have shifted from use of this type of

applications, whereas non-users of social networks will maintain their use of those applications.

H3. It is also anticipated that users of social networks make more intensive use of those online tools that allow them to obtain content to share with their peers.

1.1. Background

As stated by Ahn (2011), the issue analyzed here is the subject of an ever-expanding bibliography. Some authors' studies are concerned, among other aspects, with intensive use and how it is distributed (Lenhart & Madden, 2007; Lenhart, Purcell & al., 2010) or with the growing influence of cell phones (Purcell, 2011). Other works analyzed educational subjects and literacy (Pérez, 2005; Eynon & Malmberg, 2011), the multitasking abilities of the new generations (Levine, Waite & Bowman, 2007; Moreno & al., 2012), relationships and the influence of the family environment (Liu & al., 2012; Duerager & Livingstone, 2012), aspects relating to gender differences (Valkenburg, Sumter & Peter, 2011), the impact of offline differences (Ahn, 2011) or the creation of contents (Buckingham, 2010), etc.

Other authors tackled the underlying reasons for online uses (Agosto, Abbas & Naughton, 2012), whereas Subrahmanyam and Greenfield (2008) highlighted the increase from the age of ten in relationships between peers and, in parallel, children's use of the Internet. There are also studies that focus on the impact of the Internet on aspects such as friendships or online relationships with strangers (Nie, 2001; Mesch, 2001; Boyd, 2007; Gross, 2004; Livingstone & Brake, 2010; Mesch & Talmud, 2007; Valkenburg & Peter, 2007, 2009, 2011), or the positive connection between the online environment and offline relationships (Subrahmanyam, Reich & al., 2008; Ellison & al., 2007; Barkhuus & Tashiro, 2010).

Valkenburg & Peter (2009) defined connectivity as the relationship adolescents have with others in their environment and Walsh, White and Young (2009) analyzed the processes of building identity and the feeling of social connection and belonging (Pearson & al., 2010). Furthermore, Cheung and others (2011) detected that the implicit and explicit rules of groups influence Facebook practices and Patchin and Hinduja (2010) discovered the relevance of self-protection factors in online life.

Flanagan (2005) analyzed the popularity of instant messaging, Gabino (2004) did the same with chat-rooms and their oral connection, Nyland (2007) studied gratification and use of social networks in comparison to emails and face-to-face communication, and

Utz, Tanis & Vermeulen (2012) highlighted the need for popularity as a powerful predictor of behavior on social network sites.

In Europe, the data collected throughout 2005 and 2006 as part of the Mediapro project allowed it to be concluded that the most common online activities of European adolescents were doing homework, playing games, communicating and searching for different types of information (Mediapro, 2006). According to Livingstone, Haddon & al. (2011), the most frequent online activity of European teenagers is using the Internet to do school work (85%), followed by games (83%), watching videos (76%), using social networks and messaging (62%), and emailing (61%).

Focusing on Spain, the Information Security Observatory (INTECO, 2009) published a report compiled on the basis of data relating to adolescents aged between 10 and 16 years old referring to late 2007 and early 2008. Noteworthy in the report was that the most common options were, in order, using email, downloading films and looking for information for school; using Messenger was ranked fifth, while only 7.2% participated in forums and 2.2% in blogs. The phenomenon of social networks had not yet been included. In data from the following year, the Interactive Generation Forum

detected that email, which had previously been the favorite application of adolescents aged between 12 and 18, had been taken over by Messenger and social networks (Bringué & Sádaba, 2009). Based on that same survey, the authors also analyzed social network use and interactions between the user profile (advanced users, users and non-users) and the use of other screened devices (cell phones, TV, videogames) and online services (Bringué & Sádaba, 2011). In addition to those listed above, other institutions and researchers in Spain have also discussed these issues: Aranda & others (2010), the Pfizer Foundation (2009), Espinar and González (2009) and Sánchez and Fernández (2010).

2. Methodology

The data presented in this study come from a

representative statistical survey of adolescents (12-17 years old) attending school at the level of «Educación Secundaria Obligatoria» (years 1 to 4 of compulsory secondary education, ESO) and «Bachillerato» (High School equivalent level) in the Spanish State, with the exception of Ceuta, Melilla and Balearic and Canary Islands, throughout the 2011/2012 academic year. According to data published by the Ministry of Education, the study universe comprises 2,227,191 students at «ESO» and «Bachillerato» level from a total of 6,053 state, private and state-funded private (privados-concertados) educational establishments for secondary education and «Bachillerato» (the listings concerning these data were recovered from the respective websi-

Some of the questions pending clarification relate to the senses that the adolescents themselves apply to their practices and relationships. Although tackling how the use of social networks can modify other online practices, which is the objective of this article, has not been common in qualitative studies, in turn, establishing relationships between patterns of use and the probability, or manner, of facing the potential risks of cyberspace has opened up as an interesting line of research.

tes of the Departments of Education of each of the Autonomous Communities included in the study universe). The design of the sample was a multi-stage stratified cluster sampling. As the first step, stratified cluster sampling was conducted by Autonomous Community, stage of education and type of educational establishment (state-owned or private school). In total, 100 educational establishments were randomly selected.

The second step consisted of applying stratified sampling of students by Autonomous Community, stage of education and whether it was a state-owned or privately-owned educational establishment. Ultimately, 2,077 surveys were obtained, in line with the quotas set for the variables of gender, age, stage of education and whether the establishment was state or privately owned, thus ensuring the representativeness

of each segment according to the established sample. The sampling error stood at ± 2.2 for the worst possible case of variability in which p and $q = 50/50$ and a 95% level of confidence, assuming simple random sampling. The final results of the sample showed a marginal deviation with regard to the characteristics of the universe in some of the aforementioned parameters, therefore, elevation indices were established for the purpose of making adjustments to the real sample and the theoretical sample.

The educational establishments selected were contacted by telephone to request their collaboration. Once their participation had been confirmed, they were provided with an information letter addressed to the parents containing the objectives and contents of the study and data protection information, a standard informed consent form for parents or guardians regarding the participation of their children in the research and a participation report for the establishment detailing its involvement. For the educational establishments belonging to the Valencia Autonomous Community, additional authorization from the Valencia Regional Government was required in order to be able to participate in the survey. These establishments were also sent the Resolution dated October 21, 2011, of the Director-General of Teaching Establishments and Management of the Regional Department of Education, Training and Employment, authorizing the schools to participate in the project.

The school passed on the informed consent information to the students and these returned the authorization slips signed by their parents as a prerequisite for participating in the survey. They were also informed about the goals of the study, the relevance of their involvement and sincerity, and the necessity of data confidentiality.

The information was gathered from a classroom-based self-assessment questionnaire given only to those students who had obtained the consent of their parents. The questionnaire consisted of 54 questions and the average time required to complete it ranged from 20 to 30 minutes. In order to protect the

children's rights, the questionnaire was supervised, reviewed and approved by the Office of the Ombuds-person for Children of the Autonomous Community of Madrid. The fieldwork was performed between the months of September and November 2011.

The calculation of social class needs to be clarified due to the complexity of this variable and, in particular, since those providing the information are minors. Given the difficulties involved in gathering information about the family's earnings in each household from the adolescents' replies, and in anticipation that in the majority of cases this question would remain unanswered, social status was calculated on the basis of the father's educational attainment level and profession, assuming that this is the person contributing the most earnings (which tends to be the most common situation in most households), except in those cases where the father was unemployed, or retired, etc., in which case the mother was taken into account. Despite these precautions, 492 subjects were unable to be classified because they had not given answers about one or more of the aforementioned variables, which obliges us to interpret the data with a degree of caution. The attached table explains the apportionment of the subjects among the classifications of upper class, middle class and lower class, based on the subjects' answers.

The data in this article was analyzed using the SPSS statistical program. The analysis was performed through the «custom tables» command, which allows contingency tables to be generated including two or more entries of variables and therefore allows the

Table 1. Distribution of the subjects by social class

	No schooling	Primary Education	Secondary Education (High School)	Professional Training	University Studies
Owner, manager or director of a large firm	C	B	A	A	A
Employee at a company or public institution (Town Council...)	C	B	A/B	A/B	A
Doctor, lawyer, architect, engineer, psychologist	D	C	B	B	A
Owner, manager or director of a small business, store...	D	C	B	B	A/B
Self-employed plumber, electrician, builder...	D	D	C	C	C
Employee at a company or public institution (town council...)	D/E	C	C	C	B
Employee at a company or civil servant: doorman, janitor,	E	D	D	D	C
Unemployed	E	D	D	D	C
Does not work	E	D	D	D	C
Homemaker	E	D	D	D	C
Retired	E	D	D	D	C
Other	E	D	D	D	C

The subjects placed in categories A and B are classed as upper class, those in category C, as middle class, and those in categories D and E, as lower class.

impact of third variables that show their relationship with the dependent variable, such as gender, whether the educational establishment that the minors attend is state or privately owned, and social class. This multi-variable analysis will allow an assessment of whether the relationship is spurious or genuine and will permit us to observe how this third control variable alters the relationship between the intensity of social network use and other online practices. Finally, the statistical significance level that indicates to us if the differences detected are due to chance has been set for $\chi^2 < 0.05$.

3. Results

Firstly, a description of general usage of the Internet by Spanish adolescents is given. Next, we examine the social networks that the children access, to then continue covering the type of activities they carry out in them. The following two subsections will focus on the study of adolescents' behavior depending on the profile of social network use, taking into account their age group, gender, whether the school they attend is state-owned or privately owned, and social class. After describing the characteristics of each profile, this study will explore the impact of social network user profiles on the time spent online and the general online practices of the adolescents.

3.1. Internet practices

The first factor studied is frequency of access depending on the type of activity. Social networks are the pages most frequented by adolescents, with 75.3% connecting very often, the figure reaching 90% if we include those who use them occasionally. This is followed by visiting the different sites which enable video-sharing (48.6% very often, and 31.6% occasionally), browsing different web pages (45.7% and 38.6%, respectively) and downloading music, film or TV series files (37.1% very often, and 33.9%, occasionally). Instant messaging occupies 31.6% of adolescents very often and 26.5% occasionally, whereas email occupies 24.5% of them very often, and 36.9% of them occasionally, and online games represent 16.3% and 25.2%, respectively.

At the other end of the spectrum are accessing chat-rooms and forums (31.7% very often and occasionally), blogs (20%), photo-sharing sites

(14.2%) and virtual worlds (9.1%), which is in the minority.

By age, it is observed that older adolescents access social networks very often to a greater extent than younger adolescents do: 84.1% of 15-17 year olds compared to 68% of 12-14 year olds. In addition, girls (78.5%) access social networks more than boys (71.8%). Differences by type of teaching are very limited, barely 0.8%. Looking at social class, those subjects classified as upper class connect very often more than other subjects: 78.3% compared to 75.1% (middle class) and 75.3% (lower class).

3.2. Behavior in social networks

An interesting initial fact refers to adolescents' preferences for certain social networks: 86.9% have one or more profiles in Tuenti and 73.4% have them on Facebook. Ranked third, 39% of registered adolescents choose Twitter. The greatest difference in the availability of profiles on social networks is observed in relation to age: the percentage of students aged 15-17 with a profile in all the social networks is greater than that of younger adolescents for the same item. Girls, however, have a profile on Facebook, Twitter and Fotolog to a greater extent than boys do.

Combining the two variables and taking into account the statistically significant differences for $\chi^2 < 0.05$, younger boys have a profile on Facebook or MySpace to a greater extent than girls, but with age the trend reverses and the percentage of girls on Facebook exceeds that for boys. Between the ages of 15 and 17, the percentage of girls who have opened a profile on Fotolog is higher than that of boys. The differences in preferences for one social network or another by social class is only significant in the case of Tuenti, which is the option most used by the lower class. No statistically significant differences have been

Table 2. Social networks where the subjects have one or more profiles open, by age group and social class (vertical percentages)

	Aged 12-14		Aged 15-17		SOCIAL CLASS		
	Male	Female	Male	Female	Upper class	Middle class	Lower class
MySpace	7.2%	5.0%	9.2%	11.3%	8.6%	6.3%	8.4%
Facebook	60.2%	56.3%	72.0%	79.5%	71.5%	64.5%	65.8%
Tuenti	71.5%	72.5%	83.9%	86.9%	78.3%	81.0%	84.0%
Twitter	25.0%	26.3%	38.9%	43.9%	37.5%	32.4%	36.0%
Fotolog	4.2%	4.5%	8.4%	13.9%	7.8%	8.0%	6.1%

Note: Statistically significant differences with a significance level of 0.05 are marked in bold type.

observed due to whether the establishment is state or privately owned.

Looking at social network practices, chatting stands out, with three-quarters of the adolescents admitting that they use the chat function very often. Around half use social networks to watch videos or look at their friends' photos (50.1%),

while 48.3% send messages and 42.6% use them to update their profiles. Taking into consideration aspects more related to content creation, it is noted that the most frequent activity of this type on social networks among the adolescents is uploading personal photos or videos (55.2%), an activity done very often by 25.4% of them. Some 41% state that they upload interesting videos or photos that they have found online and 4.8% say that they participate in forums that create contents.

Considering social network practices by gender and age, we see that girls of all ages send messages (55.6%), update their profiles (48.9%), upload videos they themselves have made (32.6%), watch their friends' videos or photos (9.3%) more often than boys do. Boys, however, upload videos they have found on the Internet (17.9%), shop and sell (2.2%), participate in forums (4.8%) and play (24.4%) to a greater extent than the girls do.

To end, the students at state schools use social networks more than students from private schools to play network games (17.1% compared to 12.7%) and boys classified as lower class watch strangers' videos or photos (11.6%,) more than those classified as upper and middle class do (7.8%).

3.3. Profiles of social network use

This section analyzes the basic characteristics of the different user profiles for social networks. To do this, the variable relating to the use of social networks has been recoded into intensive users (very often), occasional users (occasionally) and non-users (rarely or never), while «don't know/no answer» responses have been taken as lost cases. The most common profile of an intensive social network user is that of a female user aged between 15 and 17. Some 89.5% of them are intensive users compared to 79.3% of boys aged 15-17.

The difference in the level of social network use is not significant by social class for $\chi^2 < 0.05$.

Table 3. User profile of social networks by age group, gender and whether the establishment is state or privately owned (vertical percentages)

	AGE GROUPS		GENDER		STATE OR PRIVATELY OWNED SCHOOL	
	12 to 14	15 to 17	Male	Female	State	Private
Intensive users	72.1%	79.1%	68.1%	84.5%	75.2%	76.5%
Occasional users	13.0%	8.5%	12.4%	8.8%	11.4%	9.4%
Non-users	14.9%	12.4%	19.5%	6.6%	13.4%	14.1%

Note: The differences are statistically significant with a significance level of 0.05.

3.4. Use of social networks and access time

Exploring the relationship between use of social networks and online connection times, the starting hypothesis is that greater use of social networks also entails more time spent online. In the first place, the types of social network users have been cross-referenced with the days on which they go online and, as was anticipated, the intensity of use of social networks is associated with going online daily, with slight variations depending on gender (more intensive use by female users) but with very noticeable differences for the 12-14 age group. These trends are not seen so clearly among the lower class, in which non-users of social networks are five percentage points above occasional users as regards daily Internet use.

Daily use of the Internet is more common among intensive users of social networks, while less frequent weekly use is more common among occasional users and even more so among non-users, who go online to a greater extent either two days per week or one day per week (see table 3).

Cross-referencing the types of users of social networks with the time they usually spend, it is not surprising to see that once again it is intensive social network users who go online the longest on weekdays and also, to a lesser extent, on weekends (more than two hours a day). The percentages of advanced users of social networks who spend over two hours a day online on weekdays (in the three related sections, which comprise between two and three hours, between three and five hours, and more than five hours) double those of the other two groups of users. The situation is somewhat similar at weekends but only as of three hours online per day.

Considering the variables of gender, age, type of education and social class, in general terms the pattern of increased time spent online according to the intensity of use of social networks is upheld in relation to both weekdays and weekends, but once again, among subjects classified as lower class and also among stu-

TIME AND TYPES OF USE	FREQUENCY	INTENSIVE USERS	OCCASIONAL USERS	NON-USERS
Days per week	1 day per week	1.2%	8.0%	14.2%
	2 days per week	5.2%	17.1%	21.4%
	3/4 days per week	14.2%	28.5%	25.1%
	Almost every day	79.4%	46.5%	39.2%
Frequency weekdays	Less than 2 hours	44.6%	64.0%	64.1%
	Between 2 and 3 hours	32.9%	15.9%	11.6%
	Between 3 and 5 hours	13.2%	5.5%	7.3%
	More than 5 hours	6.2%	3.1%	2.7%
	I don't go online	3.1%	11.5%	14.3%
Frequency weekends	Less than two hours	18.9%	40.7%	45.0%
	Between 2 and 3 hours	34.0%	29.5%	26.9%
	Between 3 and 5 hours	25.8%	14.3%	10.0%
	More than 5 hours	19.2%	7.4%	7.1%
	I don't go online	2.2%	8.0%	11.0%
Browsing through websites	Very often	49.5%	37.7%	37.5%
	Occasionally	38.1%	45.3%	41.0%
	Rarely	7.8%	10.5%	13.1%
	Never	4.6%	6.5%	8.4%
Email	Very often	25.3%	20.0%	25.3%
	Occasionally	38.5%	38.3%	29.4%
	Rarely	29.2%	29.9%	23.8%
	Never	7.0%	11.8%	21.5%
Downloading music files, films/series	Very often	42.2%	25.7%	20.3%
	Occasionally	34.9%	34.5%	29.9%
	Rarely	16.0%	25.7%	22.2%
	Never	6.9%	14.1%	27.6%
Instant messaging, phone calls through the Internet (MSM, Messenger, Yahoo! Skype...)	Very often	36.3%	16.1%	19.9%
	Occasionally	26.7%	29.9%	23.5%
	Rarely	22.5%	29.4%	20.6%
	Never	14.5%	24.7%	36.0%
Blogs	Very often	6.1%	4.6%	7.3%
	Occasionally	16.8%	11.6%	9.1%
	Rarely	31.5%	28.3%	21.5%
	Never	45.6%	55.5%	62.0%
Chats and forums	Very often	17.0%	8.0%	8.7%
	Occasionally	17.2%	21.6%	11.6%
	Rarely	28.5%	27.7%	24.0%
	Never	37.4%	42.6%	55.8%
Shared videos (YouTube)	Very often	54.5%	34.0%	29.8%
	Occasionally	31.0%	33.1%	35.5%
	Rarely	7.6%	15.2%	12.9%
	Never	6.8%	17.7%	21.8%
Shared photos like Fotolog	Very often	6.5%	2.3%	1.4%
	Occasionally	10.0%	8.3%	5.2%
	Rarely	21.9%	16.6%	11.9%
	Never	61.6%	72.7%	81.5%
Network games	Very often	14.5%	19.5%	24.4%
	Occasionally	25.4%	25.3%	26.1%
	Rarely	32.0%	29.4%	25.0%
	Never	28.2%	25.9%	24.6%
Virtual worlds (Second Life or Teen Second Life)	Very often	3.6%	3.4%	1.6%
	Occasionally	6.3%	4.6%	4.7%
	Rarely	13.5%	16.1%	15.3%
	Never	76.7%	75.9%	78.3%

Note: statistically significant differences with a significance level of 0.05.

dents of private schools, although to a lesser extent, non-users exceed occasional users.

3.5. Internet practices among users and non-users of social networks

With the exception of network games, intensive

users always show a tendency to make more frequent use of the different applications provided by the Internet. This greater intensity of use is particularly important in the case of downloads of music files, films/series, instant messaging systems, chats and forums, videos and shared photos. These are activities that allow content to be put online to share in social networks (videos, photos, or even music archives), whereas chats and forums and instant messaging refer to activities concerning social relationships that can be carried on through the networks.

Some of the tools which do not have a lineal relationship with social network use are email, instant messaging systems, blogs, and chats and forums, which non-users of social networks take advantage of more frequently than occasional users do but not more frequently than intensive users, perhaps because occasional users satisfy this need through using the tools provided by social networks. However, it can be observed that the percentage of non-users who do not use these services is never higher than that of conventional users.

Considering age, gender, state or privately-owned educational establishments and social class, this does not mean substantial changes in the relationship between types of users of social networks and

online uses since, for those values that maintain statistical significance, there are higher percentages of very frequent use for advanced users of social networks. Finally, the relationship between the type of user of social networks and the creation of websites or blogs has been explored. Intensive users of social networks

are also those who have, to a greater extent than other users, created these spaces (39.9%, 28% and 27.2% respectively for advanced users, occasional users and non-users of social networks). These differences remain if we take into consideration the variables of gender, age, state or private ownership of the educational establishment and social class.

4. Conclusions and discussion

Several conclusions that can be observed that are in accordance with the hypotheses initially put forward. Together with the high participation of minors in social networks, we can see the predominance for adolescents of social networks, followed by sites for sharing videos, general web pages and pages for downloading music files and movie or series files. As in the case of sites for sharing videos, social networks have superseded email and instant messaging as the main focuses of online activity. It has been detected that Tuenti and Facebook predominate at these ages and, in addition, that students aged between 15 and 17 years old get more involved, and that their favorite activities are chatting, watching videos or friends' photos, sending messages, or updating their profiles.

If we take into account social network user profiles, we can see a positive correlation between time spent online and use of social networks. Those who make more intensive use of social networks are those who most commonly take part in online activities, with the exception of online games. These advanced users are particularly active in activities related to obtaining content that can be shared with other «friends» in social networks, such as downloading music files, videos and sharing photos. In contrast to the initial assumption, more intensive users of social networks are also those who have more conversations and share, to a greater extent, content through chats, forums and instant messaging. The first and third hypotheses would therefore be deemed to be verified, that is, that more time is spent online by users who make more frequent use of social networks as well as applications that allow them to obtain content to share with their peers. In effect, it is apparent that users of social networks do make more intensive use of online tools that allow them to obtain content to share with their peers.

However, the data disprove the second hypothesis relating to the displacement of traditional online channels of communication due to involvement in social networks, at least as far as intensive users of these sites are concerned. This means that users who make most use of social networks are also those who make most versatile use of the Internet, using more ser-

vices, who are more differentiated and who combine more the different applications focusing on communication, possibly because they make specialized use of these communication tools depending on online content and on other characteristics of the recipients. This suggests, in line with other studies, that the differentiation of consumption and behavior is more connected to factors such as access time or the individual's profile than to the application or channel.

In addition, the relevance of the variables of gender, age, type of education and social class, on time, frequency, behavior and consumption online. However, it does not imply substantial changes in the relationship between the type of social network user and cyberspace practices. The implications of this discovery are coupled with other concerns.

Some of the questions pending clarification relate to the senses that the adolescents themselves apply to their practices and relationships. Although tackling how the use of social networks can modify other online practices, which is the objective of this article, has not been common in qualitative studies, in turn, establishing relationships between patterns of use and the probability, or manner, of facing the potential risks of cyberspace has opened up as an interesting line of research.

Support

This study presents the results obtained from a Spanish state-wide survey as part of a research project with public and national funding: «Analysis of the use and consumption of media and social networks on the Internet among Spanish adolescents. Characteristics and high-risk practices» (CSO2009-09577), Spanish Ministry of Science and Innovation. Secretary of State for Research. Directorate-General for Research and National R&D Plan Management, directed by Antonio García Jiménez. The research team comprised the following members (in alphabetical order): M^a Carmen Arellano-Pardo, Pilar Beltrán-Orenes, Beatriz Catalina-García, Carmen Gaona-Pisionero, Flavia Gómez-Franco-e-Silva, María Cruz López-de-Ayala-López, Esther Martínez-Pastor, Edisa Mondelo-González, Manuel Montes-Vozmediano, Carmen Pérez-Pais, Rosa Sansegundo-Manuel, José Carlos Sendín-Gutiérrez. This framework program was preceded by the project entitled «Study of uses of Internet among children in the Madrid Autonomous Community. Risks and characteristics», which was also publicly funded (by the Madrid Autonomous Community) and the field work for which was performed throughout the month of October 2009.

References

- AGOSTO, D.E., ABBAS, J. & NAUGHTON, R. (2012). Relationships and Social Rules: Teens'social Network and other ICT Selection Practices. *Journal of the American Society for Information Science and Technology*, 63(6), 1.108-1.124. (DOI: 10.1002/as.22612).
- AHN, J. (2011). The Effect of Social Network Sites on Adolescents' Academic and Social Development: Current Theories and Controversies. *Journal of the American Society for Information Science &*

- Technology*, 62(8), 1.435-1.445. (DOI: 10.1002/asi.21540).
- ARANDA, D. & AL. (2010). Los jóvenes del siglo XXI: prácticas comunicativas y consumo cultural. *II Congreso Internacional AE-IC Comunicación y desarrollo en la era digital*. (www.aeic2010mala-ga.org/upload/ok/204.pdf) (10-09-2011).
- BARKHUUS, L. & TASHIRO, J. (2010). Student Socialization in the Age of Facebook. Proceedings of the 28th Annual ACM Special Interest Group on Computer on Computer Human Interaction Conference on Human Factors in Computing Systems (SIGCHI «10). New York: ACM Press, 133-142.
- BOYD, D. (2007). Why Youth Heart Social Network sites: The Role of Networked Publics in Teenage Social Life. In D. BUCKINGHAM (Ed.), *Youth, Identity, and Digital Media*. Cambridge, MA: MIT Press, 119-142.
- BRINGUÉ, X. & SÁDABA, C. (2009). *La generación interactiva en España. Niños y jóvenes ante las pantallas*. Madrid: Fundación Telefónica. (www.fundacion.telefonica.com/.../generacionesinteractivas.pdf) (12-04-2012).
- BRINGUÉ, X. & SÁDABA, C. (2011). *Menores y redes sociales*. Madrid: Fundación Telefónica. (www.generacionesinteractivas.org/-wp-content/uploads/2011/01/Libro-Menores-y-Redes-sociales_Fin.pdf) (08-04-2012).
- BUCKINGHAM, D. (2010). Do We Really Need Media Education 2.0? In K. DROTHNER & K. SCHRODER (Eds.), *Digital Content Creation: Perceptions, Practices, & Perspectives*. New York: Peter Lang.
- CHEUNG, C., CHIU, P.W. & LEE, M. (2011). Online Social Networks: Why do Students Use Facebook? *Computers in Human Behavior*, 27, 1.337-1.343. (DOI: 10.1016/j.chb.2010.07.028)
- DUERAGER, A. & LIVINGSTONE, S. (2012). *How Can Parents Support Children's Internet Safety?* London (UK): EU Kids Online. (www2.lse.ac.uk/media/lse/research/EUKidsOnline/EU%20Kid2-0III/Reports/ParentalMediation.pdf) (12-04-2012).
- ELLISON, N., STEINFELD, C. & LAMPE, C. (2007). The Benefits of Facebook Friends: Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer Mediated Communication*, 12, 1.143-1.168. (DOI: 10.1111/j.1083-6101.2007.00367.x).
- ESPINAR, E. & GONZÁLEZ, M.J. (2009). Jóvenes en las redes sociales virtuales: un análisis exploratorio de las diferencias de géneros. *Feminimo/s*, 14, 87-105.
- EYNON, R. & MALMBERG, L. (2011). A Typology of Young People's Internet Use: Implications for Education. *Computers & Education*, 56, 585-595. (DOI: 10.1016/j.compedu.2010.09.020).
- FLANAGIN, A.J. (2005). IM Online: Instant Messaging Use among College Students. *Communication Research Reports*, 22 (3), 175-187. ([www.comm.ucsb.edu/faculty/flanagin/CV/Flanagin2005-\(CRR\).pdf](http://www.comm.ucsb.edu/faculty/flanagin/CV/Flanagin2005-(CRR).pdf)) (1-06-2012).
- FUNDACIÓN PFIZER (2009). *La juventud y las redes sociales en Internet. Informe de resultados de la encuestas*. (www.fundacionpfizer.org/docs/pdf/Foro_Debate/INFORME_FINAL_Encuest_a_Juventud_y_Redes_Sociales.pdf) (20-09-2011).
- GABINO, M.A. (2004). Niños y jóvenes como usuarios-receptores virtuales e interactivos. *Comunicar*, 22, 120-125. (www.comunicarjournal.com/index.php?contenido=detalles&numero=22&articulo=22-2004-18) (02-07-2012).
- GARCÍA, A. (Coord.) (2010). *Comunicación y comportamiento en el ciberespacio. Actitudes y riesgos de los adolescentes*. Barcelona: Icaria.
- GARMENDIA, M., GARITAONANDIA, C. & AL. (2011). *Riesgos y seguridad en Internet: los menores españoles en el contexto europeo*. (www.ehu.es/eukidsonline) (10-04-2012).
- GROSS, E.F. (2004). Adolescent Internet use: What We Expect, What Teens Report. *Journal of Applied Developmental Psychology*, 25(6), 633-649. (DOI: 10.1016/j.appdev.2004.09.005).
- INTECO (2011). Estudio sobre la seguridad de la información y la e-confianza de los hogares españoles. 2º cuatrimestre de 2011 (16ª oleada). *Observatorio de la Seguridad de la Información, INTECO*. (www.inteco.es/Seguridad/Observatorio/Estudios/Estudio_hogares_2C2011) (10-04-2012).
- LENHARDT, A. & MADDEN, M. (2005). *Teen Content Creators and Consumers*. Washington, DC: Pew Internet & American Life Project, November 2. (www.pewinternet.org/PIP/r/166/report_display.asp) (12-04-2012).
- LENHART, A. & MADDEN, M. (2007). *Social Networking Websites and Teens: An Overview*. (www.pewinternet.org/pdfs/PIP_SNS_data_Memo_Jan_2007.pdf) (12-04-2012).
- LENHART, A., PURCELL, K. & AL. (2010). *Social Media and Mobile Internet Use among Teens and Young Adults*. (www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx) (13-04-2012).
- LEVINE, L.E., WAITE B.M. & BOVMAN, L.L. (2007). Electronic Media Use, Reading, and Academic Distractibility in College Youth. *Cyberpsychology Behavior*, 10(4), 560-566. (DOI: 10.1089/cpb.2007.9990).
- LIU, Q.X., FANG, XY. & AL. (2012). Parent-adolescent Communication, Parental Internet Use and Internet-Specific Norms and Pathological Internet Use among Chinese Adolescents. *Computers in Human Behavior*, 28, 1.269-1.275. (DOI: 10.1016/j.chb.2012.02.010).
- LIVINGSTONE, S. (2008). Taking Risky Opportunities in Youthful Content Creation: Teenagers' Use of Social Networking Sites for Intimacy, Privacy and Self-expression. *New Media & Society*, 10, 393-411. (DOI: 10.1177/1461444808089415).
- LIVINGSTONE, S. & BRAKE, D.R. (2010). On the Rapid Rise of Social Networking Sites: New Findings and Policy Implications. *Children & Society*, 24, 75-83. (DOI: 10.1111/j.1099-0860.2009.00243.x).
- LIVINGSTONE, S., HADDON, L. & AL. (2011). *Risks and Safety on the Internet: The Perspective of European Children. Full Findings*. LSE, London: EU Kids Online. (www.eprints.lse.ac.uk/33731/1-Risks_and_safety_on_the_internet_the_perspective_of_European_children.pdf) (15-06-2012).
- LIVINGSTONE, S. & HELSPER, E. (2010). Balancing Opportunities and Risks in Teenagers' Use of the Internet: the Role of Online Skills and Internet self-efficacy. *New Media & Society*, 12, 2, 309-329. (DOI: 10.1177/1461444809342697).
- MEDIAPRO (2006). *Mediapro. A European Research Project for the Appropriation of New Media by Youth (online)*. Brussels: European Commission. (www.mediapro.org/publications/finalreport.pdf) (10-04-2012).
- MESCH, G. (2001). Social Relationships and Internet Use among Adolescents in Israel. *Social Science Quarterly*, 82, 329-340. (DOI: 10.1111/0038-4941.00026).
- MESCH, G.S. & TALMUD, I. (2007). Similarity and the Quality of Online and Offline Social Relationships among Adolescents in Israel. *Journal of Research on Adolescents*, 17, 455-466. (DOI: 10.1111/j.1532-7795.2007.00529.x).
- MORENO, M.A. & AL. (2012). Internet Use and Multitasking among Older Adolescents: An Experience Sampling approach. *Computers in Human Behavior*, 28, 1097-1102. (DOI: 10.1016/j.chb.2012.01.016).
- NIE, N. (2001). Stability, Interpersonal Relationships and the Internet: Reconciling Conflicting Findings. *American Behavioral Scientist*, 45, 420-435. (DOI: 10.1177/00027640121957277).
- NYLAND, R. (2007). *The Gratification Niche of Internet Social Networking, E-mail, and Face-to-face Communication. Master's Thesis Submitted to the Faculty of Brigham Young University*. ([www.comm.ucsb.edu/faculty/flanagin/CV/Flanagin2005\(CRR\).pdf](http://www.comm.ucsb.edu/faculty/flanagin/CV/Flanagin2005(CRR).pdf)) (10-04-2012).

- PATCHIN, J.W. & HINDUJA, S. (2010). Trends in Online Social Networking: Adolescent Use of MySpace over Time. *New Media & Society*, 12(2), 197-216, (DOI: 10.1177/1461444809341857).
- PEARSON, J.C., CARMON, A. & AL. (2010). Motives for Communication: Why the Millennial Generation Uses Electronic devices. *Journal of the Communication, Speech & Theatre Association of North Dakota*, 22, 45-55.
- PÉREZ, R. (2005). Alfabetización en la comunicación mediática: la narrativa digital. *Comunicar*, 25, 165-175. (www.comunicarjournal.com/index.php?contenido=detalles&numero=25&articulo=25-2005-023) (02-07-2012).
- PURCELL, K. (2011). Trends in Teen Communication and Social Media Use (Pew Internet & American Life Project). Presentation given at *Joint Girl Scout Research Institute/Pew Internet Webinar*. (www.pewinternet.org/Presentations/2011/Feb/PIP-Girl-Scout-Webinar.aspx) (13-04-2012).
- SÁNCHEZ, A. & FERNÁNDEZ, M.P. (2010). *Informe Generación 2.0, 2010. Hábitos de los adolescentes en el uso de las redes sociales*. (<http://escacc.cat/docroot/escacc/includes/elements/fitxers/1111/ge neracin2-0.pdf>)
- SUBRAHMANYAM, K. & GREENFIELD, P. (2008). Online Communication and Adolescent Relationships. *Children and Electronic Media*, 18 (1), 119-146. The Future of Children. (www.futureofchildren.org/future-ofchildren/publications/docs/18_01_06.pdf) (05-05-2012).
- SUBRAHMANYAM, K., REICH, S. & AL. (2008). Online and Offline Social Networks: Use of Social Networking sites by Emerging Adults. *Journal of Applied Developmental Psychology*, 29, 420-433. (DOI: 10.1016/j.appdev.2008.07.003).
- UTZ, S., TANIS, M. & VERMEULEN, I. (2012). It Is All About Being Popular: The Effects of Need for Popularity on Social Network Site Use. *Cyberpsychology Behavior and Social Networking*, 15 (1), 37-42, (DOI:10.1089/cyber.2010.0651).
- VALCKE, M., DE-WEBER, B. & AL. (2011). Long-term Study of Safe Internet Use of Young Children. *Computers & Education*, 57, 1.292-1.305.(DOI: 10.1016/j.compedu.2011.01.010).
- VALKENBURG, P.M. & PETER, J. (2007). Preadolescents' and Adolescents' Online Communication and their Closeness to Friends. *Developmental Psychology*, 43(2), 267-277. (DOI: 10.1037/0012-1649.43.2.267).
- VALKENBURG, P.M. & PETER, J. (2009). Social Consequences of the Internet for Adolescents: A Decade of Research. *Current Directions in Psychological Science*, 18(1), 1-5.(DOI: 10.1111/j.1467-8721.-2009.01595.x).
- VALKENBURG, P. M. & PETER, J. (2011). Online Communication among Adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health*, 48(2), 121-127. (DOI: 10.1016/j.jadohealth.2010.08.020).
- WALSH, S., WHITE, K. & YOUNG, R. (2009). The Phone Connection: A Qualitative Exploration of How Belongingness and Social Identification Relate to Mobile Phone Use amongst Australian Youth. *Journal of Community & Applied Social Psychology*, 19, 225-240. (DOI: 10.1002/casp.983).