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Critical Citizenship and Social Empowerment in the Emerging Cybersociety

Ciudadanía crítica y empoderamiento social en la emergente cibersociedad

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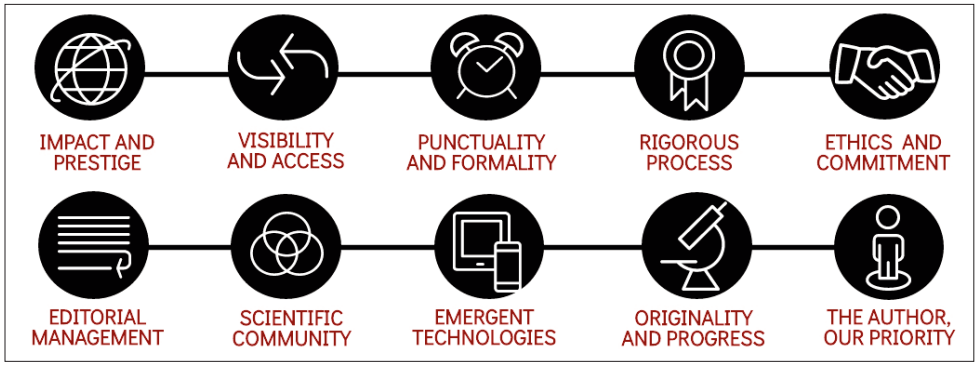

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Meta-synthesis of Literacy for the Empowerment of Vulnerable Groups

Metasíntesis en alfabetización para el empoderamiento de grupos vulnerables

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ABSTRACT
The vulnerability translates in concrete human groups that, although they know what occurs around them in a digital matter, by his own social and cultural condition they are alienated and, in this sense, away of the exercise of the information right. The aim has been to analyze the critical, media and digital literacy for the empowerment of vulnerable groups. The systematic review of the literature (meta-synthesis) covers the period between the years 1996-2016 and launched 202 documents, of which 117 fulfilled the inclusion criteria (105 documentary investigations and 12 qualitative studies). The results indicate that boys, teenagers and adults have been benefited and empowered by this literacy, many of them with low educational levels, in an economical disadvantage situation or have been alienated or excluded socially and culturally. The informal spaces for the media and digital training prevail as well as the reconceptualization reflection of the literacy, the reason why the vulnerable groups move away of his profits, like the influence of the empowerment in the social and personal sphere and the educational and communicational implications for those who have the responsibility of empower. It concludes that the groups are vulnerable if only they stay ignorant and that teach them to read and write empower them for the citizen life.

RESUMEN
La vulnerabilidad se traduce en grupos humanos concretos que, si bien conocen lo que ocurre alrededor de ellos en materia digital, por su propia condición social y cultural están marginados y, en ese sentido, alejados del ejercicio del derecho a la información. El objetivo ha sido analizar la alfabetización crítica, mediática y digital para el empoderamiento de grupos vulnerables. La revisión sistemática de la literatura (meta-síntesis) abarca el período comprendido entre los años 1996-2016 y arrojó 202 documentos, de los cuales 117 cumplieron con los criterios de inclusión (105 investigaciones documentales y 12 estudios cualitativos). Los resultados indican que niños, adolescentes y adultos se han beneficiado y empoderado de esta alfabetización, incluso con niveles bajos de educación, con situación de desventaja económica, con altos niveles de exclusión social o cultural. Son los espacios informales los que prevalecen para esta formación mediática y digital y la reflexión sobre la necesaria alfabetización. Se analiza también en este estudio la influencia del empoderamiento en la esfera social y personal, y las implicaciones educativas y comunicacionales para quienes tienen la responsabilidad de empoderar. Se concluye que los grupos son vulnerables si solamente se mantienen con bajos niveles de formación y que alfabetizarlos otorga el empoderamiento requerido para la vida ciudadana.

KEYWORDS | PALABRAS CLAVE
Critical literacy, media literacy, digital literacy, empowerment, disadvantage groups, training, democracy, citizenship.
Alfabetización crítica, alfabetización mediática, alfabetización digital, empoderamiento, grupos vulnerables, formación, democracia, ciudadanía.

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1. Introduction

As individuals, we are not capable of controlling the media, nor are we capable of controlling the technological changes that are associated with communications. But, when a citizen communicates using forms of digital media, they take advantage of their empowerment and participation (Giddens, 2007).

Citizens have the right to investigate information (ONU, 1948). This right establishes that subjects procure the information that is needed for their lives. Today, with the digital explosion, subjects can individually procure information and produce information for others using their own resources (López & Aguaded, 2015).

As shown by Area, Gutiérrez and Vidal (2012, quoted by Gertrudix-Barrio, Galvez, Said-Hung, & Duran-Medina, 2016: 114), "literacy is a concept but also a social practice, which varies according to the cultural and technological contexts of every era". Therefore, processes of media literacy, critical literacy, and digital literacy provide the literate with the skills that are needed to use the technologies for which they were trained, managing the different formats as well as reading and interpreting media (UNESCO, 2011).

This paper develops three kinds of literacy –Critical, Media and Digital– and a particular binder, the empowerment. Each one is defined in the following paragraphs.

Critical literacy can promote multicultural literacy because it is designed to foster understanding regarding the heterogeneity of the cultures and subcultures that are compound by the world's global and multicultural fabric (Courts, 1998). It promotes democracy and proposes democratization and participation by favouring the use of media instruments, which enables change in social communication (Semali & Hammett, 1998).

This literacy regarding media teaches students to learn about media, to resist media manipulation, and to use media constructively. The development of these tools helps create good citizens who are competent and motivated to participate in social life (Livingstone, 2004; Semali & Hammett, 1998).

The concept of media literacy turns students and teachers into critical thinkers, empowering them in this manner (Rodesiler, 2010) because it includes the variety of technologies through which students access, analyze, evaluate, produce, and communicate information, as opposed to being passive observers within the media frameworks. All of this is achieved through the use and mastery of technology (Sperry, 2006), with the primary objective of the education being to foster active citizens within a social and political democracy (Phillippi & Avendaño, 2011).

Clearly, mastering media entails a series of risks, particularly for vulnerable groups (Livingstone, 2009a). Adding the various phenomena of communications and information, including transmedia storytelling (Jenkins, 2010), as well as various types of mediations (language, money, myths), generates confusion among vulnerable groups due to the mediations themselves (Livingstone, 2009b).

Media literacy can be defined as "the knowledge, skills and competencies that are required to use and interpret media" (Buckingham, 2003: 36). Thus, media literacy seeks to provide the following four elements: access, analysis, evaluation, and content creation. Each of these elements supports the others in a dynamic manner (Livingstone, 2004). Hobbs (1998) considers that media information is constructed as a product of the social situation, and affects people who live in that world.

To these considerations, Jenkins (2006a) adds the recreational focus of contemporary media technology, which can sometimes be used to support issues of civic importance. Similarly, popular culture can lead to more substantive forms of citizenship through new modes of participation such as using new forms of communication (Jenkins, 2006b).

The last notion begins with Gilster's (1997) concept of digital literacy, which presents the educational terms that are part of formal education, as well as recognizing the importance of digital technology due to the Internet revolution, which led to the necessary training of students in information technology, applied to both texts and multimedia information, considering cultural, civic, and economic participation (Aabo, 2005). Along with the rise of Web 2.0, the need to express, create, share, and interact with information has become inherently squishy (Chase & Laufenberg, 2011).

Castells (2009) understands these characteristics of communication as multimodal because they concern the form in which the reader not only consumes digital information, but also becomes capable of creating and publishing digital content, given that consumption shifts from prime time to my time, and involves simultaneous communications practices. Empowerment is the relationship of power within a person, generating self-confidence, consciousness, and assertiveness over that power (Oxaal & Baden, 1997).

In the case of empowerment through critical literacy, media literacy or digital literacy, citizens are empowered with the aim of lessening their vulnerability, and by gaining literacy in the symbolism of media, they can exercise

their power vis-à-vis the media itself, and be able to influence those who have an interest in following them (Castells, 2009). Therefore, this study is justified because, the empowerment of people in all aspects of their lives to reach their personal, social, occupational, and educational goals is a basic right in a digital world that promotes social inclusion (UNESCO, 2011).

This paper aims to address the following research questions:

- What are the reasons for inequity and exclusion in education and access to information and technology?
- What characterizes literacy for the empowerment of minority groups?
- What are the educational and communications implications that favor empowerment for these groups?

2. Material and methods

Metasynthesis is a type of systematic-critical review that is very useful for building, describing, or explaining theories regarding phenomena of interest to different disciplines. It offers evidence through a rigorous process of analyzing, interpreting, and integrating the results of primary qualitative studies (Sandelowski & Barroso, 2003; Walsh & Downe, 2005) across six phases: identifying the phenomenon to be studied (Jensen & Allen, 1996); performing readings of the studies; determining the relationships among the studies; translating the studies into each other (Beck, 2001; Nelson, 2002); synthesizing the translations (Beck, 2001); and expressing the synthesis (Noblit & Hare, 2001).

This study is justified because, the empowerment of people in all aspects of their lives to reach their personal, social, occupational, and educational goals is a basic right in a digital world that promotes social inclusion. This paper aims to address the following research questions: What are the reasons for inequity and exclusion in education and access to information and technology? What characterizes literacy for the empowerment of minority groups? What are the educational and communications implications that favor empowerment for these groups?

The literature review was conducted using databases (Scopus, Taylor and Francis, Science, WOS) and specialized journals in the areas of "education research" and "communication" ("Historia y Comunicación Social", "Estudios del Mensaje Periodístico", "Comunicar", "Communication Research", "Communication and Society", "Journal of Adolescent and Adult Literacy"). The descriptors used were empowerment (topic) and literacy (title) with each of the following variations: Media, Computer, Technology, Information, Electronic, Library, Network, Internet, Hyper, and Digital.

The criteria for inclusion were as follows: documental studies, qualitative empirical studies, full texts written in English or Spanish, published between 1996 and 2016, employing the tools of media literacy, critical literacy, and digital literacy through training classes, workshops, or programs aiming to empower people (being understood as the process of acquiring power by individuals in situations of inequality with respect to others, whether collectively or individually, to make decisions regarding their lives, participate, and achieve positive changes) (Aguado & al., 2010); and belonging to vulnerable groups (defined as those individuals who are not only social minorities in quantitative terms, but also have a marginalized status and a lack of power) (Mucchi, Pacilli, & Pagliaro, 2013).

The documents were analyzed independently by two observers. The inter-evaluator agreement for the coding of the documents was calculated using Cohen´s Kappa coefficient (Cohen, 1968). The result was .73. According to Fleiss's (1981), a Kappa value between .40 and .75 can be interpreted as intermediate to good, and a value above .75 can be considered excellent.

The qualitative analysis was conducted according to the constant comparative method proposed by Glaser and Strauss (1967); hence, it used a first-level analysis (open coding), and a second level analysis (axial coding), without attempting to arrive at selective coding (third-level analysis).

This study employed the following criteria for quality proposed by Lincoln and Guba (1985): dependability (the data have been reviewed by two researchers), credibility (in-depth analysis of the experiences or lives of the participants), transferability (the results can be transferred to similar contexts), and confirmability (researcher bias was minimized).

3. Results

Out of a total of 202 documents listed, only 117 met the inclusion criteria: 105 were documentary research, and 12 qualitative research. The reasons for the exclusion of studies are explained in Figure 1.

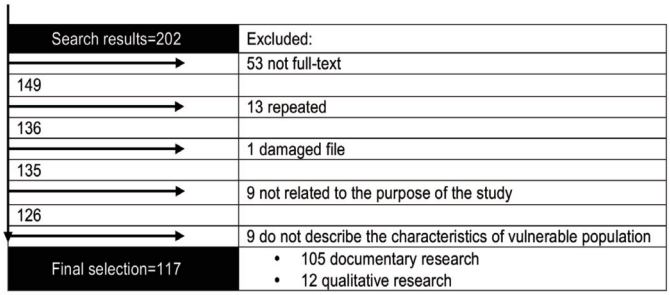

Figure 1. Flow chart.

3.1. Documentary research

The descriptions in the 105 research documents have the following distribution: media literacy (39), information literacy (27), digital literacy (26), technology literacy (8), computer literacy (5), library literacy (3), network literacy (3), Internet literacy (3), electronic literacy (2) and hyper-literacy (0) meaning that more than one was mentioned both in the title and in the main document:

a) 33.33% of the studies analyze the "reconceptualization of the literacy" in the understanding of their own concepts of the media, critical or digital literacy. Of these, 28.57% inquire about the technological change that came paired with the millennium. Others value literacy like a possibility to improve the approximation of the citizens and the vulnerable groups to democracy, social studies, and the institutional (21.42%). Almost half of all studies (42.85%) are focused on comparing literacy from a critical and controversial viewpoint on what it means to access expanding information, to the necessary politics for this. And, in this sense, the challenges that this type of literacy protects are present precisely in this appeal that ICT generates and of how, as much as in aesthetics as in usefulness, it is able to raise the interest of diverse social groups, turning into a point of support for literacy (7.14%)

b) On the other hand, 60% of the researches highlight the "educational implications and best practices". Case studies are dominant in educational praxis: their focus on employment (7.69%), educational innovation (26.92%) bilingualism and its parallelism with the acquisition of tools for electronic literacy (3.84%), and the renewal of educational strategies by means of media literacy.

It is interesting to observe how the capacities of obtaining information are not only intellectual but physical and relative to the surroundings (50%). These capacities empower the individuals and allow them a citizen exercise inside a democratic society. The fast change of styles and forms of obtaining information, can be become a passport to a hopeful future, especially for the case of the refugees. There are interesting comparisons between China and the United States relative to the implications of the media literacy in the education, and the impact of this training in their lives or, how in Singapore, media and informative literacy has been considered part of the educational politics.

In the same order of ideas, aesthetics is also valid when attracting students to the literacy, especially because it allows citizens to express their feelings and perceptions to the social field in which they move (11.53%). Likewise, to study how to keep the attention of the students on diverse contents, allows the introduction of technological elements for the simultaneous training of the formal elements of the education, as well as of the new technologies.

c) The "informal contexts of digital literacy" do not remain behind. 6.66% of the studies ensure that digital literacy was a job of the public libraries, context that allows that a greater contingent of citizens approach this type of literacy.

3.2. Qualitative research

The 12 qualitative studies that met the inclusion criteria were published between 2000 and 2016 in specialized journals in the areas of education (8), inclusive education (2), and technology (2). Ages of participants who benefited from digital literacy (4), media literacy (3), technology literacy (2) and critical literacy (4) ranged from 5 to 70 years. This finding demonstrates a very broad range of interventions designed for students from childhood to university, with some being special needs students or adolescents –some were indigenous or juvenile delinquents–

and adults with low educational levels, teachers, and trainers. A small number had learning or developmental problems (with speaking and language), or suffered from attention deficit disorder with hyperactivity and disruptive behavioural disorders. Some of the studies were designed to work exclusively with women at risk of social exclusion.

Many of the subjects were African-American, Latin American, or Asian, and shared space with Native Americans. All of them were socially, culturally, and economically disadvantaged. The training primarily occurred in community libraries, urban and public educational institutions, government and municipal spaces, rural schools, and other sites.

The categories that have emerged from this qualitative analysis are summarised in three big categories (metaphors) (Table 1).

Table 1. Distribution of the studies according to metaphors and sub-themes

Metaphors	Subthemes	Qualitative studies											
		1	2	3	4	5	6	7	8	9	10	11	12
Illiterate and powerless	(In)visible barriers		★			★	★	★			★	★	
No longer vulnerable: literacy for empowerment	Society and democracy	★			★	★		★		★	★	★	★
	The social and affective self	★	★		★		★	★	★	★	★	★	★
	The intellectual self	★	★	★	★	★	★	★	★	★	★	★	★
Knowing how to empower: straight to the target	The education-communication binomial	★		★	★	★	★	★	★		★	★	

3.2.1. Metaphor 1. Illiterate and powerless

The lowest number of studies concentrates on this metaphor regarding illiteracy and its barriers, though it is based on this that the researchers develop their studies and interventions with vulnerable groups. The barriers are (in)visible because technology has successfully made the computer a cultural symbol, but despite this power, some studies find that users lack technological control, which generates anxiety, resistance, a lack of confidence, and uncertainty regarding the use of technologies (Quarshie, 2004).

Although the use of ITCs is reinforced in school through their application as part of the educational process, in the home, students encounter cultural barriers in terms of their use (Iqbal, Hardaker, Ahmad, & Elbeltagi, 2014). The social perception of ethnic minorities is contrary to their own identities (Kapitzke & al., 2001), and added to this distorted perspective are lowered expectations by teachers. With a lack of cultural continuity between school and home, misunderstandings that ultimately lead to academic failure can rise (Dierdre, 2000).

The problem of inequality regarding technological challenges is viewed in terms of access by students with special educational needs (Kesler, Tinio, & Nolan, 2016) and women in risk of social exclusion (Quarshie, 2004). The lack of access to computers and the Internet in homes and schools is an obstacle to the digital and media literacy (Kapitzke & al., 2001). Not owning a computer places people at a technological disadvantage (Quarshie, 2004; Ryan, 2014).

Students not paying attention to the training that they receive as part of formal education and viewing it as irrelevant, and a lack of updates through a continuous learning process which is necessary for digital literacy, limit possibilities for finding employment (Quarshie, 2004).

3.2.2. Metaphor 2. No longer vulnerable: Literacy for empowerment

The greatest number of studies focus on this metaphor regarding ending illiteracy, addressing the direct relationship between the literate subject and his/her new condition of empowerment in terms of technology and media, as well as his/her ability to appreciate the learning and power that these provide for the individual both in his/her own life, and in the lives of those around them.

a) Society and democracy. When women participate in media literacy courses, the empowerment that they gain reduces discrimination against them (Del-Prete, Calleja, & Gisbert, 2011). The issue is not only about breaking stereotypes, about training and access to technology among vulnerable groups, but also about reducing the generational gap and developing a reflexive act regarding social justice (Nat, 2012), and meeting special educational needs (Kesler & al., 2016).

One of the essential values of digital literacy courses is in their social impact. Vulnerable persons become active citizens through digital media by using them in the following ways (Del-Prete & al., 2011): 1) as an element of communication and a demonstration of being literate; 2) to transform their communicative activity towards the comprehension and production of transmedia narratives as part of critical literacy; and 3) as a tool for freedom by

those who use it daily. Young people's use of media helps them understand freedom of movement, and media also provide access to information about this movement (Sun, Basnyat, Vadrevu, & Hian, 2013) and about civic commitment and community participation (Garcia, Mirra, Morrell, Martinez, & Scorza, 2015; Nat, 2012).

The family plays an important role in the acquisition and control of digital and media literacy in school because parents, not having received this type of training, understand the need for their children to have access to technology as a source of social capital (Quarshie, 2004).

b) The social and affective self. The relationship with photographs allows individuals to sustain ties to their family history and hence to construct and represent a part of their cultural identity and experiences related to technology (Del-Prete & al., 2011). Other experiences with technology among vulnerable adolescents reveal that identities can also be constructed through Rap (Dierdre, 2000) and Hip Hop (Nat, 2012).

The online literacy skills that students develop because of social activity in the classroom generate a positive change in their attitudes towards technology, towards themselves as computer users, and towards school (Kapitzke & al., 2001). These same attitudes are demonstrated by older women (Del-Prete & al., 2011). Thus, when the literate adopts what they have learned as their own, they achieve greater independence (Kesler & al., 2016), and this independence is associated with a higher level of satisfaction and motivation for achievement (Kapitzke & al., 2001).

Training becomes a positive experience that is demonstrated by benefits in terms of self-confidence, self-concept, and self-esteem. It reduces self-doubt and helps individuals manage preconceived notions about their own capabilities (Del-Prete & al., 2011; Garcia & al., 2015; Lee & O'Rourke, 2006).

The literacy process, it has been proven, delivers increased social interaction (Kapitzke & al., 2001). Training becomes a space for opportunities to share individual and collective memories and to redefine individual roles and communicate reflections on life (Del-Prete & al., 2011).

c) The intellectual self. Media literacy training changes the ways in which people understand media information, promoting critical thinking. Media literacy courses for small children help them ask questions about gender, their own use of technology, and the relevance of video games and advertising (Flores-Koulish, Deal, Losinger, McCarthy, & Rosebrugh, 2011; Lee, & O'Rourke, 2006).

Empowerment translates into high levels of comprehension in media literacy about inferential thinking, multiple literacies, and multimodal expression (Kesler & al., 2016), safe navigation through the media (Nat, 2012), and the development of collaborative activities (Garcia & al., 2015).

Learning removes barriers to technology (Del-Prete & al., 2011), increases the levels of digital and media literacy, strengthens collaborative learning, and hence improves interpersonal relationships (Kapitzke & al., 2001).

Some participants believe that the Internet has been an important part of their learning process (Quarshie, 2004; Iqbal & al., 2014). Once the necessary literacy is achieved, it becomes a practice that is rooted in life experiences with a view towards empowerment and social justice, successfully combining academics and critical literacy through the participation of digital media (Garcia & al., 2015).

Empowerment is synonymous with specialized learning (Garcia & al., 2015), in which media are the excuse for their management and application (Flores-Koulish & al., 2011), or it draws on the multimodal production of messages to use semiotic resources, giving interlocutory strength to the messages (Nat, 2012). This empowerment also transcends informal spaces such as extracurricular clubs that promote skills that are not learned in school such as audio-visual management (Ryan, 2014).

When technical problems arise during online activities, solving them generates an equitable relationship between the teacher and the student (Kesler & al., 2016) because, through difficulties, students see that teachers must resolve problems at the same level that they do (Kapitzke & al., 2001). They also learn to identify potential risks that are derived from the socialization in social networks (Sun & al., 2013).

Media literacy can reduce the fear that surrounds technology (Del-Prete & al., 2011) and strengthen decision-making processes (Lee & O'Rourke, 2006) without compromising the enjoyment that is derived from media.

3.2.3. Metaphor 3. Knowing how to empower: Straight to the target

As an expression of the wisdom of knowing how to empower, the education-communication binomial also appears frequently in the different studies analysed. So, the line between the use of technology for education and for recreation by students raises questions regarding how teaching should relate to both domains. Some studies reveal that for young people, the recreational use of technology is separate from its educational uses, as though the

two domains were mutually exclusive (Quarshie, 2004). Although all young students identify school as the site of their first encounter with computers and some indicate that they continue to interact with them in classrooms, more than a few criticize their school's development of behaviors and practices in terms of electronics (Iqbal & al., 2014).

Another problem related to digital and media literacy is that learning technologies has not been integrated into pedagogical practice in classes in many schools. The inclusion of technology in the curriculum responds to the concerns that arise surrounding the connection between learning and everyday life (Kesler & al., 2016).

Some studies suggest the need to adapt technological planning to promote the inclusion of vulnerable people, adjusting the software, particularly for small children, special needs students (Kesler & al., 2016), or students from very disadvantaged areas (Kapitzke & al., 2001). Doing this facilitates the consolidation of knowledge and critical literacy (Lee & O'Rourke, 2006).

Educational success can be directly attributed to the provision of digital resources and especially to teacher training (Iqbal & al., 2014).

The role that the teacher plays as a creator, innovator, and leader in technology (Kesler & al., 2016; Lee & O'Rourke, 2006). Teacher training implies articulating, using existing resources, and working efficiently at the levels of the individual and the group. The experience that teachers gain through training helps them incorporate new communications media for the development of their classes (Flores-Koulish & al., 2011). Table 2 synthesizes the qualitative findings:

4. Discussion and conclusions

The systematic literature review on the issue of digital literacy, empowerment, and overcoming digital vulnerability that is presented here, demonstrates through each of the actors in the analysis, that granting power to citizens allows them to assume control over their lives in terms of information and communication by wielding the creative reality of messages.

Table 2. Relationship of categories with their respective subjects and metaphors

Stop being vulnerable: Literacy for empowerment	Society and democracy	Inclusion Citizen participation, freedom and social justice Equity Family and Community Activities of daily life
	The social and emotional	Personal identity Attitude and independence Motivation, confidence, self-esteem and helps the other social relationship
	The intellectual self	Critical thinking Permanent, specialized learning and new learning Problem solving and decision making
Illiterate and powerless	(In)visible barriers	Segregation and inequality Problems of accessibility and its derivatives Lack of continuing education Anxiety, distrust and uncertainty Lack of awareness Dependence and socialization problems Costs
Empowering knowledge: Straight to the target	Binomial education-communication	Dissemination of experience Recreational and academic use of technology Disconnect between the school and the context Inclusion of technology in the curriculum Adaptation of technology Previous experience and training of trainers Enhance critical literacy and social networks

Vulnerability is significant if it remains in a position of ignorance, since achieving the levels of literacy that are necessary for exercising production and communication expresses empowerment, enabling important transformations in the circumstances of the social groups studied.

The groups analysed that achieved literacy exercise their right to information as individuals who can feel –and are– empowered by their condition of being able to wield digital knowledge. In many of these vulnerable groups, empowerment serves as a platform for social change and to define the conditions of immobility in the face of digital challenges.

Informal contexts are gaining ground in literacy because they represent "the real world" or "an authentic context" (Chase & Laufenberg, 2011) in which young people can develop a command of digital literacies for the creative and responsible use of a broad range of new communications media (Underwood, Parker, & Stone, 2003); understand the educational value of YouTube videos and the benefits of reusing content to build communities of learning and informal learning among peers (Tan, 2013); or work through online platforms as an experience in multicultural education (Kim, 2016), in which young people consume texts from media that are produced in geographically distant places,

and compose their own multimodal texts that are based on that media. In this manner, children use game and social media tools to increase their levels of intrinsic motivation, which become beneficial tools for socio-culturally disadvantaged students who come from homes in which the parents have a low level of training (Reynolds & Chiu, 2013). Multimodal texts offer adolescents opportunities to try out literacy practices because they increase their level of commitment and favor self-management (Brown, 2016). The use of commercial video games combined with other media develops the critical capacity of young students (Checa-Romero, 2016).

This critical thinking regarding the media is what fosters empowerment vis-à-vis messages from the media, which are much stronger than personality traits (Austin, Muldrow, & Austin, 2016).

Digital and media literacy training among vulnerable groups (Gozalvez & Contreras-Pulido, 2014: 130) "is key for empowerment when it is understood that empowering citizens means reinforcing freedom, critical autonomy, and citizen participation in political, social, economic, and intercultural issues based on the proper use of media and communications technology".

The common determinants of a positive and participatory focus to counteract disempowerment among individuals and groups are the "consciousness process" (Freire, 1970), understood as the development of critical thinking through the exchange of shared ideas, practice, and knowledge within a community (Campbell & Jovchelovitch, 2000). A sense of belonging to a community and the exchange of knowledge and arguments, in the context of a lack of media information, can become a source of personal resistance (Garmezy, 1991).

As argued by Dewey (1997), education is necessary because it allows people to participate in democracy and because strong democracies are not possible without trained, informed, and literate citizens. There are key links among literacy, democracy, empowerment, and social participation in politics and in everyday life. Without the development of adequate literacies, the differences between the "haves" and the "have-nots" cannot be overcome because individuals and groups will remain outside of the new global economy, online society, and culture.

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Connected Teens: Measuring the Impact of Mobile Phones on Social Relationships through Social Capital

Adolescentes conectados: La medición del impacto del móvil en las relaciones sociales desde el capital social

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ABSTRACT

Over the past twenty years, the high penetration of mobile phones as a means of interpersonal communication, especially among adolescents, has facilitated access to broader social environments outside their own family. Through the extension of their social environment, teenagers are able to establish new and more extensive relationships, while facing risks that may negatively affect their socialization process. The aim of this article was to find out how computer-mediated communication helps or obstructs the creation of social capital between teenagers, and what are the consequences of its use for this age group. To achieve this, an index of social capital was developed in the study, designed to determine the positive or negative impact of certain components of mobile mediated communication in the creation of this intangible resource. Questionnaires were distributed among Spanish adolescents of secondary and high school age, from different public and private schools of Navarre. Furthermore, the study considered the adolescents' own perceptions about the incidence of the use of mobile phones in their social relationships. As reflected in the results, to identify the components of mediated communication that significantly affect social capital it is necessary to conduct an objective measurement of this resource.

RESUMEN

La alta penetración del teléfono móvil entre los adolescentes y su uso como medio de comunicación interpersonal ha facilitado para este público el acceso, durante los últimos veinte años, a entornos más amplios, distintos al familiar. A través de la extensión de su ámbito social, estos son capaces de establecer nuevos vínculos y relaciones más extensas, al tiempo que se enfrentan a riesgos que afectan de manera negativa a su proceso de socialización. El objetivo de este trabajo fue conocer de qué manera la comunicación mediada por la tecnología favorece o no la creación de capital social entre las comunidades de adolescentes, y cuáles son las consecuencias que pueden resultar de su uso para este grupo de edad. Para ello se propuso un índice de capital social, que permitiera conocer el impacto positivo o negativo que tienen determinados componentes de la comunicación mediada por el móvil en la creación de este recurso. Se repartieron cuestionarios entre jóvenes españoles de la ESO y Bachillerato, en colegios públicos y privados de la Comunidad Foral de Navarra. Además, se tuvo en cuenta la propia percepción de los adolescentes, sobre la incidencia del uso de este dispositivo en sus relaciones sociales. Tal como reflejan los resultados, solo a través de una medición objetiva del capital social es posible identificar aquellos componentes de la comunicación mediada que afectan de manera significativa a este recurso.

KEYWORDS | PALABRAS CLAVE

Adolescents, mobile phones, screens, computer-mediated communication, social capital, relationships, communities, friendship.
Adolescentes, teléfonos móviles, pantallas, comunicación mediada, capital social, relaciones, comunidades, amistad.

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1. Introduction and statement of the question

Digital technology has achieved great importance among adolescents, and it makes up a large part of their daily activities in various contexts, including the family, education, and social settings. The mobile phone is of great importance in the world of technology because it is adaptable to specific social and consumer needs.

The impact of mobile phones on adolescent social relationships deserves particular attention because younger social groups use technology to a great extent, and mobile phones facilitate this process. The activities that adolescents engage in online and offline are challenging to disentangle and at the same time mutually influence one another (Boyd, 2014; Korchmaros & al., 2013). Mobile phones are worth studying because of their communication function, as well as the fact that adolescents are early adopters of this particular technology. The objective of this study was to understand how mobile phones influence communication mechanisms within adolescent social settings, as well as how it differs from face-to-face interactions.

The quality of relationships, specifically those that have been transported to online social networks and virtual communities, is still challenging to measure, and that is why it is advantageous to employ the concept of social capital. The intention of this study is to understand the potential positive impact that mobile phones have on the quality of adolescent social relationships by using the concept of social capital and its role in adolescent communities.

The hypothesis proposed is that the objective measure of social capital permits the identification of the components of communication conducted using mobile devices that significantly impact the social relations of adolescents.

1.1. Social capital

Many of the key motives for involvement in virtual communities or communication via internet are primarily intangible, such as, searching for information and opinions, friendships, support and confidence or the sense of belonging to a group (Baym, 2011; Jenkins, Ford, & Green, 2015; Korchmaros & al., 2013; Smith, Himelboim, Rainie, & Shneiderman, 2015). By means of this analysis and the benefits obtained through mobile phone communication, the concept of social capital emerges often. This term is understood as a series of resources that unites individuals in a community and enriches the relationships, as well as benefits the development of said relationships (Smith, 2014). The exploration of social capital has been the object of study for more than three decades (Bourdieu, 1980, 2002; Coleman, 1988; Bourdieu & Wacquant, 1992; Portes, 1998; 2014; Durston, 2000; Putnam, 2000, 2001; Neira, Portela, & Vieira, 2010). According to Bourdieu (1986: 248), the person who coined the term, social capital refers to "the aggregate of actual or potential links to stabilize social relationships that are relatively formal and where there is mutual awareness and acknowledgement".

Bourdieu (1986) grants this concept an active meaning, which highlights the benefits that individuals acquire through participating in groups and the deliberate building of relationships with the goal of creating and obtaining resources. He distinguishes between two elements of social capital: 1) social networks that permit members claim to or the ability to access distinctive resources, and 2) the quantity and quality of these relationships.

Years later, Bourdieu and Wacquant (1992: 119) defined social capital as, "the sum of the resources, real or virtual, that could reach another person or group via networks of relationships of mutual awareness and acknowledgement that are relatively institutionalized". In other words, the relationships can make the resources that are obtained vary in function and form.

Later on, Putnam (2000: 21) defined social capital as "social networks and norms that are reciprocated", and posed that this concept fell into different customs and dimensions in reference to different matters or problems. In his book "Bowling Alone" he describes how the civic participation in the United States underwent typical ups and downs in the twentieth century until finally plateauing considerably in the present time. This shifted the U.S. from a strong and active civil society to a more individualistic culture. Putman claims that social capital –the connection between families, friends, and neighbors– disintegrated and has led to the destitution of cities (Putnam, 2000). This author distinguishes between inclusive social capital or "bridging social capital" and exclusive social capital or "bonding social capital" to refer to the distinct quality of the different ties that are generated among people that form part of those networks. In other words, social capital may be voluntary or necessary. For insiders it tends to reinforce exclusive identities and homogenous groups; meanwhile, groups that are more open permit diversity but the ties are usually weaker (Putnam, 2000: 22).

In addition to exclusive and inclusive social capital, Ellison, Steinfield and Lampe (2007) analyze another type of social capital, which they termed "maintained" to refer to weak links that people sustain when they are physically apart and allow for relationship to continue in spite of the distance.

The extent and quality of the links that people form among each other, along with other environmental factors, can influence social capital in communities and society in general. Among these factors, technology emerges as a medium of interpersonal communication that facilitates access among adolescents in wider environments, different from the more familiar scope. For this reason, it is necessary to conduct an updated analysis in terms of internet usage and digital screens.

Numerous investigations have already addressed the relationship between adolescent participation in online social networks and the subsequent social capital generated (Ellison & Vitak, 2015; Hampton, Lee, & Her, 2011; Lambert, 2015; Liu & Brown, 2014; Sádaba & Vidales, 2015; Wu, Wang, Su, & Yeh, 2013; Xie, 2014). However, there is still a need to develop an adequate method to measure this intangible resource –social capital– to understand the influence that mobile communication has on adolescents' social relationships.

1.2. Measurement of social capital generated via communities

Putnam (2001) proposed some indicators to measure social capital in the United States. Previously, different scales were developed with the purpose of measuring social capital produced in social networking sites (i.e., internet) (Appel & al., 2014; Hooghe & Oser, 2015; Jiang & de-Bruijn, 2014). Williams (2006) investigated the quality or characteristics of online relationships and conducted his analysis using the Internet Social Capital Scale (ISCS). In addition, he proposed distinctions between the social capital constructed via the internet or technology and social capital constructed in a material environment.

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As previously stated, mobile phones reinforce bonds among people. Schrock (2016) analyzes the different uses of Facebook by means of mobile phones and how this impacts individual social capital. His findings show that the principle emotional link is related to the frequency to which individuals create, edit, and publish images and videos as opposed to the type of content. Therefore, certain elements are offered as a result of mobile phones, distinguishing them from other technologies, and could influence the generation of social capital among communities in a special way.

In an attempt to understand the impact that the internet and mobile phones have on social capital among communities, Katz, Rice, Acorda, Dasgupta, and David (2004) analyze different communication mechanisms that could impact these resources: interactions over the internet and physical environment, the number of contacts, the composition of the communities, the frequency and spontaneity of communication, the local/global location of contacts, confidence, distance, speed, identify, and control. Their theory differs from those developed by Hooghe and Oser (2015), Jiang and de-Bruijn (2014) who focused on the general impact that the internet (as well as other traditional resources like television) have on social capital. In this study, there is special attention devoted to mobile phones' impact on adolescents' social relationships due to the scarce research dedicated to this area.

Even though Katz and colleagues (2004) developed ten communication mechanisms that influence social capital related to mobile phones, the scale is reformulated in this study because some of the components are vague and potentially consequences as opposed to elements of communication. For example, confidence, cooperation, institutional effectiveness, and mutual support could be considered consequences of social capital (Putnam, 2000:22).

Our research is in line with Papacharissi (2005), Schrock (2016: 8), who affirm that mobile social resources are not constituted by new environmental relationships; rather, they produce new forms of fine-tuning social contact, managing time, and expressing identity. For this reason, adolescents do not always distinguish between the virtual

world of the internet and the material world. The activities they engage in and the relationships they maintain with their peers are blended continuously in both contexts (Bauwens, 2012). However, Katz and colleagues (2004) believe that positive communication and relationships can only be established if the correct distinction is made between the virtual world and material world.

The next section describes the research conducted on how adolescents use mobile phones and how it influences their relationships.

2. Materials and methodology

The following research questions are investigated:

- Do mobile phones influence communication in adolescents' social relationships?
- What are adolescents' perceptions of the influence mobile phones have on their relationships?
- What relationship exists between perceived social capital and objective social capital generated in adolescent communities via mobile phones?

To respond to these questions and understand the impact that mobile phone usage has on adolescent social relationships, Katz and colleagues' (2004) theory of communication mechanisms was utilized. Using the same process used by the aforementioned authors, our study opted to measure the communication mechanisms using an indirect method to help explore the behavior of the adolescents with respect to each component. All ten of Katz (2004) components were considered in the creation of the questionnaire; however, only the components that clearly explained the impact of mobile phones on social capital were considered in the analysis. Table 1 shows questions 18-44 of the questionnaire paired up with the components.

Each one of these variables was translated into questions for the questionnaire, utilizing a Likert Scale ranging from 1 to 5, with higher numbers indicating higher frequency, quantity, or importance. Questions that helped define the technological profile of the adolescents, as well as demonstrated general usage of internet social networks, were also included in the questionnaire. The questionnaire had a total of 45 questions, most of which required a single response and only two allowed for multiple responses. The validation of the questionnaire was accomplished with a pilot study, which was a representative sample with significant data. This allowed for corrections and the elimination of two questions that did not generate relevant information.

2.1. Design of the sample

The distribution of the sample was proportional according to type of school, public or private, and academic level, including secondary and high school. The total population considered were secondary and high school students within the Community of Navarre (MEDC, 2016). The confidence interval used was at 95% with a margin of error of 5%. The minimum size recommended for our sample was 552 students. After adding 10% of

Table 1. Mechanisms of communication via mobile phones according to Katz and others (2004) and other variables

Mechanisms of CMC	Variables
Interactions online and the physical environment	- Frequency of accessing the internet using mobile phone - Importance of this space - Frequency of face-to-face activities
Number of contacts	- Number of contacts in main social network - Those who are most similar - Degree to which online friends are known in real life
Composition of communities	- Relationship via mobile phone - Relationship in physical environments
Frequency, spontaneity	- Frequency of communication using mobile - Active/passive position
Local/global	- Principle relationships by means of the mobile - Strong/weak relationship
Confidence	- Quantity of information shared via mobile - Basic/personal/both information - Open/private spaces - Face-to-face communication
Distance	- Closeness to friends by means of mobile - Remoteness to friends by means of mobile
Speed	- Speed of own responses - Speed of foreign responses
Identity	- Importance placed on comments made online social networks - Frequency of changing profile picture - Need to communicate what happens in your life or not - Frequency of using mobile when alone
Control	- Limits or prohibitions - Possibility of saying everything on your mind - Provide location

clustering effects for each school, and a 5% error collection, the total number of questionnaires collected was 674, and this covered 97% of the sample necessary to conduct a representative analysis.

2.2. Methods

The last question of the questionnaire was used to measure perceived social capital among adolescents. Respondents indicated whether they believe that their relationships were improved via mobile communication. These results were compared with an objective measure of social capital. For both types of social capital, an ordinary least squares (OLS) analysis was used to understand how each type of social capital depends on the variables of gender academic level, family structure, and other variables related to mobile usage.

The formula (in its simplest form) used for the analysis is as follows: $Y_i=\beta0+\beta1T_i+\beta2X_i+\beta3Ci+\varepsilon_i$.

Where Y_i is the dependent variable, T_i is variable of interest, X_i represents other important explanatory variables of interest, C_i represents all of the control variables (to mitigate omitted variable bias), and εi is the error term. Each regression was controlled for heteroscedasticity using the standard White method.

In the case of objective social capital, a social capital index was created using principle components analysis (PCA) in order to more clearly understand how the components positively or negatively impact the use of phones. There are four components that make up the social capital index: 1) frequency of communication via mobile phones, 2) frequency of in-person activities with friends, 3) the diversity amid the groups respondents communicates with using mobile phones, 4) the diversity amid the groups he/she communicates with offline (Table 2).

Table 2. Objective social capital index

Question	Description	Response
No. 26	Frequency of communication with friends using mobile phone	(1) Never, (2) Almost never, (3) Sometimes, (4) Almost always, (5) Always
No. 20	Frequency of activities with friends in person	(1) Never, (2) Almost never, (3) Sometimes, (4) Almost always, (5) Always
No. 24	Principal relationship online using mobile	(1) People from school, (2) Neighborhood, (3) Close family, (4) Other schools, (5) Other neighborhoods
No. 25	Principal relationship offline, in person	(1) People from school, (2) Neighborhood, (3) Close family, (4) Other schools, (5) Other neighborhoods

Once the online and offline components were separated, two types of objective social capital were analyzed: mobile social capital and physical social capital. Regression analyses were also conducted for these dependent variables to the degree that the significant variables were identifiable in the increase or decrease of the resources in a specific environment.

In addition, a linear regression analysis was conducted for both identity and confidence –both were considered as communication mechanisms for mobile phones by Katz and colleagues (2004); however, in this study they are analyzed separately because it is unclear whether they are independent of or a consequence of increased or decreased social capital. On the one hand, confidence was measured along one single variable. The linear regression analysis looked at the significant influence each variable has on the quantity of information the adolescents share and how that impacts their confidence in their social relationships.

On the other hand, identity was analyzed using an index like the one created for objective social capital, which was made up of two variables: 1) the importance adolescents place on the comments received via social networks, and 2) the frequency at which they change their profile picture. Principle components analysis (PCA) was also used as the method of analysis, with the goal of understanding the importance of each of the components that make up the index. Using linear regression analysis, variables that impact the construction of their personality were identified.

The self-image that adolescents develop via mobile resources could be considered an independent element, without being a cause or effect of social capital. The analysis permits further understanding of the impact certain variables related to communication mediated by mobile phones could have on the configuration of personality, keeping in mind that there are other non-virtual practices that influence the process.

3. Analysis and results

The results can be divided into three parts: 1) analysis of the variables that significantly influence social capital in adolescent communities, 2) analysis of the confidence generated using mobile phones, 3) analysis of the influence certain variables have on the construction of self-image.

As seen in Table 3, there is little relationship between socioeconomic demographics; the use of mobile phones, and the perception adolescents have regarding the influence of these screens in their social relationships. However,

the social capital index allows us to understand this dynamic in an objective manner by looking closely at variables such as, mediated communication, as well as other variables like sex, academic course, and family structure.

The results show that the number of contacts and the relationships with people from broader environments, different from their own neighborhood, positively influence social capital generated in both environments. Both gender and academic level positively affect the creation of this resource, which means growth can be greater for females (or young girls) and those who are at a higher academic levels. Also, the variable regarding people who have personal mobile phones resulted significant: the more personal (not shared) the greater the possibilities to expand social capital.

Table 3. Impact of the mobile device on community social capital

	Dependent variables			
	Perception	TotalSC	PhysicalSC	MobileSC
Independent variables	(Coefficient/ Standard error)	(Coefficient/ Standard error)	(Coefficient/ Standard error)	((Coefficient/ Standard error)
Constant	1.51* / (0.39)	82.65* / (29.01)	1.11*** / (0.67)	2.97* / (1.04)
Quality of contacts	-0.16 / (0.18)	1.88 / (16.22)	0.47** / (0.24)	0.19 / (0.49)
Number of contacts	-0.05 / (0.03)	9.84* / (2.62)	0.16* / (0.06)	0.33* / (0.08)
Main mobile relationship	-0.01 / (0.03)	-0.89 / (2.27)	0.03 / (0.03)	-0.04 / (0.04)
Speed of responses	-0.01 / (0.05)	2.69 / (3.84)	-0.03 / (0.08)	-0.03 / (0.13)
Speed of other responses	-0.01 / (0.06)	-2.11 / (4.03)	0.06 / (0.09)	0.10 / (0.12)
Neighborhood relationships	0.10 / (0.08)	-2.56 / (5.45)	0.59* / (0.13)	0.39** / (0.16)
City relationships	0.17 / (0.13)	26.18** / (11.50)	0.55*** / (0.30)	0.58*** / (0.33)
Autonomous community relationships	-0.07 / (0.08)	-7.43 / (6.39)	0.34* / (0.12)	-0.03 / (0.17)
Country relationships	0.14 / (0.09)	1.51 / (6.91)	0.21 / (0.14)	0.37*** / (0.20)
Control	-0.01 / (0.05)	2.57 / (3.23)	0.02 / (0.07)	0.04 / (0.09)
Course	-0.01 / (0.03)	9.23* / (1.92)	0.01 / (0.05)	0.13** / (0.06)
Sex	-0.09 / (0.09)	23.40* / (7.08)	0.54* / (0.14)	0.80* / (0.20)
Family structure	-0.09 / (0.12)	1.46 / (7.50)	-0.31** / (0.13)	-0.30 / (0.23)
Personal mobile	0.18** / (0.07)	10.32*** / (6.29)	0.11 / (0.18)	0.50** / (0.19)
Games	-0.19* / (0.06)	13.78** / (7.09)	-0.16 / (0.18)	-0.33 / (0.22)
R-squared	0.10	0.28	0.33	0.31
F-statistic	4.91	16.61	20.48	18.94

* Significant at 1%, ** Significant at 5%, *** Significant at 10%
Results Ordinary Least Squares (OLS).

With regard to physical social capital, made up of variables that have to do with the activities undertaken and the composition of the communities in this environment, variables such as the number of contacts and the quality resulted significant. The quality of the contacts consisted of a variable created by dividing the number of total contacts with which the adolescents communicate with using their mobile phone and the principle contacts. For all practical purposes, it can be said that the larger the number and quality of contacts, the larger is the impact of the use of mobile phones on physical social capital. Another significant variable was relationships with people from more diverse environments. Finally, gender and family structure influence these resources.

The number of contacts significantly influences mobile social capital. The indicators that served to measure this resource are the frequency of online communication and the composition of the communities in this environment. This resource is significantly impacted by the relationships with broader environments, aside from own neighborhood, including people from the city or country in general; sex and academic level are impacted in the same manner. In addition, the possession of a personal mobile phone especially influenced the creation of online social capital.

In closing, it must be noted that there was interest in the significant impact that certain applications, for example games, have on perceived and objective social capital. These results reflect the influence that online games have on more frequent communication and the interaction among greater diversity in a manner that warrants the growth of social capital in general.

As previously explained, the confidence generated via mobile communication is measured apart from the components mentioned by Katz and colleagues (2004). The results shown in Table 4 demonstrate that objective social capital positively influences confidence, which means that more information is shared using mobile phones. The type of space that is utilized to communicate, in terms of open mediums or private mediums, influences the creation of these resources. Finally, the results showed that adolescents who prefer to communicate face-to-face with other people have greater confidence and are more capable of enriching relationships.

The third and final analysis shown in Table 5 has to do with the variables that significantly impact the construction of self-image. In the case of sex, females (or young women) tend to be the ones who engage in practices such as changing profile pictures more frequently or giving greater importance to the comments received via mobile phones. The needs to communicate everything that happens to oneself and to check their mobile phone

when alone are variables that, in general, affect the process of self-image. Finally, among the applications, WhatsApp resulted especially significant, meaning that this could reflect the behavior of adolescents who need to construct their self-image by means of the Internet.

Table 4. Impact of mobile on confidence generated	
Independent variables	**(Coefficients/Standard error)**
Constant	-0.29* / (0.63)
Objective social capital	0.01* / (0.00)
Information basic, personal, both	0.39 / (0.07)
Open or private spaces	0.25* / (0.08)
Face to face communication	0.65* / (0.19)
Sex	0.15 / (0.16)
Course	0.04 / (0.05)
Family structure	-0.13 / (0.23)
Personal mobile	-0.12 / (0.15)
Games	-0.04 / (0.18)
R-squared	0.45
F-statistic	59.45

* Significant at 1%, ** Significant at 5%, *** Significant at 10%
Results Ordinary Least Squares (OLS).

4. Discussion and conclusion

There are many conclusions that could be extracted from this study. First of all, the hypothesis is accepted, which states that the objective measure of social capital permits the identification of the communication mechanisms conducted using mobile phones, which significantly impacts social relationships among adolescents. The impact reflected in the results, using the social capital index, shows that there is a significant difference with perceived social capital among adolescents.

Among the most important socio-demographic variables that influence objective social capital is the academic course, which influences the relationships that are maintained online; meanwhile, family structure is significant for relationships outside the internet. Meanwhile, sex has a significant impact on total social capital.

Mobile phone communication positively influences social relationships of adolescents who have shown they are more capable of reconciling their activities both offline and online networks, for example, when they communicate with certain frequency via mobile, while at the same time maintaining the same or more contact with friends offline. This also occurs when the group of friends using these resources includes people from other schools, neighborhood, or cities, which permits greater diversity. Interactions online and relationships outside the internet complement each other as long as they do not yield a disequilibrium that negatively impacts social relationships.

The analysis conducted in both independent environments, inside and outside social networks, was possible with the creation of an index that took into account the frequency with which young people communicate and the diversity of groups they form. Results showed that the communication mechanisms by means of mobile phones, such as number of contacts and local or global relationships, significantly impact both types of social capital, and for this reason they need to be developed in a balanced way. Other variables, like the quality of the contacts maintained, significantly impact the relationships in offline environments, which appear to need maintenance and reinforcement. As Turkle (2011) and Baym (2011) explained, face-to-face contact is vital to ensure that mobile phones have a positive impact on adolescent social relationships. Therefore, aside from the capacity to differentiate between both online and offline spaces (i.e., to ensure positive communication), it is necessary to grow the number of contacts and maintain equilibrium by paying proper attention to physical and social elements that permit interactions with other people.

Table 5. Impact of mobile phone on the construction of self-image	
Independent variables	**(Coefficient/ Standard error)**
Constant	1.76** / (0.98)
Communication of information or not	0.24* / (0.09)
Frequency of mobile use while alone	0.17*** / (0.10)
Sex	0.68* / (0.18)
Course	0.01 / (0.06)
Family structure	-0.29 / (0.24)
Personal mobile	-0.49 / (0.50)
WhatsApp	1.16** / (0.48)
Instagram	-0.10 / (0.21)
Facebook	-0.03 / (0.18)
R-squared	0.32
F-statistic	34.54

* Significant at 1%, ** Significant at 5%, *** Significant at 10%
Results Ordinary Least Squares (OLS).

The degree of confidence generated via communication was also analyzed and it was shown that, consistent with the results already discussed, relationships positively impact the social capital index. This supports the argument by Putnam (2000), who states that confidence is a consequence and not an element of social capital. The use of private spaces for communication and the possibility of doing it face-to-face shows the potential positive impact of these resources.

Finally, WhatsApp particularly impacts the construction of self-image via the use of mobile phones. Especially among females this is significantly related to the importance of comments received and the frequency of updating profile pictures on social networks.

Future researchers should place greater emphasis on exploring the relationship between self-image in online spaces and the impact it has on the quality of social relationships among adolescents. It would be worthwhile to research on how mobile phones can have a positive result without becoming an indispensable component of personal and social development. It would also be useful to understand the offline practices that counter the excessive dependence or unsuitable mobile use.

It would be valuable to implement these indices for other groups of adolescents in different geographic areas. Even though this work was conducted at the Community of Navarre, the use of mobile phones is a habitual practice among adolescents in different cultures (Campbell, Ling, & Bayer, 2014; Ling & Bertel, 2013; Mascheroni & Olafsson, 2016; Vanden-Abeele, 2016) and could generate different perceptions and uses that could impact different geographic social relationships in unique ways.

Notes

[1] This method is in alignment with the work of Vyas and Kumaranayake (2006) and it permits the calculations of certain values called "proper vectors" that are based on correlations between variables. These vectors are utilized as assigned weights for each variable in the index. This has the goal of identifying those variables that have the most influence on the direction of each vector. Even though these are ordinal variables, they have the same values and are significant in the same manner, which makes this method valid. In this case alone, the first variable of principle components analysis was utilized.

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Social Empowerment in Mexican Violent Contexts through Media Competence

Empoderamiento social en contextos violentos mexicanos mediante la competencia mediática

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ABSTRACT

The acquisition of digital skills, media diet management, and general knowledge of ICT, is essential for the development and empowerment of audiences in the current media ecology, particularly considering the political and social challenges of the Latin American environment. In that sense, the study of media competence is urgent for sizing up the needs and characteristics of these communities. This work analyses the axiological and ideological dimension of media competence during an electoral process in northwestern Mexico, a region that is generally subject to violence related to organized crime. Twenty-three items pertaining to this dimension were selected from an instrument designed to evaluate media competence, which were applied to a probability sample of 385 subjects divided by digital natives, digital migrants, and digital illiterates. After an exploratory factor analysis, seven factors were identified. The intra and inter-group scores were explored, lower scores were found in components that allude citizens' participation and social action; likewise, three of seven factors showed statistically significant differences, being digital natives who reported a lower score. Therefore, the need to search for new strategies for citizens to acquire media competence is evident, in order for pro-summing to become a social empowerment tool.

RESUMEN

En las actuales ecologías mediáticas la adquisición de saberes digitales, manejo de dieta de medios y dominios generales de las TIC son fundamentales para el desarrollo y el empoderamiento de las audiencias, en particular, al considerar los desafíos políticos y sociales de entornos como el latinoamericano. Así, el estudio de la competencia mediática es urgente para dimensionar las necesidades y características de estas comunidades. La presente investigación analiza la dimensión axiológica e ideológica de la competencia mediática durante un proceso electoral en el noroeste de México, región que se ha caracterizado por la violencia relacionada con el crimen organizado. A partir de un instrumento diseñado para evaluar dicha competencia, se seleccionaron 23 ítems que remiten a la dimensión señalada, este se aplicó por medio de un muestreo probabilístico a 385 sujetos divididos en nativos, inmigrantes y analfabetos digitales. Tras un análisis factorial exploratorio se identificaron siete factores que conforman la dimensión axiológica e ideológica. Se exploraron las puntuaciones intra e intergrupos y se encontraron puntuaciones bajas en componentes que aluden a la participación ciudadana y a la movilización social; asimismo, tres de los siete factores presentaron diferencias estadísticamente significativas, siendo los nativos digitales quienes reportaron valores más bajos. Así, se pone en evidencia la necesidad de buscar nuevas estrategias para que los ciudadanos adquieran la competencia mediática y que así el prosumo se vuelva una herramienta de empoderamiento social.

KEYWORDS | PALABRAS CLAVE

Media competence, social empowerment, digital natives, violence, media, communication and development, social participation, citizens.

Competencia mediática, empoderamiento social, nativos digitales, violencia, medios de comunicación, comunicación y desarrollo, participación social, ciudadanía.

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1. Introduction

In 2012, the then presidential candidate, Enrique Peña Nieto, would be the catalyst for one of the student and social movements with the greatest media presence in recent years, "YoSoy132" ("IAm132"). The phenomenon appeared in the international spotlight because it highlighted the close relationship between the biggest broadcasting company in the country, Televisa, and the current president of Mexico (2012-18). In fact, the whole affair went from being a media process to a counter-media one, which is to say, young audiences demanded greater media plurality and not just unilateral coverage, in the rancid style of Televisa, of the person considered the main character in the presidential soap opera.

For Candón (2013), the movement portrayed a generational conflict between those who have grown up with the use of ICT and those who have considered TV as their main source for information (IAB México, 2016). The crisis went beyond ideological differences as it represented a genuine demonstration of technology's role in the cultural understanding of such concepts as politics, economy, education, trust in institutions, media included. Campos-Freire (2008) calls this process a cascade of questions about the role and the path that traditional media must follow in social mediation for democracy.

Cases such as "YoSoy132", the Arab Spring, 15M or Movimiento de los Indignados (Anti-Austerity Movement), Ferguson, Ayotzinapa, among many others, have a common denominator, the Internet as a platform for producing, replicating, and spreading messages of social outrage. The role of media, especially social media in contemporary society, as Caldero and Aguaded suggest (2015), is very dynamic. Although hyper-communicated audiences build new imaginaries of culture and media participation, they still face obstacles that must be overcome in order to reach critical literacy in times when social empowerment, through media, is more than urgent.

Even though the arrival of the Internet has contributed to the democratization and transparency of government and communicative practices, encouraging even the knowledge society (Drucker, 1994), the hypermodern era (Lipovetsky & Serroy, 2009) or the information society (Bell, García & Gallego, 1976), as it has been called through different theoretical approaches, it is important to continue researching the relationship between media narratives, reception, and above all, their uses for social empowerment.

The empowerment of citizens through strategies of pedagogy, discourse, technology, and production of tools that encourage freedom of speech, are media competence matters. From decades ago to the present days, international organisms such as UNESCO, The European Union, CIESPAL, ALAIC, ININCO (Communication Research Institute), INTERCOM (Brazilian Society of Communication Interdisciplinary Studies), ILET (Latin American Institute of Transnational Studies), CEREN (Study Center of National Reality), ALFAMED, civil partnerships, several NGOs, and groups interested in educommunication globally, have highlighted the importance of the management of media diet in daily life.

In 1964, Wilbur Schramm published a study about communication and development in countries of the third sector, where he attributed operative possibilities to accomplish institutional, and economic and social development goals to media. "Development communication is the creation, thanks to the influence of mass media, of a public atmosphere which encourages change, considered essential to achieve the modernization of traditional societies though technology" (Beltrán, 2006: 59).

Years later, UNESCO urged the stakeholders to prioritize the adequate use of media to guarantee freedom of speech, in hopes of getting better living conditions for the world population, as stated in the Declaration on Fundamental Principles concerning the Contribution of the Mass Media to Strengthening Peace and International Understanding, to the Promotion of Human Rights and to Countering Racialism, apartheid and incitement to war. Document that recognizes media as part of the culture process in young people's education for a spirit of peace, justice, liberty, mutual respect, and comprehension of human rights (UNESCO, 1979).

It is in this educative framework where the works of Mario Kaplún and Juan Díaz Bordenare are located. They led edu-communicative proposals to approach their region's injustice related to government, dependency of economic powers, poverty, and lack of opportunities for minorities; concerns that were also captured by several scholars in initiatives such as Cocoyoc's Declaration in Mexico of 1974, or meetings sponsored by UNESCO in Bogota and Costa Rica in 1974 and 76 respectively (Beltrán, 2006). In that decade, the configuration of a professional and strategical Communication Studies about the development of Latin America starts, which, although shares a common background with communication studies of the 1950s, acquires new meanings between Latin American cultural paradigm and what Marques-de-Melo (1987) identifies as moment of the critical current.

In that sense, Aguaded and Caldeiro (2013) argue that, despite the new media not being conceived for educa-

tional purposes, the use of those new screens entails modifications in different levels of the social framework, as they express values and imply pedagogical functions in educational processes and contribute to the socialization of current media ecologies. In such scenario, there is an urgency among critical citizens of the communicative phenomenon for, "a deeper and more extensive knowledge of media would serve as incentive for participation, active citizens, development of competence and lifelong learning" (Carlsson, 2001:106).

This research situates itself in relation to these active citizens under the premise that media contribute to empowering audiences, and therefore, developing different aspects of the subjects' individual and collective life. "The imaginary of communication for development is related to social work of movements vindication based on the search for life conditions improvement, starting from local strategies that get linked in national and international networks" (Chaparro, 2009:146). It cannot be otherwise anymore a phenomena of intolerance, racism, discrimination; and oppression must be approached from a communication for equity and transparency, where their social function adjusts to this century's requirements.

It is not an easy task. One of the problems learned in recent experiences, as demonstrated by the communicative phenomena quoted, is that media by itself cannot guarantee the right to communication. Other factors are also needed for that: Rule of Law, journalistic security, citizen security, trustworthy institutions, respect for individual guarantees, among other conditions related to democracies. Contemporary media ecology is complex, it raises survival challenges to what Chaparro (2009) calls the third sector. In other words, citizens of the first sector or dominant axis are created from cultural imaginaries self-appointed by interlocutors with power and different contexts than those of the developing countries, for example Latin America. Consequently, when referring to communication, media literacy, and communicative empowerment for development, it is necessary to adjust the focus to the region.

It was found that the axiological and ideological dimension of media competence is constituted by seven components which are closely related to each other: civic reflection, social function of media, civic action, social action of the media, social conscience, critical reception of political campaigns, and production of participation tools.

In that sense, the way to face the concept of media literacy is from an open articulation to the theoretical revision of global approaches; stressing the position of Iberoamerica, especially in the proposal of Ferrés, Aguaded and García-Matilla (2012) and the one of Alfamed1 research group, which gathers works of more than 50 researchers from 13 countries, but adapts it to the reality of Sinaloa.

2. Local media competence

According to Ferrés and Piscitelli (2012), media competence includes technological and critical knowledge about media use, and it demands the need to maximize the participative dimension of communicative processes, not just participation associated with mere expression, but linked to truly approaches of dialog, selection, critical interpretation, and dissemination of communicative productions, as the prosumers do nowadays. Authors propose six dimensions: 1) languages, 2) technology, 3) interaction processes, 4) production and dissemination processes, 5) ideology and values, and 6) aesthetics. Media competence dimensions and indicators, although connected transversally, present communicative phenomena which make them ideal for their promotion and/or study. Thus, when approaching social movements and citizen participation, the nations' socio-political spheres must be considered, for example, the elections.

Farré (2016) states that the construction of political-media reality flourishes in conditions of reflection of personal, institutional, and social life. So, a political process is the adequate scenario to inquire the phenomenon of citizen participation from media competence. There the citizens face not only the decision to choose their representatives, but also media stimuli that get them in touch with their needs, stressing the audience's ideology and values in the axiological level of collective and individual actions. Therefore, the axiological and ideological

dimensions, or Ideology and values, as Ferrés and Piscitelli (2012) call them, lead to the subject's interpretation, production, and critic in different types of narratives, as in the election campaigns, especially because of the citizen responsibility of taking action and sympathizing in society, which is urgent in the region studied.

Even though concepts of political communication, communication for development, educommunication, media literacy, and media competence are different, they share common objectives: to transcend the communicative phenomenon of audiences' individual and collective spaces to improve aspects from their lives. Thus, educating media citizens with critical thinking leads to the promotion of a thought that is aware of and demands to their government. There lies the importance of studying media competence in light of an elections process; from the perception of subjects about their trust in institutions, media, political parties, and actions taken to express disagreement with the elaboration of communicative products for social call-up, when needed.

It was decided that the most accurate way to inquire the phenomenon of media competence in Sinaloa was to classify its citizens according to the proposal of Prensky (2001), in regards to their use of ICT. That is to say, by examining the differences between those who have grown with the use of ICT (digital natives), those who have migrated to them (digital migrants) and those who have low or null knowledge of them (digital illiterates) (Guzmán-Acuña, 2008).

> It is not that the citizens lack media competence, but rather that, when called for participation, weariness and distrust of political institutions appear. Thus, the urgency of social empowerment framed in knowledge bonding that contributes to concrete actions in the struggle for democratic and less violent spaces; otherwise, to keep the promise of media use to obtain ethical knowledge with social vision, will be increasingly further in contexts as complex as the region studied.

According to the way existent literature locates individuals in regards to their technology skills and capabilities, including citizen participation in social and political matters (Rowlands & al., 2008).

For Romero-Rodríguez and Mancinas-Chávez (2016), current communicative processes go beyond the use of new platforms or technology structures. The "mediamorphosis" has emerged. This is a phase of inter-subject relationships where audiences get informed, share their realities, and create content as prosumers; now the media subject becomes decoder, recorder, and also sender of realities through multiple platforms and narratives.

Despite the apparent invasion of technology and audiovisual narratives in all spheres of the audiences' lives, there are still gaps that must be filled. Grijalva-Verdugo and Moreno-Candil (2016) warn, in a previous study about levels of media competence in university students of Sinaloa, about the lack of knowledge in several dimensions, although one could think that, as digital natives they would possess high levels of competence. Consequently, they propose that it is not limited only to educational places, but to processes of human cognition and mediation, such as schools and work spaces. Hence, they must be measured in those contexts, locating the knowledge transfer levels, knowledge mobilization, and the citizens' actions in relation to their every-day-life problems.

In that sense, media knowledge is not an exhausted topic. It should be clarified that media competence is an ability acquired differently by audiences in relation to their context, education, age, among other sociocultural factors. For Grijalva-Verdugo (2016) educating in media, implies an attitude change for technology incorporation, instructional strategies upgrade, digital knowledge evaluation, and above all, not to assume arbitrarily that recent generations possess high media competence per se.

The visible urgencies of production and consumption in Mexico's media ecology, especially in Sinaloa, as Grijalva-Verdugo and Izaguirre-Fierro (2014) notice, are marked by the complex appropriation of forms of media competence in citizens. Sinaloa leads lists of "Most violent places" (El Debate, 2016) and "Most insecure places" (Angel, 2016) of the world. For Moreno-Candil, Burgos-Dávila, and Valdez-Batiz (2016), drug trafficking has

contributed to the configuration of an ordinary landscape that has permeated the citizens' lives in such a way that, even people who are not involved in the phenomenon have psychosocial proximities to it (Moreno-Candil & Flores-Palacios, 2015). Therefore, providing social empowerment to citizens that have been hurt by drug cartels' physical and symbolic violence is truly difficult, as a cornerstone of media competence is the freedom of speech, which is utopian in scenarios plagued by impunity, corruption, violence, and other inhibitors. For that reason, evaluation indicators cannot be the same as those applied to other spaces such as the European, since its levels of social development are different. There is an urgency of research from within, in order to create theoretic-methodological references to evaluate media competence in violent contexts and also contribute to similar spaces in other latitudes.

3. Method

In order to properly examine the axiological and ideological dimension in violent contexts, such as Sinaloa, a questionnaire was developed to capture not only media competence, but also be sensitive to the observed reality. Though research regarding media competence, particularly in the Spanish case, suggest various strategies for the recollection of empirical testimonies such as field observation, expert interviews, open and closed questionnaires, focus groups, amongst others, the present study reports results from the application of a Likert scale from July to November of 2016 In Sinaloa; a province located in northwestern Mexico. The findings suggest new field approaches to be made in future research endeavors.

Participants were asked to express their attitudes regarding the media in Mexico and Sinaloa, the credibility of political parties and their participation in social movements. In this sense, the decision for the axiological and ideological approach followed that, in the period prior to data collection, Sinaloa had just undergone an electoral process for governor, local congress and municipal mayors, held on June 5, 2016 (Instituto Electoral del Estado de Sinaloa, 2016).

The ideological aspects were latent in the fieldwork through the relationship to political parties, the influence of the media on citizen`s choices and the overall trust of the audiences in politics as a whole. The theoretical categories evaluated aspects related to citizen analysis of candidate proposals, social participation in political events convened by political parties or electoral bodies, critical observation of campaigns, interpretation of messages, dissemination of narratives, socialization of politics, management of the information produced during the political process and willingness to participate in demonstrations and other social movements.

The scale consisted of 23 items in a 5-point Likert format, participants were asked to express the frequency in which they partook in actions related to different aspects of the axiological and ideological dimension. The direction of the scale was set so that a higher score in each item would mean a higher capacity to evaluate sources, prioritize content, analyze virtual identities, as well as a critical examination of the effect of the messages from the media. As a result of this, and due to the phrasing of some of the items, their scores had to be inverted prior to the data analysis. The overall internal consistency of the scale was acceptable (=0.838); however, a closer examination of the items showed that one of them had a negative item-scale correlation value which affected the reliability of the instrument, thus it was eliminated from the analysis. The final 22-item version of the scale had a higher internal consistency value (=0.866).

The sample was stratified by locality; participants were selected from the main cities of Sinaloa (Culiacan, Mazatlan, Los Mochis, Guasave, Guamuchil and Navolato) and their rural areas, in accordance to criteria from the Instituto Nacional Electoral (INE). Households and blocks (urban and rural) were randomly selected considering gender, age and schooling quotas. The sample consisted of 385 subjects extracted from voter registry of 2, 064, 508 (Instituto Electoral del Estado de Sinaloa, 2016) with a 95% confidence interval. The Mexican age of legal voting age (18) was taken as the inclusion criteria for the sample, which was later classified as digital native, immigrant or illiterate (Guzman-Acuña, 2008; Prensky, 2001).

4. Results

An exploratory factor analysis was performed on the gathered data (KMO=0.770; Bartlett's sphericity test $p<0.01$). A 7-factor solution explained 67.99% of the scale's total variance (Table 1).

In order to obtain independent factors, data was rotated using Varimax rotation, meaning that only items with a factor load of 0.40 or higher were included in the analysis (Table 1). The following factors were obtained:

• Civic reflection, which includes five items (eigenvalue of 6.93) and explains 26.6% of the total variance of the scale. The items in this factor pertain to the action of socializing information and opinions with members of

the participants' immediate social groups (i.e. family and coworkers). Overall, the factor alludes to the individual's reflexivity, his or her ability to express evaluations regarding electoral organisms and campaign proposals, aspects that are urgent in order to achieve a more critical standing in the local political context.

• Social function of the media (eigenvalue=2.44, explained variance=10.5%), which includes four items. Here, participants were asked to express their beliefs regarding the efficiency of local and national media to promote democracy and civic values.

• Civic action (eigenvalue=2.11, explained variance=9.2%), which groups three items related to specific actions taken by individuals to promote acts of social protest. Overall, this factor assesses the degree of active involvement and participation in political protest.

• Social action of the media (eigenvalue=1.54, explained variance=6.7%) consists of two items that focus on the critical role played by the media in the construction of the audiences' opinions regarding political candidates.

• Social conscience (eigenvalue=1.27, explained variance=5.5%), alludes to the recognition that social change requires the participation of individuals and the media, as well as the defense of freedom of expression as a guarantee to manage and promote such change through diverse mediums.

• Critical analysis of political campaigns (eigenvalue=1.15, explained variance =5.0%) comprises two items which recognize the importance of an adequate analysis of political campaigns though the proposals of the candidates, or by being a reflexive voter.

• Production of participation tools (eigenvalue =1.01, explained variance= 4.4%), the three items that compose this factor refer to aspects that characterize

Table 1. Factor solution (Varimax)

Factor/Item	Factors						
	1	2	3	4	5	6	7
1. Civic reflection							
I talk about my political or electoral preferences with my colleagues at work.	.845						
I talk about my political or electoral preferences with my family.	.795						
I talk about my political or electoral preferences with my friends.	.782						
I analyzed the candidates' proposals on the basis of the campaign not my family's voting tradition.	.642					.403	
I trust the electoral organisms.	.612						
2. Social function of the media							
I believe the national media contributes to the country's democracy.		.855					
I believe the local media contributes to the democracy of Sinaloa.		.831					
The media in Mexico is sufficient to keep me properly informed.		.742					
The media in Sinaloa is sufficient to keep me properly informed.		.603					.406
3. Civic action							
I've supported a march or social movement by distributing information, summoning people or collaborating on its organization.			.790				
I've participated in any kind of civic forum to improve my city or neighborhood, such as neighborhood meetings or citizen consultations.			.737				
I complain with my friends or acquaintances when the media disperses false or wrong information regarding the country			.408	.405			
4. Social action of the media							
I consider that the media should criticize political parties and candidates to public office.				.859			
It is important for the media to speak good or bad of the candidates, that way, I can get an idea of the way they really are.				.828			
5. Social conscience							
I believe that an individual's freedom of expression should be defended regardless of the medium: social media, television or public spaces.					.812		
Social media contributes to transparency.					.598		
I believe that by participating in politics the country`s quality of life has a greater possibility of improvement.					.590		
6. Critical analysis of political campaigns							
Political or electoral campaigns are important for learning about the candidates' ideologies.						.802	
I will give my vote to the candidate with the best proposal, regardless of their political party.						.771	
7. Production of participation tools							
I'd be willing to participate in a march (protest).							.771
I share, produce and comment memes because they allow me to generate political conscience.							.509
I comment on the information publish in social media channels by informative media (Noroeste, El Universal, amongst others).			.462				.495
Eigenvalue	6.93	2.44	2.11	1.54	1.27	1.15	1.01
% of explained variance	26.6	10.6	9.2	6.7	5.5	5.0	4.4
Cronbach's alpha	0.84	0.82	0.67	0.76	0.63	0.69	0.61

a politically active society that has a proper use and domain of ICT to promote social organization and political participation.

Once these factors were identified, the values for each one were compared amongst the groups contemplated in the study. Given that each factor was comprised of a different amount of items, their values were standardized to facilitate the comparison. Thus, the value for each factor oscillates from 0.2 to 1, where 1 represents the highest possible value. After this, the distribution of values of each factor within each group was analyzed. It was found that the data did not comply to a normal distribution, therefore non-parametric tests were used to compare the groups in this study.

Friedman`s test considers the overall values obtained by each factor within the group and ranks them from lowest to highest; the lowest score is given the value of 1, while the factor with the highest score is given the value of 7 (there are seven factors). Table 2 shows the average rank of each one of the factors that make up the axiological and ideological dimension for each group considered in the study (digital natives, immigrants and illiterates). Though each factor had a different average rank value, if the extremes of these orderings are observed, there are some consistencies amongst the groups. For example, the factors that systematically received lower scores, and can thus be considered the least characteristic aspect of the dimension in the sample are: "civic action" and "production of participation tools". The later presents a disparaging scene for Sinaloan society, it seems as if it is unwilling to be politically active; this unwillingness encompasses traditional means of social organization and participation, such as marches and forums, as well as more recent methods of participation closely related to the production and divulgence of digital content. On the other hand, "critical analysis of political campaigns" is the highest ranked factor for both digital natives and digital immigrants, whereas for the digital illiterates the highest ranked factor was "social action of the media". This presents an interesting contrast amongst the groups, especially when the electoral behavior is considered; for the younger participants of the study, the main influence on their vote comes from political campaigns and the reflection on the proposal made by the candidates, for the older participants (digital illiterates), it is the media who is in charge of promoting and informing about the candidates and their proposals.

Once the distribution of the factors within each group was explored, a Kruskall-Wallis test was used to compare the differences amongst the groups. The Kruskall-Wallis test compares the average range of a variable across more than two groups. The results are showed in Table 3. Although there are differences in every factor across the groups, only three of them are statistically significant: "civic reflection", "civic action" and "social action of the media". In order to properly identify the root of these differences, Mann-Whitney U tests were performed. It was found that, in all cases, the significance lies when the digital natives' scores are compared to the other two groups, that is, digital natives manifest these factors significantly different from digital immigrants and digital illiterates.

Table 2. Friedman's test for related samples

Factors	Average rank		
	Digital Native	Digital Immigrant	Digital Illiterate
1. Civic reflection	3.49	3.97	2.84
2. Social function of the media	4.64	4.27	4.84
3. Civic action	2.31	2.49	2.50
4. Social action of the media	4.46	4.63	5.16
5. Social conscience	5.11	4.85	4.59
6. Critical analysis of political campaigns	5.37	5.40	4.63
7. Production of participation tools	2.82	2.40	3.44
χ^2	428.51	160.90	23.89
Kendall's W	0.288	0.305	0.249
p<	0.001	0.001	0.01

How are these manifestations different? Considering the age gap between the groups, one could expect that the most significant difference would be found when comparing digital natives against digital illiterates; however, this only happened when comparing the "social action of the media" ($U=1811$; $p<0.05$). In this case, the digital illiterates were who attributed greater importance to the role the media plays in promoting political ideologies. With this, a greater emphasis was given to the importance of having a critical positioning towards politicians amongst different media platforms. In other words, it was the older participants in the study, who more frequently considered that the media should constantly criticize and denounce politicians, rather than keeping a blander o neutral position. The same difference was observed when comparing digital natives versus digital immigrants ($U=10589$; $p<0.01$), again the difference favored the older participants (digital immigrants). A possible explanation for these discrepancies could be the ambiguity of the items that comprise this factor regarding the concept of "the media". In recent times, especially amongst younger people, the term social media has become more salient, distinguishing from the concept

of media that tends to encompass traditional media outlets such as televised news and newspapers.

Regarding the "civic reflection" factor, the statistical differences were significant when comparing the results of digital natives and digital immigrants (U=10038; p<0.01), again, the older participants were the ones who reported a more frequent dialogue and reflection regarding political themes with their social circles (i.e. family, friends, coworkers). From this result, it makes sense that when it comes to "social action" ((=10380; P<0.05) the difference also favors the digital immigrants. If this group reports a more frequent dialogue and reflection on politics when compared to the younger participants, it is consistent that the digital immigrants would also be more prone to partaking in direct political and social actions such as protests against the political class.

Table 3. Kruskall-Wallis test

Factor	Average range			H	GL	p
	Digital Native	Digital Immigrant	Digital Illiterate			
1. Civic reflection**	180.76	221.67	189.53	9.40	2	0.008
2. Social function of the media	187.82	197.36	232.38	3.29	2	0.193
3. Civic action*	183.43	216.51	193.75	6.26	2	0.044
4. Social action of the media**	180.74	215.16	241.35	11.12	2	0.004
5. Social conscience	179.58	196.91	182.95	1.81	2	0.405
6. Critical analysis of political campaigns	187.65	203.56	195.84	1.53	2	0.466
7. Production of participation tools	191.03	188.11	174.00	0.43	2	0.805

*p<0.05; **p< 0.01

5. Discussion and conclusions

It was found that the axiological and ideological dimension of media competence is constituted by seven components which are closely related to each other: civic reflection, social function of media, civic action, social action of the media, social conscience, critical reception of political campaigns, and production of participation tools. There is a rejection of participation; however, digital migrants and illiterates are the ones that appear less reluctant to get involved in social movements. Despite the assumption that digital natives, being more familiar with ICT, would have higher levels of media competence, it was not the case for this study, as the adult audiences were the ones that showed more openness to participate in social movements.

Unlike in other scenarios, digital natives tend to not get involved in criticizing and questioning politics, even when considering the violence that characterizes the state. Ironically, Sinaloa appeared on the international press for leading a movement integrated by a large group of citizens, mostly young people (digital natives), that asked for the release of cartel boss "El Chapo Guzmán" (Zamarrón, 2014). In fact, in social media #IloveChapo was used to promote the march and demanded the release of whom they called "the Hero of Sinaloa" (Agence France Presse, 2014). This movement was not necessarily framed in the classical theories of social movements (Della-Porta & Diani, 2015), as the protest was not in regards to the rights of vulnerable groups. A new social claimant emerges, whom does not see in "El Chapo" a delinquent, but a benefactor of the masses forgotten by the State. Such events highlight the existence of certain kinds of media competence and social empowerment, however, not in the promise of the emancipatory, liberating, and critical tradition of educommunication. So, it is not that the citizens lack media competence, but rather that, when called for participation, weariness and distrust of political institutions appear. Thus, the urgency of social empowerment framed in knowledge bonding that contributes to concrete actions in the struggle for democratic and less violent spaces; otherwise, to keep the promise of media use to obtain ethical knowledge with social vision, will be increasingly further in contexts as complex as the region studied.

Notes

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Protesting on Twitter: Citizenship and Empowerment from Public Education

Protestando en Twitter: ciudadanía y empoderamiento desde la educación pública

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ABSTRACT

The use of social networks for protest purposes has been an essential element in recent global protests against the economic measures of privatization of public services. Social networks are changing political communication, mobilization and organization of collective protests. Taking into account the relationship between collective protests and new forms of network communication, the aim of this article is to analyze the new forms of citizenship empowerment from the collective protests in defense of public education in Spain. In the last five years the movement "Marea Verde" has generated protests on twitter that have generated new forms of empowerment of citizenship in the Spanish context. In this article we have analyzed three accounts of twitter with great activity and prominence, by the numbers of followers and tweets, of the social networks by "Marea Verde". In this article four categories of analysis have emerged that agglutinate and characterize the demands of collective protests through social networks. Two of the categories have been generated to reject the privatization of education and the standardized tests of the new educational reform act in the Spanish context. The other two categories claim for public education and an educational consensus between the political forces and the educational community.

RESUMEN

La utilización de las redes sociales con fines reivindicativos ha sido un elemento esencial en las recientes protestas globales contra las medidas económicas de privatización de los servicios públicos. Las redes sociales están cambiando la comunicación política, la movilización y la organización de las protestas colectivas. Tomando en cuenta la relación entre las protestas colectivas y las nuevas formas de comunicación en red, el objetivo del artículo es analizar las nuevas formas de empoderamiento ciudadano desde las protestas colectivas por la defensa de la educación pública en España. En los últimos cinco años, en el contexto español, el movimiento «Marea Verde» ha generado protestas en Twitter que han dado lugar a nuevas formas de empoderamiento de la ciudadanía. En este artículo han sido analizadas tres cuentas de Twitter con gran actividad y protagonismo, por el número de seguidores y tweets, de las redes sociales de la «Marea Verde». Han emergido cuatro categorías de análisis que aglutinan y caracterizan las demandas de los movimientos sociales a través de las redes sociales. Dos de las categorías se han producido como medio de rechazo a la privatización de la educación y a las pruebas de evaluación estandarizadas de la nueva reforma educativa española. Las otras dos categorías reclaman la defensa de la escuela pública y el logro de un pacto educativo entre las fuerzas políticas y la comunidad educativa.

KEYWORDS | PALABRAS CLAVE

Education, communication, protest movements, social networks, citizenship, empowerment, educational policy, privatization.
Educación, comunicación, movimiento de protesta, redes sociales, ciudadanía, empoderamiento, política educativa, privatización.

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1. Introduction

In late 2010, Greece experienced a series of demonstrations and citizen strikes which called for resistance to economic austerity policies, declining salaries, and tax increases. Twitter was used as a tool to facilitate communication between activists and citizens and to sustain the mobilization offline and in the public space (Theocharis, Lowe, van-Deth, & García-Albacete, 2015). Around the same time, Tunisia and Egypt captured the world spotlight as focal points of citizen protests in what was dubbed the "Arab Spring", and they were later joined by other countries in the region (Attia, Aziz, Friedman, & Elhusseiny, 2011; Hamdy & Gomaa, 2012). In 2011, students mass-mobilized in Chile in favor of high-quality public education (Cabalín, 2014; Valenzuela, Arriagada, & Scherman, 2012). In Spain, a wave of citizen gatherings calling for a participative democracy without corruption flooded the squares and streets in May 2011. This was the seed of the "Indignados" movement (Anduiza, Cristancho, & Sabucedo, 2014; Gerbaudo, 2017), in which young people used the new social media by connecting online, resignifying education, society and politics (Hernández-Merayo, Robles-Vílchez & Martínez-Rodríguez, 2013). The USA also witnessed the "Occupy Wall Street" protests. Just as in Greece, in all the other cases the social media, particularly Twitter, played a prominent role in the success of the popular demands and social protests (Theocharis, Lowe, van-Deth, & García-Albacete, 2015).

The year 2011 became the "year of the revolutions" (Fuchs, 2012: 775), with global protests in favor of real democracy via new forms of network communication (Castells, 2012). "Tweets and streets" (Gerbaudo, 2012) joined the "Twitter revolutions" (Tremayne, 2014: 110), showing that contemporary social mobilizations were characterized by a hybridization between new forms of network communication, protest gatherings and protest messages in the social media, coupled with citizen struggles in the public sphere. The use of the social media as a means native to the network society emerged (Castells, 2012), accompanied by citizen struggles unleashed in the public space.

Hybridization shaped other forms of democratization and citizen empowerment in the decision-making processes of public policies (Howard & Parks, 2012; Nisbet, Stoycheff, & Pearce, 2012; Valenzuela, Arriagada & Scherman, 2012). The "connective action" of collective protests (Bennett & Segerberg, 2012), unlike the classic social movements (Della-Porta & Diani, 2006), stood out for the organizational dynamic of the mobilizations, which was mediated by new channels of communication that swiftly reinterpreted political actions by the protest groups and recreated meanings in the social media. These collective protest actions were not disassociated from the social media, whose nodes exponentially multiplied (Castells, 2012). Leadership was not needed for the success of the mobilizations (Bennett & Segerberg, 2012). The ICTs had been placed at the service of the generation known for flexible bonds and social commitment without the need for stable ties of membership in consolidated social movements (Bennett & Segerberg, 2012). Gradually, these new spaces of "citizenism" (Delgado, 2011) were orchestrated as the expression of "radical democracy" (Mouffe, 1992), which was capable of furthering democratic revolutions by connecting different claims.

"Marea Verde" emerged in this overall scene where new avenues of citizen empowerment were emerging, such as the ability to choose and influence the new social scenarios (Bauman, 2010) by unifying network communication and protests (Flesher & Cox, 2013; Juris, 2012). "Escuela pública: de tod@s y para tod@s" ("Public school: by all and for all") is the slogan that has appeared on green t-shirts since 2011 to protest the privatization of education and the dismantlement of the public school system in Spain. Its embryo can be found in the collective protests over the crisis of neoliberalism which burst onto the scene in 2008 and led to austerity policies and the privatization of public services, which had dire effects on citizens' social rights (Della-Porta, 2014). Hence, networked social mobilization emerged to defend the public, the common good and the pillars of the welfare state. It is a movement that reveals an understanding of the "exogenous privatization" and "hidden privatization" inherent in global educational agendas (Ball & Youdell, 2008).

From understanding, it transitioned to protest. In the middle of 2011, the Autonomous Community of Madrid issued a communiqué at the beginning of the academic year announcing an increase of 2 teaching hours for secondary school teachers and the elimination of 3,000 interim teaching positions. It also punished an activist teacher who had been reported by the education inspectors for wearing a green t-shirt in her school in Vallecas (Madrid) on the day that the standardized tests were being conducted. This detonated the flood of teacher mobilizations that were to come. The protests supported the teacher and called for improvements in public education. The "Green Tide" movement was in place at the time of a tweet that appealed to citizens to wear green t-shirts as a symbol of defense of high-quality public education for everyone. The Green Tide emerged on the sidelines of the

Indignados movement, with little previous identity adhesion (Candón-Mena, 2015). In the past five years, the "Green Tide" movement has continued by enlisting the involvement of different sectors in the educational community who were connected online to combat the educational privatization policies (Díez & Guamán, 2013; Rogero, Fernández, & Ibáñez, 2014; Saura & Muñoz, 2016). Its utmost touchstone was the Organic Law on the Improvement in Educational Quality (abbreviated LOMCE in Spanish) approved in 2013.

The dearth of research on the new forms of collective protest on behalf of education based on interactions in the social media as the new channels of citizenship and empowerment pushes us to further our understanding of the new forms of communication used by online social protests (Fuchs & Sandoval, 2014; Castells, 2012; Fuchs, 2012; Gerbaudo, 2012) based on the connective forms responding to educational privatization which empower citizens. The purpose of this study is to analyze the new forms of communication in the citizen empowerment protests based on collective protest actions in defense of public education in Spain. Thus, we shall strive to answer the question: How are collective protest actions working against the privatization of Spanish education on Twitter?

2. Method

The research methodology followed an orderly process in three stages. In the first, which determined the case studies, an analysis was performed of the narratives in three Twitter accounts: @YoEPublica, @SoyPublica, and @EsPublica. Our choice of these three accounts was based on the criteria of prominence online and activeness (Table 1). Prominence was determined by accounts with more than 10,000 followers and activeness by discarding accounts with fewer than 30,000 tweets posted. The sample was developed in accordance with the summary shown in Table 1 and the 1,894 tweets resulting from the search performed according to the criteria in the second phase.

In the second phase, in which we searched for and gathered information, we used Twitter's "advanced search" to filter data by accounts and dates. We performed searches using logical Boolean operators to filter information based on the interests of the study on privatization. With this logic, we conducted successive searches in each account based on the semantic fields of capitalism, subsidized private schools, economy, evaluation, mercantilisation, neoliberalism, LOMCE, PISA, public, private, privatization and cutbacks. The searches were conducted between 25/11/2012 (publication of the draft LOMCE) and 31/12/2016. The 1,894 tweets comprising the data set analyzed resulted from this search. The information was gathered using the NCapture application integrated into the NVivo11 program (Bazeley & Jackson, 2013).

Table 1. Sample to determine the case studies

Account	No. of followers	No. of tweets
@YoEPublica	25,600	47,200
@SoyPublica	24,100	45,300
@EsPublica	14,000	35,800

In the third phase, we analyzed the information using the procedures from the qualitative methodology and an inductive logic that made it possible to understand and grasp the meaning of the data (Strauss & Corbin, 1998). The tools in the NVivo11 program allowed us to generate nodes or clusters of references to a specific topic. Thus, the references were clustered around relevant terms for the study which became the units of analysis.

At times, a semantic analysis of terms is needed to create units of meaning; in our case we clustered different signifiers with the same meaning (Strauss & Corbin, 1998): LOMCE (LOMCE, Wert Law, educational reform and educational law), public school (public education, public school, the public, public education, public centers, public schools and public center), subsidized private school (subsidized, subsidized private education, private-subsidized, subsidized private education, subsidized private schools, etc.) and private school (private centers, private, private education, private education and private schools).

A matrix which identifies matching text segments in the previously established units of analysis was developed as a codification mechanism (Strauss & Corbin, 1998) and a way to identify the interactions among them. The results of the matrix were used to construct a set of convergent subcategories that would systematize the data collected. Subsequently, with a cluster analysis in NVivo11, the subcategories were grouped according to word similarities in the codified references (Bazeley & Jackson, 2013; Edhlund & McDougall, 2016).

3. Analysis and results

Bearing in mind the Pearson coefficient, we only estimated those values with a positive relationship between 0.85 and 1. The results of the cluster analysis revealed that all the subcategories are interrelated, as shown in Figure 1, which depicts the subcategories on the perimeter and uses straight lines to show the relationships among each of the elements.

Based on this initial overall result, we developed different subcategories which inductively converged into the four main emerging categories which give the contribution meaning: defense of public schools, privatization of education, standardized testing and educational consensus. A new cluster among these four categories allowed us to interrelate them based on correlation coefficients, which intersect in up to 6 different highly significant ways (Table 2).

Based on this, the results further explore each of the categories. We present them including the subcategories comprising them, the number of codified references and the correlation coefficients of the subcategories. The results also depict the nodes clustered by word similarity and the most representative tweets for the interpretative analysis from the narratives, from the evaluative perspective of the study (Denzin & Lincoln, 2011).

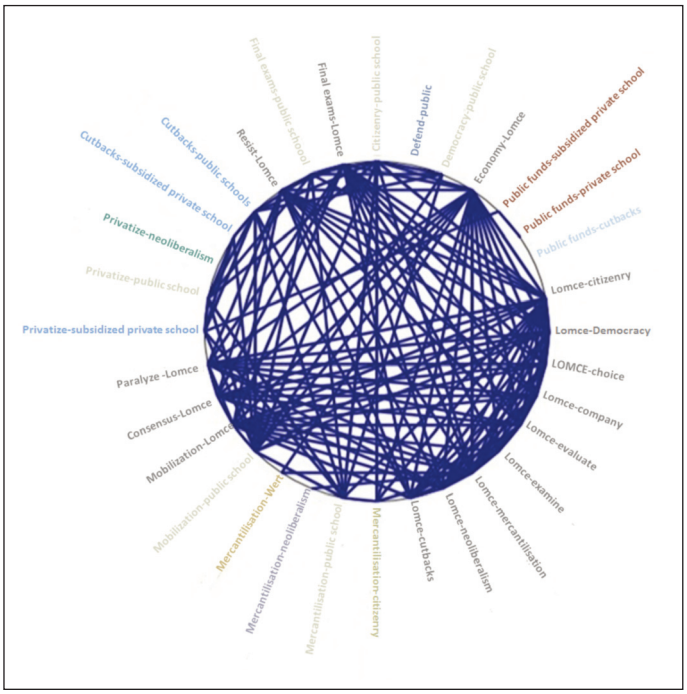

Figure 1. Cluster of subcategories of analysis.

3.1. Defense of public schools

This category reveals the highest correlation index between the subcategories "cutbacks-public school" and "cutbacks-subsidized private school", along with "LOMCE-cutbacks" and "economy-LOMCE". Both exceed 0.90 and express a rejection of the cutbacks and the dearth of public funds to finance education.

The original meaning of "public" in education was framed under the ideal of citizenship in nation-states but has changed with the processes of globalization (Novoa, 2000), in which the steadfast defense of public education is a frequent demand when faced with agendas that attack and weaken public policies that claim the need for society to operate based on civil rights and individual freedoms (Harvey, 2005).

We are joined by the defense of this social asset which is Public Education, achieved with the dedication of many other citizens (@YoEPublica).[1]

Now civil society is using social protests to call for the construction of a citizenry that is capable of using an educational model that is truly connected to social justice and a more democratic public sphere. Public education is viewed as an inalienable social right supported and financed by the public administration, and a priority in achieving a more equitable, fair and democratic society (Biesta, 2016).

"Free public education is the most powerful instrument for practicing democratic equality" (@YoEPublica). The institution of education in Spain is viewed as public because it is free and has an open-door policy, a guarantee that everyone is included without any kind of discrimination or exclusion. Furthermore, it has sufficient capacity to universalize scientific, secular, intercultural, plural and critical knowledge (Seville Forum, https://goo.gl/x1ngJ9).

Table 2. Correlation between categories and coefficients

Categories		Correlation coefficient
Privatization of education	Defense of public schools	0.946633
Educational consensus	Standardized testing	0.930637
Privatization of education	Educational consensus	0.905051
Educational consensus	Defense of public schools	0.888287
Privatization of education	Standardized testing	0.859135
Standardized testing	Defense of public schools	0.850226

"We advocate 100% public, secular, inclusive education whose main objective is to educate critical, responsible citizens" (@YoEPublica). The appearance of urgent measures to rationalize public spending sparked numerous criticisms of the cutbacks in public education.

"The quality of public education has deteriorated with brutal cutbacks" (@Espublica). The platform "Yo

Estudié en la Pública" (I Studied at Public School) joined Twitter and launched a YouTube channel to disseminate videos calling for a halt to LOMCE. It garnered 4,000 subscribers, and one of its videos had more than 500,000 views (https://goo.gl/6lg9ng). Personalities from culture and academia appeared in it, including Mayor Zaragoza, the former Director-General of UNESCO (1987-1999) and Minister of Education of Spain (1981-1982), to support the social movement in favor of public education, against the privatization of education and in defense of citizen participation in political decisions. The video was reframed as a means of politically reviving communication and as the citizens' appropriation of social and political transformation (Sierra-Caballero & Montero, 2015). This collective resistance, along with others, shared the claim that the role of public education was to promote a citizenry that is critical and watchful of society through political participation (Sartori, 2007; Bolívar, 2016).

Table 3. "Defense of public schools" category

Subcategory and codified references	Correlation of subcategories		Correlation coefficient
Cutbacks-public school (154) LOMCE-cutbacks (102) Economy-LOMCE (62) Cutbacks- subsidized private school (46) Defend-public (42) Public funds-private school (34) Public funds- subsidized private school (28) Democracy-public school (26) Public funds-cutbacks (23)	Cutbacks-public school	Cutbacks- subsidized private school	0,916558
	LOMCE-cutbacks	Economy-LOMCE	0,906967
	Cutbacks-public school	Democracy-public school	0,899577
	Cutbacks-public school	LOMCE-cutbacks	0,883138
	Public funds-private school	Public funds- subsidized private school	0,877904
	Cutbacks- subsidized private school	Public funds- subsidized private school	0,878175
	Cutbacks-public school	Public funds- subsidized private school	0,865017
	Cutbacks- subsidized private school	Democracy-public school	0,863601
	Cutbacks-public school	Economy-LOMCE	0,857358

Nodes clustered by word similarity from Table 3 (goo.gl/RkCE9e).

"Public schools teach us how to be socially conscious citizens" (@YoEPublica). Thus, public education should be organized and managed under parameters of effective, responsible citizen participation as the foundation of democratic schools which, along with culture, contribute to the transformation of the working classes' sensibility into critical consciousness.

3.2. Privatization of education

In this case, the largest correlation index between subcategories is found in "LOMCE-mercantilisation" and "LOMCE-citizenry", which along with "Privatize-public school" and "Mercantilisation-public school" had a correlation coefficient of more than 0.90 and demonstrate the repudiation of companies and mercantile values in education policy.

Table 4. "Privatization of education" category

Subcategory and codified references	Correlation of subcategories		Correlation coefficient
Privatize-public school (151) LOMCE-mercantilisation (97) Privatize- subsidized private school (95) Citizenry-public school (87) LOMCE-citizenry (81) LOMCE-democracy (40) Mercantilisation-Wert (38) Mercantilisation-public school (37) LOMCE-company (33) LOMCE-choice (29) LOMCE-neoliberalism (27) Mercantilisation-neoliberalism (27) Privatize-neoliberalism (25) Mercantilisation-citizenry (19)	LOMCE-mercantilisation	LOMCE-citizenry	0.919090
	Privatize-public school	Mercantilisation-public school	0.916743
	LOMCE-democracy	LOMCE-citizenry	0.906222
	Privatize-public school	Privatize-subsidized private school	0.898845
	LOMCE-mercantilisation	LOMCE-democracy	0.897765
	Mercantilisation-public school	Citizenry-public school	0.896678
	LOMCE-citizenry	Citizenry-public school	0.889045
	LOMCE-company	LOMCE-citizenry	0.886130
	LOMCE-company	LOMCE-democracy	0.885902
	LOMCE-neoliberalism	LOMCE-mercantilisation	0.882187
	LOMCE-choice	LOMCE-democracy	0.871735
	LOMCE-company	LOMCE-choice	0.870720
	LOMCE-neoliberalism	LOMCE-citizenry	0.870688
	LOMCE-choice	LOMCE-citizenry	0.868655
	LOMCE-mercantilisation	LOMCE-company	0.860479
	Mercantilisation-citizenry	Citizenry-public school	0.856638
	LOMCE-neoliberalism	LOMCE-democracy	0.855209
	LOMCE-mercantilisation	LOMCE-choice	0.852520
	Privatize-public school	Citizenry-public school	0.851858

Nodes clustered by word similarity from Table 4 (goo.gl/RkCE9e).

Educational agendas promote a focus on the new school reforms following the market practices common to global governance (Rizvi & Lingard, 2009). The draft LOMCE (https://goo.gl/MSAZsS) would stress this logic: "Education is the engine that promotes the competitiveness of the economy and the level of prosperity of a country, whose educational level determines its ability to compete successfully in the international arena".

It is asserted that LOMCE would privatize education in that it would subject citizens to the mandate of a strictly economically-driven, mercantile labor market. The condemnation was clear: the right to education could not be subjugated to the market, economy and productivity.

"#LOMCEenmiendaalatotalidad because education is envisioned not as a Right but as a productive factor serving the economic model" (@YoEPublica). An inherent part of these reform processes is to include privatization mechanisms concealed in education which are delimited in the new public management practices, school quasi-markets, economic incentive systems, accountability policies, and standardized testing or rankings (Ball & Youdell, 2008). LOMCE is a clear example of this when it specifies that its principles are: "to increase the independence of schools, to reinforce the management capacity of school administrations, to perform external evaluations at the end of an educational stage, to rationalize the educational supply, and to make tracks more flexible" (Official State Newsletter, 2013: 97862).

This is a statement of intentions which gave rise to the first collective outcries on Twitter via the hashtag #LOMCEBasura. This protest was intense among members of the "Marea Verde", who harshly criticized the privatization of education. Just like other "tides", their main goal was to communicate their defense of public education (Álvarez-Ruíz & Núñez-Gómez, 2016).

"The exercise of power takes on the form of domination when citizens remain silent. Do not obey; shout NO #LOMCEBasura" (@YoEPublica). There were also protests against school competitiveness and rankings. Similarly, the new public management and schools' independence would enter this privatization in a concealed fashion (Ball & Youdell, 2008), which sparked opposition because of their potential to create a hierarchy in the functioning of schools and to downgrade the democratic processes implemented in them.

"Headmasters hand-picked by the administration and teachers chosen at the whim of these same headmasters. This is LOMCE's 'autonomy'" (@YoEPublica).

3.3. Standardized testing

In the category of standardized testing, the largest correlation index is between the categories "final exam-LOMCE" and "LOMCE-evaluation". The coefficients were higher than 0.98, showing a rejection of standardized tests as the cornerstone of LOMCE.

Governments usually construct political problems and then determine their solutions beyond the national sphere (Novoa & Yariv-Mashal, 2003). LOMCE was perpetrated as a response to a need to improve Spain's academic results on the OECD's PISA tests (Bonal & Tarabini, 2013). For this reason, it included the "final exams" which proved too worrisome to the social movement on behalf of public education, which glimpsed that standardized testing would open the doors to the segregation and exclusion of students.

"The purpose of final exams is not to improve the quality of education when they are also lowering the requirements to pass a grade #NoALaFinal exam" (@Espublica).

"Why don't we like LOMCE? Because of the final exams that exclude students" (@YoEPublica).

These standardization policies, governed by supranational spheres to "control from a distance" (Miller & Rose, 2008) and "govern with numbers" (Ozga, 2011), were tools of control that proved worrisome to the protest movement, which felt that educational policy was emigrating at the whim of the OECD based on a market law that was privatizing policy.

"Companies decide on the social model or citizenry decide on their pro-

Table 5. "Standardized testing" category

Subcategory and codified references	Correlation of subcategories		Correlation coefficient
Final exams-LOMCE (192). LOMCE-evaluate (64). Final exams-public school (22). LOMCE-examine (15).	Final exams-LOMCE	LOMCE-evaluate	0.903072
	Final exams-LOMCE	LOMCE-examine	0.896332
	Final exams-LOMCE	Final exams-public school	0.888209
	LOMCE-examine	LOMCE-evaluate	0.885177
	Final exams-public school	LOMCE-evaluate	0.866389
	Final exams-public school	LOMCE-examine	0.856077

Nodes clustered by word similarity from Table 5 (goo.gl/RkCE9e).

ductive model? We cannot allow the #OECD and #LOMCE to replace us" (@YoEPublica). If education is "the space in which national identity is constructed" (Novoa, 2000: 33), the educational community was reproaching LOMCE's principles with their narratives. They were calling for citizens to participate in political decisions and to stop giving in to the blackmail of international organizations that were bent on introducing privatizing logics. They asked for the elimination of standardized tests that questioned the trust and authority of teachers. They even questioned whether these tests could be used to improve education (Carabaña, 2015).

"#LOMCE the same ones who boast about wanting to give teachers more authority are trying to take it away from them with final exams #MareaVerde" (@SoyPublica).

Standardized tests were rejected because they sought to change the identity of the teaching staff. In neoliberal reformist policies, the culture of performativity is what leads to a loss in teachers' professionalism and independence, while in no way does it lead to teacher professionalism (Moore & Clarke, 2016). Teachers who are aware of this made their opposition to this tendency known.

"Final exams will cast doubt on teachers' professionalism and require many of them to become test preparers #LOMCE" (@SoyPublica).

3.4. Educational consensus

In in the last category the largest correlation index is in the subcategories "resistir-LOMCE" and "paralizar-LOMCE", "resistir-LOMCE" and "movilización-LOMCE", "paralyze-LOMCE" and "consensus-LOMCE", with coefficients higher than 0.90, which show the necessary repeal of LOMCE and the desire for an educational consensus.

Table 6. "Educational consensus" category

Subcategory and codified references	Correlation of subcategories		Correlation coefficient
Paralyze-LOMCE (120) Consensus-LOMCE (58) Resist-LOMCE (50) Mobilization-LOMCE (39) Mobilization-public school (31)	Resist-LOMCE	Paralyze-LOMCE	0,964594
	Resist-LOMCE	Mobilization-LOMCE	0,925328
	Paralyze-LOMCE	Consensus-LOMCE	0,904404
	Paralyze-LOMCE	Mobilization-LOMCE	0,891850
	Consensus-LOMCE	Mobilization-LOMCE	0,885557
	Mobilization-LOMCE	Mobilization-public school	0,884028
	Resist-LOMCE	Consensus-LOMCE	0,866063
	Paralyze-LOMCE	Mobilization-public school	0,861950
	Consensus-LOMCE	Mobilization-public school	0,856276
	Resist-LOMCE	Mobilization-public school	0,855806

Nodes clustered by word similarity from Table 6 (goo.gl/RkCE9e).

Consensuses in education are essentially palpably complex when we bear in mind that they must be made between sources of power with different ideologies and within civil society (Tedesco, 1995). In fact, in Spanish educational policy, the latest debates and discussions have rendered it impossible to reach a statewide consensus due to the ideological differences between the principles of freedom and equality and the creation of policies which place the prime emphasis on some values over others (Puelles, 2007: 38).

In Spain, the "Stop Ley Wert" platform emerged in allusion to the Minister of Education who was behind LOMCE, emulating the Chilean protests against the privatization of education and in a bid to stop standardized tests and rankings ("Halt the SIMCE", https://goo.gl/evXESj). This platform sought to paralyze the regulation and carry out an exercise in conscientious objection towards it, as it was regarded as anti-democratic and enslaved to the doctrine of neoliberalism.

"Resistance and disobedience to an unfair education law subordinated to the neoliberal economic model" (@YoEPublica). To do so, they used narratives on Twitter, asking for signatures in support of a manifesto for schools' conscientious objection, the "letter of democratic compromise" (https://goo.gl/wTiFTs), as an expression of democratic resistance. Numerous schools and teachers signed the manifesto on Twitter.

"Spread the word on LOMCE, essential to stop SoyPublica" (@Espublica). In Catalonia, for example, 52 schools, grouped into the "Xarxa d'Escoles Insubmises" (Network of Resistance Schools), refused to apply LOMCE.

"Neither stupids nor wolves. The Network of Resistance Schools starts its campaign #VotaNoALaLOMCE http://noalalomce.net" (@YoEPublica). The protests gradually shifted towards calls for the resignation of the Minister of Education. The negative view of his actions spread throughout the citizenry, to such an extent that in January 2015 he reached the lowest approval ratings that any minister had ever received in the history of Spanish democracy (a mean score of 1.36 over 10) (https://goo.gl/WTRd98). The citizens who were calling for his dismis-

sal also wanted to take part in the future of education by repealing LOMCE and reversing the economic cutbacks in education.

"The State Public School Platform is demanding that Wert submits his resignation" (@YoEPublica). As the outcome of all the citizen protests, the Spanish Parliament approved the suspension of LOMCE with the support of all the parliamentary groups with the exception of the PP and C's (https://goo.gl/nmQ6g6). First, the calendar of the law was frozen, and then the first negotiations got underway to achieve an overarching social and political consensus for education with the approval of the PP, the PSOE and C's (https://goo.gl/mNujAh). However, the current Minister of Education spoke not about replacing LOMCE but instead merely about the need to negotiate this consensus (https://goo.gl/XWXEdB). The social movement on behalf of public education rejected an educational consensus among the three political parties mentioned above and using the hashtag #TumbarLaLOMCE they once again called for the repeal of LOMCE before embarking on negotiations for any consensus.

"Repeal LOMCE: a necessary precondition for an educational consensus" (@SoyPublica). In November 2016, for the first time, the Spanish government agreed to replace LOMCE with a new education law in the negotiations on the education consensus in the Congress of Deputies. In this regard, it agreed to create a subcommittee in the lower chamber for the "social and political consensus for education", the first step towards a new draft education law. The voice of the social movements emerged once again, this time to request that the "consensus" be "grassroots", from the educational community and with the social participation of the citizenry in the political and public affair of education.

"Reach a consensus with the citizens and repeal LOMCE NOW #DiálogoPorLaEducación" (@SoyPublica).

4. Discussion and conclusions

The economically-driven policies applied in Spain as a consequence of the "fiscal and economic crisis" which took root in 2008 have weakened the public and social nature of education. Citizens have expressed their protest through spontaneous social movements. In this study, we have focused on what is called the "Green Tide", which started in 2011 with the goal of reprogramming the hegemonic power around interests and values in favor of democracy and social justice (Castells, 2012), including the defense of "Public school: by all and for all".

The social movements were spurred via the Internet and the social media, and in this study, we have analyzed three Twitter accounts. This methodology is of interest because the prime access to information through these technologies has triggered deep-seated changes in the way large population groups participate in politics as forms of democratization and empowerment (Howard & Parks, 2012) by joining network communication and protests (Juris, 2012). As we have analyzed, in this complex social fabric citizenry has mobilized and become empowered, participating actively in the debate and defense of education as a fundamental social right through its democratization and universalization.

The methodology used suggests the emergence of four categories of analysis which agglutinate and describe the demands of the social movements via the social media. On the one hand, they reject the "privatization of education" and "standardized testing", while on the other they call for the "defense of public schools" and seek an "educational consensus" with the political forces and educational community.

Public schools are heavily involved in democratic culture (Apple & Beane, 2007). For this reason, this movement rejects economically-driven considerations that seek to weaken it, such as cutbacks or the dearth of public funds to finance it. Thus, it expresses heavy opposition to subsidized private schools because of the economic protection received by the state. The fierce rejection of neoliberal policies has coalesced around LOMCE because of its privatizing, mercantilist proposals.

The privatization of education is part of the neoliberal strategy to weaken public schools. The social movements' protests are opposed to forming an educational market because this turns schools into companies that sell educational services to families. This reconfiguration of schools is identified with the proposals of Wert, the former Minister of Education, who is harshly condemned by the "Green Tide" movement. There is also a categorical rejection of the final exams proposed by LOMCE because they harm the equity upheld by public schools and introduce mechanisms of socio-educational segregation and exclusion. Ultimately, the protests against LOMCE translated into resistance actions that caused it to be paralyzed. One non-negotiable requirement is to achieve an agreement or consensus that gives the education system credibility and political and social stability in order to shape a model of school that is agreed upon by all the political forces and socio-educational stakeholders.

Finally, this kind of study reveals the prominent role played by the social media because of their ability to alter

the traditional role of the public powers. In this new cyber-society context in which digital citizens play a particularly important role (Ribble & Bailey, 2004), we must pay attention to the actors who are calling for active participation in the public debates in order to critically understand the social and cultural milieus that affect the meaning of everyday life. It is important to bear in mind that the collective protests use the Internet as an information and communication channel to bring together their claims, shaping a social fabric with a high degree of connectivity in which citizens are empowered to discuss affairs of common interest in deliberative democracies (Gozálvez & Contreras, 2014).

The new social reality emerging around social interaction mediated by the Internet requires specific methodologies. The majority of analyzes import processes from other similar scholarly fields, with a preponderance of quantitative methods. For future studies, we suggest more qualitative approaches in order to understand the meaning that people assign to these emerging social phenomena. To do so, it would be invaluable to examine these changes via participant observation, surveys and in-depth interviews with activists. This study was limited in this sense by its main objective and the research question, which was limited to analyzing the empowerment of the collective protest actions against the privatization of Spanish education on Twitter.

Notes

[1] The original tweets in Spanish from @YoEPublica, @EsPublica, and @SoyPublica have been translated and are presented between quotation marks throughout this whole document.

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Cyberactivisim in the Process of Political and Social Change in Arab Countries

El ciberactivismo en el proceso de cambio político y social en los países árabes

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ABSTRACT

This research analyses the contribution of cyberactivism to the political and social change in Tunisia, Egypt and Libya, as well as the opinion of young Arabs on the present context. Meaningful information has been extracted from regular interviews to 30 undergraduates over a five-year period. These students had already participated in the process boosting the Arab Spring in 2011, and they keep practising cyberactivism ever since. The use of a mixed method research allows for carrying out a study where quantitative elements are complemented by qualitative ones. Findings show that Arab countries have not yet shaken off the former structures that supported the regimes preceding 2011, which are those that hamper the consolidation of a modern country. At the moment, there are still two conflicting realities between millenary traditions and values connected to revolutions and symbols of progressivism in Tunisia, Egypt and Libya. In a context where the unity of action action is needed, cyberactivism plays an essential role, as it brings together critical citizens in a common and virtual space. These groups are committed to change, they keep in touch with the outside world and beyond censorship, they make protests visible to the international arena, and monitor government actions.

RESUMEN

Esta investigación analiza la contribución del ciberactivismo al cambio político y social en Túnez, en Egipto y en Libia, y la opinión de los jóvenes árabes sobre la situación actual. Para disponer de información relevante sobre estos hechos se ha entrevistado periódicamente durante los últimos cinco años a 30 universitarios que ya habían participado en el proceso que impulsó las revueltas de 2011 y que siguen siendo ciberactivistas desde entonces. La utilización de una metodología mixta permite realizar un estudio donde los aspectos de carácter cuantitativo se complementan con contenidos cualitativos. Los resultados demuestran que los países árabes todavía no se han desprendido de muchas de las estructuras que sostenían a los regímenes anteriores a 2011, que son las que dificultan la consolidación de un sistema moderno. En este momento en Túnez, en Egipto y en Libia todavía conviven dos realidades que provocan un choque permanente entre las tradiciones milenarias, muy arraigadas en determinados sectores de la sociedad, y los valores asociados a las revoluciones, más progresistas. En un contexto donde es necesaria la unidad de acción, el ciberactivismo juega un papel fundamental porque congrega en un espacio virtual común a la ciudadanía crítica comprometida con el proceso de cambio, permite organizarse, mantener contacto con el exterior al margen de la censura oficial, hacer visibles las protestas en escenarios internacionales y vigilar las acciones del Gobierno.

KEYWORDS | PALABRAS CLAVE

Cyberactivism, critical citizenship, citizen empowerment, Arab countries, Internet, social policy, networks, youth.
Ciberactivismo, ciudadanía crítica, empoderamiento ciudadano, países árabes, Internet, política social, redes sociales, jóvenes.

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1. Introduction

Tunisian, Egyptian and Libyans societies witnessed extraordinary events during the Arab uprisings in 2011, which led to the fall of authoritarian regimes (Álvarez-Ossorio & Gutiérrez-de-Terán, 2011; Majdoubi, 2011). Changes generated expectations, but most of them were unfulfilled because the solid structures that maintained governments were not abolished and were integrated into society for a long time (Álvarez-Ossorio, 2015; Morales-Lezcano, 2012). When consolidated power structures are not completely eradicated, this makes modernization and progress difficult. Also, there are always political, economic and social factors involved in project changes, as many citizens find it difficult to get rid of acquired privileges, conquered or inherited, or they just prefer to keep the traditions because they do not want to adapt to a new scenario. (Martín Muñoz & Moure, 2006).

The openness has slowed down in Tunisia, Egypt and Libya because of impediments caused by diverse internal and external factors, which have conditioned the evolution of society in a moment when radical changes had begun and were viewed with suspicion in segments of the population that were critical to the process since the beginning of the uprisings (Shawki, 2014), and also in western countries, which have had their geopolitical and geostrategic alliances jeopardised (Belaali, 2011; Khader, 2015; Martínez-Fuentes, 2015; Michou, Soler-i-Lecha & Ignacio-Torreblanca, 2013). Many of the implemented reforms were designed to give the regime more power and not to consolidate democracy, depriving citizens of rights provided and agreed (Naïr, 2013). The authorities have controlled and persecuted opposing political groups. For instance, in 2013 the Muslim Brotherhood was outlawed in Egypt because their followers represented a movement that questioned norms still in force two years after the triumph of the revolutions in 2011.

The fact that a country is officially a democracy does not guarantee a full development of individual and collective rights, because in many Arab countries elements and operating schemes that promote and tolerate authoritarian attitudes remain hidden (Izquierdo-Brichs, 2009). In a free society, there are co-habitation rules, and citizens have guarantees, and opportunity freedom and equal opportunities, both the individual and the collective are respected, and so what is different. When there is an excessive political and social control, pluralism is reduced, and fundamental rights are no guaranteed, although being the basis of democracy, and citizens rebel and protest, and seek ways to avoid authoritarianism and to denounce injustices (Naïr, 2013).

As noted above, the liberalizing process of Arab countries has encountered different obstacles that have impeded integral and rapid advances. The most non-conformist sectors of society have seen on the Internet and social networks an ideal tool for cyberactivism, from where they can channel criticism against abuses of power by authorities and program and perform protest actions (Majdoubi, 2012; Ortiz-Galindo, 2015). In this context is where it is appropriate to place and analyse the keys of citizen empowerment in Tunisian, Egyptian and Libyans societies (Peña-López, 2009; Tufte, 2015), an attitude belonging to the renewal process in 2011 initiated by a relevant proportion of citizens with significant involvement, especially youth people, who had references to other forms of government and cohabitation, and also knew the keys of active fight thanks to their contacts with cyber-activism movements in Europe and the Americas (Betancourt, 2011; García Galera, Del Hoyo-Hurtado & Fernández-Muñoz, 2014; González-Lizárraga, Becerra-Traver & Yánez-Díaz, 2016; Menéndez, 2012; Sampedro, 2014; Szmolka, 2012).

Getting in touch with other cultures is a crucial factor when a process of change begins as it makes it possible to know other ways of living (Ortiz-Galindo, 2014). In this regard, the Internet and social networks allowed relations with the outside world and contributed, first, to the social raise that resulted in Arab revolutions in 2011 (Dahlgren, 2011; Roces, 2011), and later to make more visible current protest movements, which are also integrated into cyberactivism (Ortiz-Galindo, 2016a; Tascón & Quintana, 2012).

The most developed societies sometimes work as a mirror and referent for other countries, but the importation of rules is not always possible, as in many cases the necessary conditions to address attitudes that demand radical changes. That is why education, information and knowledge are essential to assimilate values such as tolerance, which works in contexts where democracy is consolidated, where pluralism and diversity exist, and where ideas and ideology are respected (Camacho-Azurduy, 2005).

In Tunisia, Egypt and Libya, as it happens in every country, customs that configure people´s identity are rooted, with transversal connections that cover anthropological and sociological aspects, revealed in living arrangements and coexistence models. That is why we should talk about the dependency to which the transformative process is subjected in Arab countries, as well as the difficulties in living within a society in which millenary and highly conservative customs are installed, absorbed and admitted. Also, rules that prevent or hinder a publicly critical

attitude with certain issues and a free behaviour are still in force (Hourani, 1992). In this regard, cyberactivism plays an important role as it allows citizens to communicate beyond official venues (Ortiz-Galindo, 2014; García & Del Hoyo, 2013.) However, this possibility does not imply nor guarantee integration as most of the rule-breaking activities are developed in clandestine spaces and do not have public impact.

Thanks to technology, there exist new forms of access, distribution, and consumption of information. The Internet and social networks are both a tool for communication and content dissemination and, together with WhatsApp, they have changed the way people communicate and relate both in space and time level as technologies have modified spaces and times (Castells, 2012; Sádaba, 2012). One of the contributions of cyberactivism is that it has removed barriers that existed in Arab countries and has improved knowledge (Ortiz-Galindo, 2016).

When a society is subjected to ongoing renewal processes, the commitment undertaken by a critical and active citizenship, who is a transforming agent, the main character of change and the leader of the strengthening of democracy is very important (Delgado-Salazar & Arias-Herrera, 2008; Diani, 2015). The drivers of protest actions in Arab countries are educated and informed citizens, who know their rights and clamor for a common, shared and unrestricted space, with freedom of action and movement, to interact and access on an equal basis to all the material and cultural goods that belong to them. Their proposals are identified with values that stand for economic and social equality of all citizens and reject historic privileges that still exist in countries such as Tunisia, Egypt, and Libya that benefit very specific sectors and foster inequality. And these citizens have found in cyberactivism an appropriate instrument to channel ideas and fight for their goals (Tascón & Quintana, 2012).

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2. Material and methods

Arab youth played an important part in the emergence and development of the revolutions in 2011 through the Internet and social networks (Soengas-Pérez, 2013). And we start from the assumption that their contribution to the political and social change remains crucial. For this reason, five years afterward, it is interesting to determine the role of cyberactivism in a convulsed society, and what is the view of those cyberactivists on the present situation. In order to check it, 30 young Tunisian, Egyptian and Libyans were interviewed, ten by country, aged between 25 and 30 years, who participated in the Internet and social networks in the process that boosted the revolutions in 2011 and continue as cyberactivists ever since.

Young people interviewed have a university education and enough knowledge and ability to rigorously assess and analyse changes, and their profile makes them privileged and qualified observers as they have lived over the past decade between Spain and their countries of origin. This circumstance gives them a suitable perspective, as they have referents that allow them to compare two different realities.

Besides frequency, attention is given to qualitative aspects of messages and actions programmed and made through the Internet and social networks; that is to say, reasons, context, contents, and goals of cyberactivism in Arab countries: why it continues to exist, under which circumstances social networks are used to maintain alive protests, and what are the strategies. And it is also relevant to know needs, aspects with which they are satisfied and of which they are critical, issues with which they have a concern, and obstacles they face and immediate and future goals.

Interviews were conducted online from 2012 to 2016, twice a year, in June and December, to have regular

information on all the issues raised in the research. Thus it is possible to assess changes and to observe the evolution of cyberactivism.

The surveys consist of 50 questions related to the various ways of thinking, acting and being fulfilled, which is considered necessary to explore in line with the research objectives.

3. Analysis and results

72% of young people interviewed have had a constant cyberactivity on the Internet and social networks since the beginning of the Arab uprisings, at least three days a week, with greater intensity when there are punctual problems that require special attention –for instance if a restrictive law is passed or arbitrary detentions take place. 20% reduced their participation after 2011 for over a year, but have progressively taken over the activity once they saw the governments did not make most of the changes initially announced. And the remaining 8% also maintain loyalty to social networks, but collaborate in a regular manner, usually in moments where actions are intensified to put pressure on a particular issue.

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By disaggregating data by country, the most active young people in social networks are the Egyptians, who carry out 38% of the activity registered during the research, followed by Tunisian (35%) and Libyans (27%). If separated by sex, findings show that men spend more time on social networks (65%) than women (35%).

81% assure that they are committed to the process of modernization undertaken by their country responsibility, belief, and duty, and deem cyberactivism necessary because it is effective, relatively safe, and can operate outside political control and regime´s censorship, and it is affordable for most citizens. In addition to being an instrument of struggle, 62% consider the Internet and social networks as release vehicles, enabling them to channel worries and share with citizens with the same concerns.

87% consider themselves privileged because not all their compatriots have the same resources and knowledge. They are connected, but there are many isolated citizens for economic or cultural reasons because isolation responds to many factors. And 81%, as mentioned above, think it is compulsory to fight to make a better society, and a way to do it is to turn cyberactivism into a representative of the most unprotected citizens and to use knowledge, resources, and experience of those who are in a more comfortable position to denounce authoritarianism of governments and overcome corruption and inequalities.

A 75% admit that they are now better coordinated than during the uprisings in 2011 because they have understood the value and capacity of the Internet and social networks, and they have found out that by organizing themselves they are more effective and more protected. Although 73% say that when they expose themselves, they are aware that they take on significant risks, they are usually cautious and are careful that the government does not have access to their plans to prevent a scheduled event or retaliate. The majority of their initiatives bother the regime because they contemplate modifying existing laws that affect individual freedoms and collective rights, and the Government considers them a challenge.

65% value the unity of action, but 52% argue that a person, in order to feel useful, first needs to develop his/her potential as an individual and then as a member of the environment to which he/she belongs.

The strategies of Arab cyberactivists are conditioned by the resources they have and by the range of action they have to avoid risks as recognized by 70% of respondents. That is why they try to optimize the possibilities offered by the network. One of the main objectives of the 63% is to strategically make their actions visible because they think

that it is more efficient to use the Internet and social networks to highlight the democratic deficiencies of the country in international forums. A 60% of cyberactivists believe that some foreign governments have great pressure on many Arab countries to force changes, especially those affecting human rights.

In order to rigorously assess the current situation in Tunisia, Egypt, and Libya, it is necessary to know the role of the different players. A 78% of the respondents recognize that in these three countries, as in most countries, there is a clash of cultures with different interests, and the forces of each sector vary in a circumstantial way due to the instability of the system. In this context two very different and confronted scenarios arise: first, there is a permanent confrontation between those who represent tradition and those who support modernity and progress, as both tendencies include incompatible values. Second, there is a lack of correspondence between what is official and real, which requires a constant distinction between both realities to understand many actions and positions, especially as regards freedoms and protocols. And 74% qualify that, in addition to the cultural differences that exist between generations, there are some ways of thinking in the private sphere that do not always correspond to public behaviors, and for this reason, conflicts occur at family, social and institutional levels. An 83% of respondents recognize that they act differently in each context. They adapt to circumstances by prudence, fear or respect for customs. For the same reason, a seventy-one percent, when talking about certain topics, express themselves more freely in circles that do not belong to their family, social or work environment because they feel free of many conditioning factors, while other subjects only approach them in intimate circles or of extreme confidence to have no problems. Thus, for a 64% there are a number of constraints, which include ideology, traditions, and religion, which often become barriers, sometimes invisible to external observers that impede social progress and full exercise of individual and collective freedoms.

One of the characteristics of many Arab countries is that there is little social transversality as recognized by 77% of respondents. Most citizens live in small and enclosed environments without contact with other realities. Certain places, both public and private, are only accessible to very specific profiles. Therefore, one of the permanent claims by 91% of cyberactivists is that there is greater permissiveness and there exists a common social space for coexistence. However, they recognize that this would entail the removal of many taboos based on traditions and religion and preserved thanks to politics.

Cyberactivism allows permanent contact with other cultures and 69% consider that external influences are sometimes enriching, but 53% believe that certain foreign contributions clash with traditional values and are a risk to the cultural identity of the Arab countries. This identity is based on a way of behaving that, in many cases, is inconsistent with the Western principles, both in public and private spheres since the roles do not always correspond. A 45% argue that most of the ancestral customs that remain in Tunisia, Egypt and Libya do not support norms contemplated in the basic parameters of any Western democracy, and put this down to the fact that more and more voices question that schemes copied from the US and Europe are intended to be implanted in some Arab countries as if they were the only valuable and fair form of government. All the respondents recognize that in most Western countries there are consolidated democracies, but for 53%, as mentioned before, it is a mistake to try to introduce values from other places without recognizing the particularities that form part of the essence of each territory. Thus, a 32% regret that, as a result of the uprisings in 2011, the own traditions of Arab countries have been neglected, based on the culture of sharing, and have promoted ways of life from Western countries that invite citizens to compete. A 17% even say that, at present, cultural cohesion in some Arab countries has been lost and society is more unstructured.

For the 80%, the changes in Tunisia, Egypt, and Libya are not enough to guarantee a free and modern country, nor do they correspond to the promises made by political parties after 2011. A 74% define the changes as apparent reforms that do not advance at the desired and necessary pace, especially in key sectors, which are strategic and essential. They attribute the slowdown to the links between politics, economy and certain sectors of society, which are interested in maintaining privileges and traditions, and are joining forces to preserve them, and thus hinder full development of democracy. They blame these sectors for maneuvering and influencing so that many projects that were announced never came to fruition. A 34% also claim that governments often play with the population, and at the most critical times, in order to prevent the proliferation of protest acts, governments implement laws that satisfy some demands of cyberactivists and then repeal them shortly. 55% of young people consider this initiative by the authorities a way of implicitly recognizing the importance, influence, and capacity for mobilization and action of cyberactivism. However, they also maintain that this formula causes confusion, as there are advances and then setbacks incomprehensible for part of the citizenship.

83% criticize the timidity of the reforms as has already been said. However, 52%, while recognizing that it is necessary to promote renovators and solid projects, where the separation of powers is clear, say that the population needs time and pedagogy to assimilate and incorporate certain new features into their daily lives. For these young people, some changes were sudden and abrupt, and they report that many Arab citizens, especially the elderly, had to accept and comply with rules that they found strange and that went against their principles because they were accustomed to living in totalitarian regimes where traditions were confused with politics and religion. For 59%, one of the reasons why many changes have not been consolidated is that, apart from the constraints mentioned above, some of the citizens have found a new reality that they have not been able to manage.

91% of respondents, as pointed out earlier, say that at the moment there is lack of a common space of coexistence and they seek to transform a society that is, according to them, dominated by deficiencies, corruption, lack of opportunities, inequalities, repression and hatred, and turn it into a prosperous, fair and free place, where the individual, in a personal way, and citizens, collectively, can develop and feel fulfilled, regardless their religious beliefs, their political preferences, their social status and their economic potential. Almost the same percentage (90%) agree that Egyptians, Tunisian, and Libyans do not share rights and obligations at the same level because the standards are theoretically common but are not respected by all or applied equally. For 87% it is important to have access to education, to be able to develop the capacities and to have the necessary and adequate resources. 59% admit that a person's values do not always coincide with those set by society, and in that case, the common good must prevail over individual interests. And they add that social profitability can not be assessed using economic parameters and, sometimes, the fruits of actions are obtained in the long term. That is why, although the results are not always the expected, 62% say that the demands must be maintained until the rights of a full democracy are achieved. And they maintain that the Internet and social networks are the adequate platforms to program and carry out the necessary cyber activities until the marked purposes are achieved. That is why they consider it necessary to have a critical mass to keep protests going. However, 32% acknowledge that many of the claims are symbolic because they are impossible in the current political, social and economic context, where many of the structures of the previous regime remain.

The Arab cyberactivists who have participated in this research are realistic and aware of their possibilities, so their actions have short and long term objectives. The interests of young people vary according to circumstances, but 47% agree on priorities. What worries them most is, in this order, political instability, which generates social instability, human rights, individual and collective freedoms, corruption and economic precariousness. And then there are other future purposes: 35% want a more critical society and 42% a consolidated democracy, without losing the identity values, where all citizens have access to resources, knowledge, and freedoms under the same conditions.

In the following table, we include a selection of the data that we consider more representative to see the contrasts that exist in the society of Tunisia, Egypt, and Libya. The clashes of feelings, values, and norms, typical of a society in which tradition and modernity coexist, generate numerous personal and social conflicts, which affect decisively the development of the process of change and the construction of modern society. And in this context cyberactivism plays a decisive role.

Table 1. Factors conditioning the political and social situation in Tunisia, Egypt and Libya

There is a clash of cultures	78%
There are differences between the public and private	74%
Action varies depending on the context	83%
There is little transversality	77%
There are privileges for the most powerful	90%

4. Discussion and conclusions

Cyberactivism has played a key role in Arab revolutions of 2011 and from then on young people that have participated in that process maintain a constant activity in the network. Tunisia, Egypt, and Libya have not made all the expected and agreed changes and, as long as no structures of a modern state that guarantee full individual and collective rights are consolidated, it is important to have an active and critical citizenship.

The Internet and social networks are safe platforms that allow cyber activists to communicate, organize, program and take necessary action to keep alive the social struggle at the local level, apart from the official censorship and the surveillance of the government. Besides, cyberactivism allows to identify shortcomings of the country and to pass on the protests and complaints to international forums, where the impact is greater, and so they are more effective.

In Tunisia, Egypt, and Libya, official media are still controlled by the government, and in a society in which there is an important critical mass and any press freedom, cyberactivism plays a counterweight role against the intense and continuous indoctrination exerted from the Administration. In the Arab spring of 2011, there was already an important phenomenon. For the first time, the communicative flow generated on the Internet and in social networks was outside the control of the Government, as in the network every citizen has the possibility to be an emitter and receiver and, also, to do it from any place and at any time. This makes social networks uncontrollable. And this is where part of the value of cyberactivism lies because governments can not fight against a platform that transcends their capabilities. Currently, the young Arab cyberactivists are aware of the importance and necessity of using Internet and social networks correctly and of properly planning the communication strategies to optimize resources, something that they did not do in 2011.

The scope of the network is not yet universal in Arab countries. In this sense, technology is, at the same time, an integrating and exclusive element because its access and use are limited. In some areas of Tunisia, Egypt and Libya there are problems of coverage, and in other cases, citizens do not have access to the Internet for economic reasons. This gap makes it difficult for cyberactivists to contact many isolated localities and with marginal sectors disconnected due to lack of resources.

The protest movements in Tunisia, Egypt, and Libya have to be placed in a context of non-conformism and permanent disenchantment felt by part of their citizens, who have not yet met the expectations created during the 2011 revolutions. Many of the young people interviewed, who are representative of a large section of the population, do not feel valued or protected by the authorities of their country, which they accuse of having interests incompatible with the public service. And marginalization has generated discontent that has resulted in the process of citizen empowerment and a movement of a critical society that channels their concerns through cyberactivism to transform personal demands into a collective struggle.

Most of the changes scheduled during the 2011 revolutions have not yet been consolidated because there are many obstacles. Tunisia, Egypt, and Libya share the same contradictions. In all three countries, tradition and modernity live together permanently, and this contrast generates clashes that hinder or impede the incorporation of new norms that have associated values of forms of coexistence that for many Arab citizens are incompatible with its principles and their beliefs as recognized by 78% of cyberactivists. Millennial traditions and customs are rooted in society. Eradicating them completely is now impossible because many structures of the previous regimes that support them remain. These customs are what sustain many moral values, which go beyond ideology because they are transversal. That is why it is difficult to separate politics from the influence of religion and traditions. Also, many citizens are reluctant to lose part of their privileges, and in the social arena, there are difficulties to incorporate progress that will improve individual freedoms and collective rights approved by international standards.

One of the reasons behind the clashes between tradition and modernity is that some changes have occurred suddenly, without time to assimilate them. Reforms, when they are very drastic, require processes of adaptation to the new reality to avoid conflicting episodes. 63% of cyberactivists recognize that in many cases the interests of citizens have not been respected and action has been taken hastily with plans designed and imposed from abroad for political reasons.

As there is no political stability, there is no social stability. The governments of Tunisia, Egypt, and Libya are not stable and do not have freedom of action because they depend on other foreign governments, especially the US, which is accused by 56% of cyberactivists of imposing Western values incompatible with many of the Arab cultural traditions. These same young people describe their governments as authoritarian towards citizens and weak towards international pressures.

The ideals of cyberactivism are revolutionary, but also inclusive. Young Arabs believe that it is necessary to fight for a space of coexistence in which all sensitivities are embraced. They want a modern society, without renouncing tradition, because they believe that both are compatible. Cyberactivists advocate a critical citizen participation in which knowledge is valued rather than social position and assume collective responsibility and social commitment, maintain a sense of belonging to a territory and culture, the permanence of cultural identity, and defend individual freedom and collective rights. Their philosophy and social project consist in finding a balance where it is possible to incorporate the necessary changes to improve the welfare of citizens without losing their identity.

From the interviews carried out, it is clear that Arab cyberactivists promote claiming citizen initiatives and have the necessary elements to maintain an active struggle that channels the ideals of a critical citizenry. Besides, they demonstrate attitude, willingness, knowledge, availability of resources.

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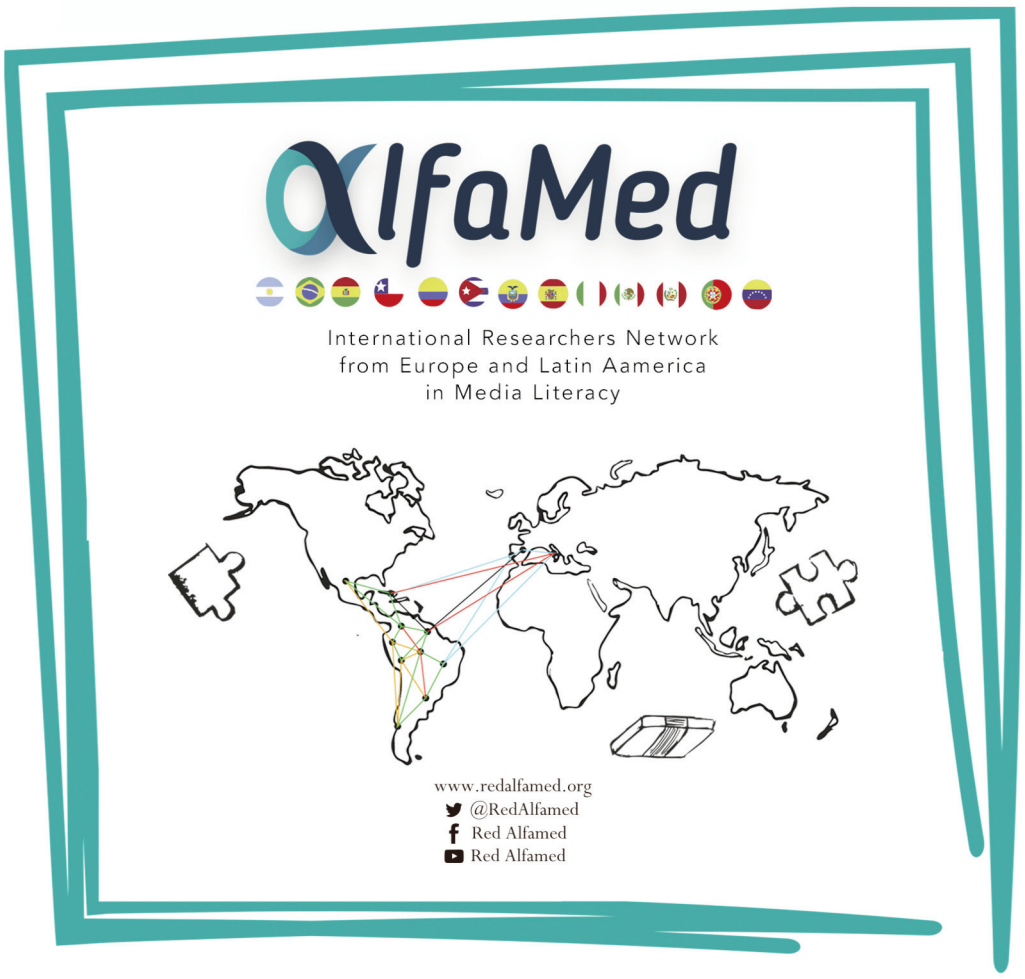

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University Students and Informational Social Networks: Total Sceptics, Dual Moderates or Pro-Digitals

Universitarios y redes sociales informativas: Escépticos totales, moderados duales o pro-digitales

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ABSTRACT

The goal of the present work is to analyze the use of social networks as a tool for social empowerment by Spanish university students, and their perception of the university as an institution that contributes to the formation of a critical and active citizenship, that provides them with the relevant digital competences. The literature review shows possible discrepancies regarding the effect of new forms of digital communication in empowering young people, specially university students, as well as the existence of issues related to clarify this digital stage. Following, a typological analysis of the perception of university students regarding social information networks, social empowerment and the role of the university is presented. Using the data collected through a structured questionnaire of a sample of 236 students of social science degrees, an analysis of typologies is performed with the algorithm K Medias. Three clusters significantly different –labeled as "total sceptics", "dual moderates" and "pro-digitals"– are identified. Its prevalence and its characterization are explained: belief and behaviour profiles related to these beliefs. The paper concludes with several recommendations for future research regarding the perception of the students about the use of social networks as a tool for social transformation and the role of the university in this area.

RESUMEN

El objetivo del presente trabajo es analizar el uso de las redes sociales informativas como herramienta de empoderamiento social por los universitarios españoles, y su percepción de la universidad como institución que contribuye a la formación de una ciudadanía crítica y activa, al tiempo que les proporciona las pertinentes competencias digitales. La revisión bibliográfica evidencia posibles discrepancias respecto al efecto que tienen las nuevas formas de comunicación digital en el empoderamiento de los jóvenes y en particular de los universitarios, así como la existencia de numerosas cuestiones por aclarar en este escenario digital. A continuación se presenta un análisis tipológico de la percepción de los estudiantes universitarios respecto a las redes sociales informativas, empoderamiento social y el papel de la universidad. A partir de los datos recogidos mediante un cuestionario estructurado de una muestra de 236 estudiantes de Grados de Ciencias Sociales, se realiza un análisis de tipologías con el algoritmo K Medias. Se identifican tres tipos –etiquetados como «escépticos totales», «moderados duales» y «pro-digitales»– significativamente diferentes. Se explica su prevalencia, y su caracterización: perfiles de creencias y conducta relacionados con dichas creencias. El trabajo concluye con diversas recomendaciones para futuras investigaciones en cuanto a la percepción del universitario sobre el uso de las redes sociales como herramienta de transformación social y el papel de la universidad.

KEYWORDS | PALABRAS CLAVE

Digital context, information use, media competence, university, social networks, public opinion, critical thinking, quantitative analysis.

Contexto digital, uso de la información, competencia mediática, universidad, redes sociales, opinión pública, pensamiento crítico, análisis cuantitativo.

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1. Introduction and state of the art

The new forms of digital communication have helped democratize the process of communication. Social networks facilitate citizens' access to a wealth of information and enable them to organize themselves to participate in the formation of public opinion through the exchange of information and opinions (Saorín & Gómez-Hernández, 2014; Viché, 2015). This state of affairs increases communicating subjects' autonomy from communication companies (Castells, 2009), as citizens not only observe, but also become part of the process of constructing the news (Orihuela, 2011). Today, individuals can inform one another on a large scale, and thus play a leading role in the society of information and knowledge, and even overflow the boundaries of public institutions (Islands & Arribas, 2010).

Participation in social networks thus contributes to citizen empowerment and enhances social solidarity by raising awareness of certain subjects and allowing people to transcend local reality and accede to a more global sphere (Espiritusanto & Gonzalo, 2011). As against official news organizations that have traditionally decided how events should be presented, we are witnessing the emergence of news produced by ordinary people who have something to say or show (Gillmor, 2006). In this way, the knowledge of reality that we get from the media and that comes from the thematic selection made by these media (agenda setting) is giving way to citizens' agenda focused on issues that interest them (Rivera-Rogel & Rodriguez-Hidalgo, 2016).

In the case of young people, these new capabilities to access, provide and disseminate information have given rise to a number of critical reflections. Many of such analyses highlight the opportunities social networks provide for social participation and mobilization (De-Moraes, 2004). However, social networks' influence may be more complex than it would initially appear, as it may be minimizing the role of critical thinking. The speed at which information is generated and the criteria used to select it to raise questions as to whether different points of view are being excluded, thus choking off the potential for debate. Hence, the capacity for critical thinking and training in the use of media become crucial, especially in higher education.

Studies of young people reveal that the most common use they make of networks is contact and the creation of relationships, entertainment and finding out about the lives of others (Bringué & Sádaba, 2011). Therefore, there is an open discussion on whether these new forms of communication contribute to the empowerment of young people or if, on the contrary, they have not (yet) fostered debate and the exercise of youthful, active citizenship (Díez, Fernández-Rodríguez, & Anguita, 2011).

The foregoing reveals a possible discrepancy between the opportunities that social networks offer university students to express themselves, share, stay informed, debate, organize and mobilize (Yuste, 2015), as against their training in the use of such networks, their competences and the development of critical thinking.

A review of the literature leaves open a number of issues for analysis: Does virtual socialization of university students make them active and critical citizens? Do informational social networks facilitate participation and debate? Are they an instrument of social empowerment or merely of individual socialization for university students? Do students take on and exercise their capacity to influence, or are they merely part of a mass that is easily influenced, that multiply the positions of specific users that are highly influential (influencers)? How do they see the role of the university in the acquisition of digital competences and the development of critical thinking in tackling this huge amount of information?

The aim of this paper is to offer a current analysis of the role of social networks as a tool for social empowerment among Spanish university students, and of students' perception of the university as an enabler of education in the use of media to become active and critical citizens.

There is a wide disparity in public participation in social networks between those who do no more than indicating that they like a piece of news, those who forward such news, those who comment on it, and those who contribute new materials (Fundación Telefónica, 2016). This diversity in the issues posed should, presumably, be found among university students as well. We believe that a typological analysis would be an appropriate research technique to study this. This technique of multivariate, descriptive and non-inferential analysis can extract information from a data set with no prior restrictions and is quite useful as a tool without imposing preconceived patterns (Gordon, 1999). In this way, we will identify and describe the different profiles of students with regard to the research questions posed.

The paper is organized as follows: first, an introduction outlines the state of the question by addressing the importance of education in informative social networks and media as tools facilitating empowerment; next, the materials and methods used in the empirical work are described; then, the analysis and results are presented and, lastly, the discussion, conclusions, and limitations of the research are set forth.

1.1. The importance of education in media for the new digital environment

The opportunity for empowerment offered by digital society must be grounded in the sound education of its members in order to be effective. Accordingly, the challenge is to integrate the media within educational processes by critically thinking about them and their powerful weapons for recreating and constructing reality (Aguaded, 2005). This amounts to an educational project whose purpose is to cultivate e-citizens who are aware, critical and responsible with the information they deal with.

We live in an environment where news can be distorted in a way that affects rights such as freedom of speech, information, and participation. The flow of information we receive on a daily basis is overwhelming, and it arrives unfiltered and with no critical analysis. Given these facts, it is important to increase the dose of citizen education by fostering critical and plural thinking (Delgado, 2003). However, now that users have an obviously active role as constructors of social reality (Saorín & Gómez-Hernández, 2014), it is also essential for such new competences to be strengthened by educational institutions. This challenge is acute in universities, which must also use research to analyze and comprehend the social changes brought about by this transformation (Lara, 2009).

The necessity and importance of educating in the use of the media are long-standing in recent history, having begun in the 1980s with UNESCO's Grunwald Declaration of 1982. However, media education takes on a new dimension in today's digital society. Media education enables the development of strategies for fostering dialogue between sectors, social groups, and generations (Frau-Meigs & Torrent, 2009). This education should address issues such as the influence of different media, their socializing function, the control they exercise and are subjected to, and the different information they convey (González-Sanchez & Muñoz-Rodríguez, 2002). The aim is to train aware University professionals and e-citizens capable of accessing a large volume of information, so that they are able to freely decide what contents are relevant and adequate for them, and to enable them to make a responsible choice when faced with the multiple options they encounter (Ballesta & Guardiola, 2001; Valerio-Urena & Valenzuela-González, 2011). This means designing study programs that include cross-disciplinary subjects related to media literacy that strengthen citizen's competences (Ferrés, Aguaded, & García-Matilla, 2012). This task should involve communication professionals, university professors and teachers of compulsory education (Area, 2010; Marta-Lazo & Grandio, 2013).

A review of the literature leaves open a number of issues for analysis: Does virtual socialization of university students make them active and critical citizens? Do informational social networks facilitate participation and debate? Are they an instrument of social empowerment or merely of individual socialization for university students? Do students take on and exercise their capacity to influence, or are they merely part of a mass that is easily influenced, that multiply the positions of specific users that are highly influential (influencers)? How do they see the role of the university in the acquisition of digital competences and the development of critical thinking in tackling this huge amount of information?

However, hardly any work has been done on the role of the university in the process of creating critical citizens in this new technological context of information access. Hence, a number of issues arise: Are universities effectively fostering literacy in the use of the media? Are universities favoring the citizen empowerment offered by media? An answer to these questions would require an analysis of the activities carried out in the university world. However, beyond what is happening at universities, a perception prevails that university students are playing the key role, and are the main product of university processes.

In order to offer a specialized vision, we opted to focus our research on the use of social networks. Hence, we deemed it useful to contextualize Twitter within the phenomenon of social empowerment.

1.2. Informative social networks as a tool of citizen empowerment

Twitter, with 317 million active accounts at present (statista.com, 2016), has become the social network most widely used by the public to stay informed, express opinions, comment on the news, reporting on what is going on nearby and even to mobilize society in matters of public interest. Some authors have called it one of the most powerful communication mechanisms in history (Piscitelli, 2011). The public nature of tweets, unlike the privacy of messages in other social networks, propagates information in real time (Congosto, Fernandez, & Moro, 2011).

However, there is a certain debate in the literature about its international scope. Some authors contend that Twitter is something more than a social network (Romero, Meeder, & Kleinberg, 2011), as an indispensable platform for the transmission of information and news; for others, it is a hybrid network, halfway between a social network and an information stream, because it combines the essential practices of social networks such as "following", "friending", with the essence of "broadcasting" or the dissemination of content. This convergence would make it important for journalism (Bruns & Burgess, 2012). Assuming this hybrid nature, authors like Kwak, Lee, Park and Moon (2010) have emphasized its informational nature, as users turn to it mainly to exchange information and not so much to engage in social relations, as is the case with Facebook. We have even encountered arguments that accept Twitter's informational nature, although limiting this to flashes or alerts related to coverage of tragedies or breaking news. Noteworthy is the study by the Pew Research Center (2015) that correlates news and information reading habits with the use of Twitter and Facebook in North America. The study argues that Twitter is not a social network as such, but rather a platform to receive and share information (informational social network), with a special focus on breaking news and constant updates.

If we turn our attention to the use of Twitter by millennials, 2016 reports position the network as a communication platform that is mainly oriented to the management of news, and that is predominantly news-related (40% of users use it as a source of information). For millennials, it is a place to communicate with others, establish relationships and access information at any time and in any place (The Cocktail Analysis & Arena, 2016). It is a network that has consolidated itself in this generation, with a high degree of penetration, although it has a leisure or socially oriented use: it enables them to stay in touch with friends, family and classmates (90%), share opinions and seek out the opinions of others (60%), seek out information (70%) and freely express opinions (45%) (Ruiz-Blanco, Ruiz-San-Miguel, & Galindo, 2016). Its use has grown significantly, and it now reaches 24% of connected youth, surpassing penetration in adults (12%) according to Pew Research.

These data confirm the profound changes that the social platforms are giving rise to and unquestionably encompass millennials, which include university students. The degree of the impact of technology on university students and their digital competences has radically altered the way they interact and stay informed (Romero-Rodríguez & Aguaded, 2016). However, the absence of a filter does not allow us to consider the content to be a valid source of information, as all information must be checked (Said, Serrano, García de Torres, Yezers'ka, & Calderín, 2013); also, the lack of context for this immense quantity of information (Rivera-Rogel & al., 2016), are significant factors that give rise to the need to research how students process all the information they receive, who are the opinion leaders they follow, how they choose them and how such leaders influence other users of informational social networks. In short, the point is to clarify if the alleged social empowerment attributed to these information platforms is effective among students.

2. Material and methods

Typological analysis –that is, cluster analysis– is a technique of interdependence that can identify different profiles of subjects on the basis of quantitative variables that define their characteristics and provides the prevalence of the typology in the studied sample, in addition to the profiles. Widely used in scientific research, this method is clearly exploratory and descriptive in nature, as it classifies individuals into uniform groups whose a priori composition is unknown, based on a similarity measure (Hair, Anderson, Tatham & Black, 1999).

In this way, we carried out an exploratory study using as material for the empirical part of this work the information collected from a sample of 236 university students in degree programs of Commerce, Journalism, Advertising and Business Administration at public universities. These degree paths were chosen because they all include courses on communication, which familiarizes participants with the potential of social networks. The

sampling method used was by clusters, with classes used as sampling units. The field work was conducted between 15th and 25th October 2016.

To collect the data, we designed a structured direct answer questionnaire initially comprising 120 variables, mainly with Likert seven-position scales in which the participant indicates the degree of agreement with the content of the item (1=strongly disagree and 7=strongly agree). This satisfies one of the requirements of cluster analysis, namely that information from subjects should be numerical in nature.

The content of the questionnaire addresses the following areas:

Behaviour area: objective information on students' participation in informational social networks (Twitter) with a specification of the social networks in which they have an account and are active, what type of activity they engage in, the intensity of the participation, their capacity to influence (followers vs. followed) criteria for selection of sources, preferences and content of interest, motivation for use of informational social networks (expression, relationship, influence in their surroundings, social awareness, citizen collaboration, involvement in political affairs or mobilization of citizen action).

Belief area: related to information produced and consumed in social networks by students. Perception of the information that circulates in networks, the credibility of their content, the importance of the immediacy of the information, the mediation of the content, the importance and meaning of checking information. Awareness of the capacity to influence, self-perceptions of their degree of knowledge, skill and ability in the use of the new communication tools and the training they receive in the university that enables them to participate as truly empowered citizens.

The following were also included as classification data: degree area, gender, age, and the average of academic transcript to date.

A double questionnaire pre-test was performed prior to the field work. Items' suitability was analysed by a group of experts consisting of university professors with extensive experience in quantitative research (Churchill, 1979). Subsequently, and after due modifications were made as recommended by the experts (elimination of two variables and modification of a third) a second pre-test was performed with a sample of 15 users from the universe in which the field work was to be applied. The aim was to verify the comprehensibility of the sentences and time required to complete the test. This pre-test led to the removal of three items. After the two pre-tests, the final questionnaire consisted of 115 items organized into 13 questions.

Table 1. Thematic structure of questionnaire content

Behaviour area	Belief area
Activity in social networks	Credibility of information
Ability to influence	Quality of information
Criteria for the selection of the sources	Volume and diversity of information
Thematic preferences and content of interest	Immediacy of information
Reasons for the use of social networks	Ability to create opinion
	Ability to influence the social milieu
	Universities and critical thinking
	Universities and media skills

For the cluster analysis, we used the K Average algorithm, the only requirement of which is to have numerical variables to set up groups, a condition that was met owing to the response scales used. The data were exploited with the statistical analysis package SPSS, version 18.0 for Windows.

3. Analysis and results

We have a sample of 236 university students (Table 2: see next page) in which the 95.6% state that they use an informational social network to keep up with the news: Twitter (46.9%), Facebook (42.1%) and Instagram (6.6%).

The aggregates yielded by the cleaning up of the items were used as the active variables for the identification of groups of homogeneous subjects. The K means algorithm, after a process of seven iterations, issued a final solution of three clusters with significantly different average scores in the main characterization factors (Table 3: see next page).

These groups may be characterized by taking as a reference the core values in each factor and the differences observed in the behaviour of each (Sparrowhawk, Martinez-Navarro, & Fernández-Lords, 2017).

The first cluster, labeled as "total sceptic" students, makes up 10.18% of the sample. Its members have the most

critical profile, as disenchanted with both social networks and the role played by the university in their education as digital citizens. They give low credibility to the information that circulates online (23%) and assume that immediacy prevails over the quality, volume, and diversity of information. They see themselves with low, almost zero, ability to influence their environment through the use of social networks (2.7). And they do not believe that social networks offer an opportunity for empowerment, and do not understand them as a tool that enables them to create opinion, or as a vehicle for mobilization in society. They are also sceptical regarding the university's role in fostering literacy, as an institution for creating critical citizens. This doubly sceptical attitude leads us to call them "total sceptics".

Table 2. Descriptive data of sample

Degree	Cases	%
Business Administration	70	29.7
Commerce	69	29.2
Advertising	51	21.6
Journalism	46	19.5
Total	236	100
Average age (years)	21.1 (SD=2.9)	
Average grade	7.0 (SD=0.8)	

Table 3. Final cluster cores

Scale	Characterization factors	Clusters		
		1	2	3
		% subjects in each cluster		
		10.2%	58.8%	31%
0-100	Credibility of information	23.64	52.50	73.79
1-7	Quality of information	2.27	3.13	3.89
	Volume and diversity of information	3.45	4.30	4.94
	Immediacy of information	4.80	5.91	6.18
	Ability to create opinion	2.55	3.31	4.50
	Ability to influence the surroundings	2.71	2.99	3.50
	Universities and critical thinking	4.14	5.04	4.18
	Universities and media skills	3.52	3.67	3.59

Members of this group are older, with an average age of 24, and an average grade level of 7.2, which is slightly higher than the other groups ($p<.05$). This group also has more men (54.5%) than women (45.5%) (Table 4).

Analysis of the behavior of these "total sceptics" shows that although their basic activity as reflected in variables such as number of followers, number of tweets or number of likes does not differ from other groups, their behavior is passive and limited to a reading of other people's comments and opinions without engaging, proposing topics of debate ($p<.05$) or initiating conversations ($p<.1$).

With respect to their criteria when choosing who to follow, the "total sceptics" stand out as being those who pay significantly less attention to social criteria (2.3) –recommendations of other users or friends– (Mtotal=3.1 $p<.05$).

Their low level of participation is likely due to the fact that they do not value or perceive the opportunity for expression offered by social networks. They show the lowest level (3.3, which is significantly lower than the average) in motivations of expression offered by networks –expressing oneself freely, creating opinion and taking part in debates– (Mtotal=3.9 $p<.05$).

Table 4. Distribution of clusters by gender

Clusters	Gender (%)	
	Men	Women
Total sceptics	54.5	45.5
Dual moderates	34.6	65.4
Pro-digitals	42.4	57.6
Total sample	**39.8**	**60.2**

We have called the second cluster "dual moderates", and they are the most numerous (58.8% of the sample). They present a more intermediate profile that is somewhat more positive. "Dual moderates" are defined by their intermediate scores in both variables relating to social networks and towards the role of the university. Hence, they grant more credibility to the information found online (52%) than "total sceptics"; they assign greater value to both the volume and diversity and, in particular, to the immediacy of information (5.9). However, they are similar in their low confidence in social networks as a way to influence their surroundings (2.9). They are optimistic about the role of the university and certain that their education will prepare them and give them a way to think critically about their surroundings. They believe in the university's role in training them to be active and responsible, and non-manipulable, e-citizens who are committed to society. Nevertheless, their perception of the role of universities in the development of new digital competences is quite low, only slightly higher than the "total sceptics".

Unlike the former group, "dual moderates" are younger, and their grade average is slightly lower. Compared to the other groups, they have a higher percentage of female members (65.4% vs. 34.60% men).

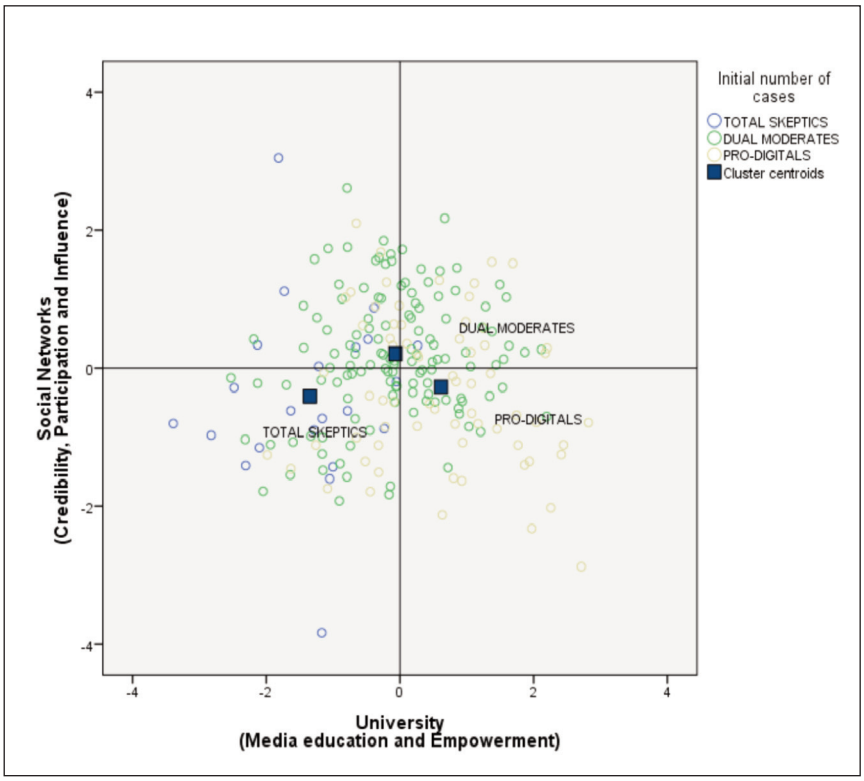
They have a moderate level of activity in social networks. Their average number of followers followed and

tweets are slight, yet not significantly lower. Notable, however, is their low level of participation in likes, where they are the least active group ($p<.05$). Their main activity is to read friends' opinions, where they are significantly more exhaustive ($p<.05$). This fact marks them as spectators of network activity, mere transmitters who do not lead the content or set the agenda.

They have different tastes with respect to the themes and content of interest. They are more likely to follow artists, brands and friends ($p<.05$), and it is also significant that their criteria for the selection of sources are mainly social, as they allow themselves to be led by friends, acquaintances and other participants they already follow, which situates them in a stage of individual socialization.

The last group, consisting of 31.02% of the sample, has been labeled the "pro-digitals", as they score the highest in all matters related to social networks and the opportunities these provide for participating in and influencing their surroundings. In spite of this, "pro-digital" students again show clear wariness about the educational role of the university, with scores that place them in close proximity to "total sceptics".

For this group, the information online is reasonably credible (74%); here they find plentiful and diverse information that offers different views of events (4.95) and very positively rate the fact that it is always current and immediate, thus allowing them to know what is happening at all times from anywhere. The "pro-digitals" are more keenly aware of the opportunity networks provide, and they see them as a platform for freely expressing themselves and addressing all manner of subjects of their interest, and for helping to set the current news agenda. Nevertheless, even though their perception of their ability to influence and take the lead in changes is higher than in other groups, it remains moderately low (3.5).



Graph 1. Cluster centroids.

The average age and grade profile of this group is very similar to that of "digital moderates", but the proportion of women (57.6%) to men (42.4%) is somewhat less pronounced.

The "pro-digitals" show the highest level of activity and participation in networks. They show significant differences versus other groups in the number of followers ($p<.1$), the number of tweets ($p<.1$) or likes ($p<.05$). They are the most active in raising issues ($p<.1$), which shows that they are the most aware of their capacity of influence. Their motivations for using social networks relate to expressing themselves ($p<.05$) and mobilizing ($p<.1$).

By means of a graphic representation of cluster centroids (Graph 1) –obtained through a discriminant analysis of the groups– we gained an overall view of the main differences between the types identified. "Total sceptic" students, with negative scores in both factors (social networks and University), "dual moderates", with a more positive view of the university but who are less active in social networks, and "pro-digitals" who are confident in their ability to influence in social networks, but not because of the university's contribution to their training.

4. Discussion and conclusions

The aim of this paper was to provide an analysis of the use of informative social networks as a vehicle for the social empowerment of Spanish students, and their perception of the university as an educator in the use of such media to contribute to the formation of active and critical citizens. Based on a review of the literature relating to these issues, field work was carried out on a sample of 236 university students social studies degree programs. Using a typology analysis (K means) different positions adopted by students in these issues were identified, as was the prevalence of each type.

Before setting forth the conclusions, it should be borne in mind that all the data used for analysis come from students' behaviour and their perception of both networks and the University. This is not an analysis of the work of the university as such, or of the performance of social networks, but of the perceptions held by students and of their actual behaviour.

The following conclusions have been drawn from the analysis: In spite of their attributed status as digital users, university students are little active in informative social networks, as shown by recent research that reveals certain gaps in the use of new technologies by young adults (Livingstone, Haddon & Görzig, 2012). Only a small group (the pro-digitals) identify and capitalize on these opportunities. A majority looks upon current affairs merely as passive observers. Therefore, as previous researchers have noted, it is clear that even though social networks constitute a major social phenomenon that has transformed the lives of millions of people, it has become equally clear that their impact on the education and the empowerment of university falls short of its potential (Granados-Romero, López-Fernandez, Avello, Luna-Álvarez, & Luna-Álvarez, 2014). In line with this behaviour, the belief prevails that, even though they may participate, their capacity to influence their surroundings, set the agenda and mobilize society is quite limited. Except for the "pro-digitals", both the "total sceptics" and the "dual moderates" had quite similar numbers of followers and followed, which shows their limited capacity of influence.

In a simplification of the data, we might say that only three in ten university students place value on the possibility of empowerment provided to them by social networks. However, those who do believe in such a possibility do not think their time at the university has contributed to their competences in the use of networks or provided them with skills or critical thinking to deal with the abundance of content, which they consider to be both credible and distorted at the same time.

Consideration should also be given to the nature of the "total sceptics". They are a smaller, older and incredulous group that is about to join the labour market –if they do no already combine professional and academic work– and where a deeper analysis is called for as to the source of this negative perception.

We cannot overlook the fact that nearly 60% of the sample comprises university students who are confident in the ability of the university to make them critical citizens, more than in skilful digital citizens, but who focus their network presence more on socialization than on participation in the news agenda.

The foregoing, conceived within the exploratory framework of the study carried out, leads to a discussion of the following challenges in the university world. First, it would be useful to probe deeper into the scope and source of the low appraisal held by university students of the university as an institution that can train or educate in the use of the new media. This would require an analysis of the work of university teaching staff. Second, it would be useful to determine if a change occurs in students' assessment of the university when they join the labour market, as a result of possible mismatches between the education received and the education in demand. Thirdly, the university itself should assign a higher value to its role in preparing students by developing appropriate strategies to ensure that students develop digital competence during their years of education (Gisbert & Esteve, 2011). It makes little sense for the group that appears to be most skilful in the use of social networks, the most participative and the most likely to enjoy the benefit associated with empowerment, to believe that the university educating them has no bearing on such a capacity.

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College Students in Lima: Politics, Media and Participation

Jóvenes universitarios en Lima: Política, medios y participación

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ABSTRACT

In Peru, young college students have leading roles in social protest mobilizations even when they seldom belong to political organizations. This study aims to analyze the perception of current politics and its institutions among young college students, and to inquire into their interest on relevant events at their surroundings and into the importance gained by the media and the social networks concerning their information. The purpose of this project is also to examine the role assigned by college students to the university as a space of personal development and reflection. This project was carried out in Lima, Peru, directed to youngsters aged 17 to 25 from public and private universities. Opinions have been collected through six focus-groups and a survey applied to more than 400 students. The analysis concludes that college students distrust profoundly political parties and formal political organizations; likewise it shows they have a broad access to information sources, so as their willingness to solve Peru's problematic issues. It also uncovers clear differences between students of private and public universities regarding attitudes for participating in political action, inside and outside the campus. From the study stems a proposal to provide young students at their campuses with opportunities to debate public issues of national and global interest as a part of their overall academic training.

RESUMEN

En el Perú, los jóvenes universitarios son protagonistas de movilizaciones de protesta social aun cuando es escasa su pertenencia a organizaciones políticas. Esta investigación tiene como objetivos analizar la percepción que tienen los jóvenes universitarios limeños sobre la política y sus instituciones e indagar acerca de su interés por los sucesos relevantes de su entorno y la importancia que adquieren los medios de comunicación y las redes digitales para su información. El trabajo también se propuso examinar el rol que los universitarios le asignan a la universidad como espacio de formación y reflexión. El estudio se realiza en Lima, Perú, con jóvenes de 17 a 25 años, de universidades públicas y privadas. Las opiniones se recogen en seis grupos focales y una encuesta aplicada a más de 400 estudiantes. El análisis concluye que los universitarios desconfían profundamente de los partidos políticos y las organizaciones políticas formales; asimismo, se evidencia que gozan de amplio acceso a fuentes de información y están dispuestos a contribuir a la solución de los problemas que aquejan a su país. El estudio desvela diferencias marcadas entre estudiantes de universidades públicas y privadas en su disposición para participar en actividades políticas, dentro y fuera del ámbito universitario. La investigación propone que la universidad ofrezca a los jóvenes oportunidades para el debate de los asuntos públicos de interés nacional y global en su formación integral.

KEYWORDS | PALABRAS CLAVE

University, youth, students, politics, media, social networks, participation, information.
Universidad, jóvenes, estudiantes, política, medios de comunicación, redes sociales, participación, información.

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1. Introduction

Influenced by the Córdoba Manifesto, Peruvian universities opened their doors to student participation and academic freedom and acquired greater autonomy in their management in the early decades of the twentieth century (Carrion, 2002). Subsequently, during the decades of 1960 and 1970, population growth, massive dislocation of rural population to the cities, and the emerging industrial development helped create a greater demand for education (Lynch, 1990). The legislature enacted Law No. 882 in 1996 that allowed the establishment of private universities as profit organizations. Thus, new private universities have been consolidated, now numbering 91 (INEI, n.d), and that these organizations overlook the role of research pertaining to the intellectual endeavor by prioritizing the training of professionals for their role in field work, (Benavides, León, Haag, & Cave, 2015). In contrast, only 51 universities belong to the public sector. Topics of discussion are massification, lack of research, and problems with management (Lynch, 2006). In light of this situation, it seems only reasonable that the concerns of the students focus on establishing a better administration for the services they receive in order to secure their professional future.

We began our study in the year 2015, which was a time of political effervescence. Protests led by young people of various groups and the opposition of the university student organizations against Law 30288 of 2014, which introduced a new regime detrimental to18–24-year-old freshmen workers stand out as antecedents (Fernández-Maldonado, 2015). Another factor defining the political environment was the announcement of general elections (presidential and congressional) in April 2016. In Peru, voting is mandatory, and one can join the Congress at age 25. According to the First National Survey of the Peruvian Youth, 1665 people have been elected as local and regional authorities at a national level. A significant fact about the connection between university and politics is that out of the 130 recently elected members of Congress, only 104 hold a university degree (National Elections, 2016).

1.1. Conceptual assumptions

The concept of citizenship refers to a set of institutions, obligations, and social practices (Soysal, 2010). Therefore, in the framework of corporate social responsibility, universities must encourage students to gain knowledge and pursue research on issues relevant to national and international arenas, such as world poverty and climate change, and should encourage the participation of young people in the matters of public interest (Gasca-Pliego & Olvera-Garcia, 2011).

Various studies suggest the role of the Internet and social networks in the protests involving young people, attributing a determining role to social networks because they would be "the only way in which these generations can control governments and institutions. Through them, they can discuss, organize and mobilize" (Yuste, 2015: 186). A "digital citizenship" can "provide political, social, and cultural experiences of action, communication, reflection, and creation, unpublished…" (Natal, Benítez, & Ortiz, 2014: 9-10). However, others belittle the civic engagement of young citizens by saying that "there is a need for other preconditions of awareness and triggers to engage in committed public practices" (Padilla-de-la-Torre, 2014: 9). An intensive use of social networks, especially Facebook, does not necessarily correspond to a greater exposure to political information; nevertheless, more in-depth studies need to be conducted on the search for political information using digital platforms (Ohme, Albaek, & de-Vreese, 2016).

Regarding the problems that concern youth today, young people transcend their class status and connect with various, wider interests related to both personal experiences as well as worldviews and their broad access to mass media: "When groups of young people employ alternative concepts of race, youth, women, nature, democracy, citizenship, justice, which question and confront dominant cultural meanings, they are pursuing cultural policy" (Delgado-Salazar & Arias-Herrera, 2011: 293).

Youth organization or mobilizations' power of transformation is "not in creating a change in society through the modification of the law but in generating new dynamics of coexistence and relationships through the intervention at a micro level. It is precisely here, for us, that lies their renewed citizen dimension" (Delgado-Salazar & Arias-Herrera, 2011: 294). Politics include every day as well as cultural interests.

2. Material and methods

This article has its origin in the project "Young People and Politics: A Case Study on the University Students from Lima" that, sponsored by the Institute of Scientific Research of the University of Lima, was carried out between April 2015 and March 2016. It was a non-experimental joint research under exploratory and descriptive approaches.

The perception of young university students on the policies and institutions as well as the use of media and digital networks for obtaining information on the subject is determined objectively as well as subjectively. Their study requires a descriptive and an exploratory approach. The qualitative methodology allows in-depth investigations on perceptions, motivations, impediments, conceptualizations, fears, profound reasons, and ratings, while the quantitative concerns knowledge, preferences, habits, and customs. Complementing one approach with the other allows an integral vision of the relevant phenomenon.

Initially, a qualitative study was conducted with the group dynamics technique to confirm the variables of the survey. A pilot focus group was formed by three universities with two categories of university students (independent and uninterested), belonging to humanities and sciences, and with, at least, two years of study. This stage of the investigation allowed the determination of those variables that have a decisive influence on the relation between politics, academics, media, and networks. Subsequently, six mixed group dynamics (men and women) were conducted, three with students from public universities and three with students from private universities by employing a manual of flexible guidelines;

all students were between the ages of 17 and 25 years. Next, the dimensions considering the variables were determined, and the indicators that would allow measuring these dimensions were defined. As stated, these indicators were assembled in a structured questionnaire that was administered to 20 young people with similar characteristics to the study's objective.

> Youth organization or mobilizations' power of transformation is "not in creating a change in society through the modification of the law but in generating new dynamics of coexistence and relationships through the intervention at a micro level. It is precisely here, for us, that lies their renewed citizen dimension". Politics include every day as well as cultural interests.

The survey was conducted between November 23rd and December 3rd of 2015, to a statistical sample of 403 university students in Metropolitan Lima who met the characteristics of the target group of the study. The non-probability for convenience procedure was applied, intercepting students at the university entrances on different days and times. We verified the collected information and ensured the correct application of the questionnaires with the help of a team of supervisors, who satisfactorily fulfilled their role.

Afterward, 100% of applied questionnaires were reviewed to detect systematic errors and omissions that are inevitable in this type of application.

After the lifting of codes of the open questions, the code book was elaborated, and we proceeded with the encoding. All the information was digitized for processing and organization in statistical tables using SPSS, version 23.0.

3. Analysis and results

The results were obtained by analyzing the focus groups and the survey. Three main topics were considered: (a) University and politics; (b) mass media, and (c) participation. A fourth topic concepts and discourses will be reported in a future article.

Of the respondents, 68% belong to private universities and 32% to public universities, which represents the universe of universities according to official data (INEI, s.f./ b & c); Benavides, León, Haag, & Cave, 2015). Of the total number of university students surveyed, 65% corresponds to those interested in politics, although they are independent; 20% are disinterested in politics, and 15% are affiliated with a political party or group.

3.1. University students: Interested in politics and the future of the country?

Despite the estrangement from politics displayed by the university students, they consider that studying provides them with knowledge of reality and that every student must commit to being a good citizen (97.1%) and must be concerned with the nation's problems (95.8%).

The students from the public universities are aware of their privilege because they have access to free university studies provided by the State. They have an advantage over those who do not enjoy this benefit, and this obliges them to remunerate the country with the fruits of their knowledge: "The student from a national university has a greater responsibility, such as giving back to the country what has been invested in their education because practically, Peru is educating us" (disinterested, public university [hereinafter public U]). Nevertheless, there is no clarity regarding the opportunities or the ways to give back: "We belong to public universities, our role in society is to contribute to the improvement of the country with what we can do in our different areas" (organized, public U.); "Not only have I entered the university to study but to contribute to my university and fight for my rights and those of others" (independent, public U.). While the independent and organized students express a more direct will to immediately contribute to the national policy and toward a more developed country through controls and social and personal responsibility, the uninterested are more skeptical about the effectiveness of their participation.

The students from private universities manifest their concerns about the relevant issues of the country, but they prioritize their professional training: "University teaches us to be more educated, to learn more about life, also about the country. It will make us professionals who can assist the country" (independent, private university [hereinafter private U]); "We are upcoming professionals who will generate profits for Peru in the future" (uninterested, private U.).

3.2. Should universities promote political debate?

For young people, the university should be a place for studying and learning to express their views freely, organizing debates (92.1%), and participating in political activities (84.9%). A smaller percentage states that universities should authorize political activities inside their campuses (52.4%). The organized and independent students from public and private universities approved the various forms of political activity if they related to the vindication of their rights as students, the defense of academic interests, and the control of the behavior of their authorities. Furthermore, they considered debates and talks appropriate but did not feel organizations regarding political parties to be intrinsic to the university life. The uninterested wanted peace and tranquility at the university because politics could distract them from their academic goals; they did not agree with the promotion of debates at the university, despite admitting that the problems of the country were not unrelated to the student life.

Most agreed that political participation within the university occurred through the student representatives as intermediaries to the authorities: "If one wants to make a claim, the entire student body cannot go and complain; there must be representatives of the faculty, in a way that is politics" (uninterested, public U). It is a topic of greater concerns to those of public universities. In some for-profit private universities, there is no student participation at all in the governing body.

3.3. Is mass media a platform for university students to learn about public affairs?

The media occupy a menacing place in the life of the university students. They argue that these media exert much influence on public opinion (97.2%), although they may not provide a clear picture of what is important for the country (only 68.1%). The independent students and students uninterested in politics exhibit greater doubts about the quality of information than organized students. All students agree that the information the media provide contributes directly to their perception of the country but criticize the performance of these platforms. The organized students from public and private universities are incisive: they research more about politics and identify the business nature of the media and their connection with power and corruption. "Most media are linked to a political party because the media has enormous power over public opinion, and it can be considered that media themselves constitute a power" (organized, public U.). They display a disposition not only to learn but also to understand politics.

While these students also constantly and sustainedly use media, they express their distrust too; they do not immediately identify with a particular opinion. They review various sources: "I do not rely on a single source, I learn from different ones, and from there, I make my opinion" (uninterested, public U.). "To know what's going on, one cannot rely on one article or two; different media must be used" (organized, public U.).

3.4. Which media is preferred by students for learning about political affairs?

Television is the medium most widely used, followed by the Internet, the newspapers, and the radio. The students from public universities read newspapers and listen to the radio more than those from private universities

(Table 1). Additionally, the former exhibits greater interest and are more active browsing for information than the latter; they also consult more sources.

The consumption of all media by organized students from public and private universities is above the average level, and this comparison of sources empowers them to build their informative ideas on public affairs. For their part, the students from public universities seek more information, denoting higher interest in general matters. The uninterested students from private universities pay attention to news that affects their daily lives: "While I do my things, I turn on the news, and they talk about politics, accidents; what catches my attention is the lack of security in the country; I listen to be forewarned lest something happens to me. One must be updated on the modalities of theft to foresee potential danger" (uninterested, private U.).

Table 1. Mass media use by student category and university type

	Total	Organized	Independent	Uninterested	Private University	Public University
Television	76.9%	83.1%	75.6%	76.5%	76.7%	77.4%
Internet	53.9%	69.9%	52.3%	46.9%	51.3%	59.3%
Newspapers	44.9%	61.2%	43.1%	38.3%	39.2%	57.0%
Radio	40.9%	61.8%	36.5%	39.5%	38.7%	45.7%

The accessibility, timeliness, and immediacy associated with the Internet express a pragmatic assessment of that technological environment, but it is powered with the scarce seriousness attached to it.

University students, in general, appreciate more the opportunity to have access to the information promptly than the possibility of issuing information. The organized appreciate the opportunity to comment, while the uninterested enjoy the variety and entertainment.

The extreme dynamism of the networks facilitates the consumption of media on the various platforms. Thus, for example, students access journals through their mobile phones. "I visit the websites of newspapers and television channels; thanks to technology, it is not necessary to wait for the following day. The Internet is everything now, and social networks give you the option to comment" (independent, public U.). They can access these media at any place: "In your phone, you have it so fast, you can browse the information while in your car; it is more portable. On the contrary, to view the information on the television you must be in your home or at a restaurant" (independent, private U.).

Young people use networks to communicate, learn, and participate. They value the possibility of expressing their opinions and recognize other qualities such as the absence of censorship and the option of considering different viewpoints. While the organized students think networks can convoke, allow you to have a say, be democratic, and contribute to politics, the independent find the networks' immediacy in news availability helpful for political participation. For the uninterested students, networks matter less in relation to politics. It should be noted that they all have knowledge of the networks and a vast experience in their everyday life, but they manifest distrust about the veracity of the available information.

Although there is no absolute credibility assigned to the networks, students appreciate their open nature: "Everyone can make their voices heard. If social networks did not exist, only the people with power in the media would be heard. Due to the networks, us or less-renowned people, with few resources to participate in the media, can also express their opinion" (uninterested, private U.); "I don't trust much in the Internet media; they can share news that can be deleted instantly, because on the Internet anyone can upload information

Table 2. Assessment of the media through which the students informed themselves

	Radio	Television	Newspapers	Internet
Topicality/immediacy	29.1%	21.3%	25.0%	34.2%
Variety	26.6%	22.6%	18.9%	22.6%
Seriousness	23.3%	22.0%	30.5%	6.3%
Voice	21.1%	6.9%	4.2%	21.2%
Entertainment	18.9%	27.9%	6.8%	14.1%
Easy access	18.0%	18.4%	21.0%	43.4%
News Relevance	15.7%	19.2%	17.6%	4.6%
Access to other views	14.5%	10.0%	8.4%	17.6%
Impartiality	11.3%	12.0%	15.5%	11.1%
Depth of information	6.7%	12.1%	19.4%	11.2%
Political independence	6.6%	6.5%	7.7%	10.1%

which he or she believes or thinks and that is not necessarily correct in terms of the truthfulness or facts" (independent, private U.); "Many debates are generated on Twitter, on Facebook; you realize that your opinion may be valid, but you see that the view of another person is also valid, and from there, you can discern more clearly" (organized, public U.).

When asked, more than 50% of the students pointed out that social networks were useful for organizing and convening people and learning to express oneself freely. However, they resort to the face-to-face interaction to discuss politics with their parents and relatives (74.8%), with friends and colleagues (66.9%) and with professors (33%). The political debates on social networks garner fewer results (17.7%). Moreover, the students from public universities (23.8%) interact much more than those of private universities (14.9%).

It is surprising that while university students unanimously recognized that social networks enabled the horizontal communication and the democratization of opinion, they did not see themselves as protagonists, and rather, their practices are fundamentally linked to consumption of social networks.

3.5. Mobilization and participation of university students in public affairs

Students agree that protests are a legitimate right of expression (94%) if they occur without violence or generate disturbances affecting the city and citizens. They point out that the protests are an expression of dissatisfaction with the ineffectiveness of the Government: "It is a right of every citizen to protest, but the State should not expect that the population reaches to that point; it is because you are not being heard" (independent, private U.). Moreover, they state that they would protest for the unresolved issues of the country, such as the defense of human rights, abortion, and the need for greater investment in education and sport.

They argue that the protests of the youth are always against any injustice (84.1%) and that it is a civil right to take it to the streets to protest (88.9%). They disagree with the idea that protests are a waste of time (85.3%) and assert that the function of protests is to make known to all the country what is happening (87%) as well as be acts of freedom of expression (94%).

There are gross differences between the students from private and public universities about the direction of the protests. The topic is sensitive among the students from private universities who are resistant to direct political intervention: "they create much disturbance, and the truth is that sometimes they make noise and cause problems on the streets, they even fight" (disinterested, private U.). They also point out that protests are meritorious although they do not completely agree about their necessity. "They use force to be heard, and I do not believe that this is the way, but ultimately, it is a form of expression" (organized, U. private).

Everybody would protest about issues related to student and labor benefits or that affect them personally: "Protests create a current of opinion because people are being informed when watching; they raise awareness for participation and about the need to defend your rights" (independent, public U.). In the face of this comprehensive position, it is surprising why the surveyed students declared such scarce active participation: the majority has not participated in protests (87%), while only 10.1% participates sometimes. The organized students from public universities are the ones who participate the most.

Table 3. Topics of interest by student category and university type

	Total	Organized	Independent	Uninterested	Private University	Public University
Lack of citizen security	64.6%	55.7%	69.0%	56.8%	61.9%	70.2%
Corruption	63.0%	74.8%	64.5%	49.4%	60.1%	69.1%
University law	54.4%	58.7%	56.9%	43.2%	50.8%	62.0%
TV trash	42.0%	39.1%	44.2%	37.0%	39.4%	47.4%
Human rights	40.0%	44.9%	37.6%	44.4%	38.8%	42.7%
Labor law	37.4%	48.5%	36.0%	33.3%	30.5%	51.8%
Defense of animals	33.7%	37.8%	32.5%	34.6%	31.3%	38.9%
Abortion	31.9%	38.0%	32.0%	27.2%	27.5%	41.3%
Environment	31.4%	33.8%	31.0%	30.9%	27.9%	38.7%
Death penalty	27.4%	36.7%	26.4%	23.5%	22.7%	37.2%
Racial discrimination	27.3%	26.7%	28.9%	22.2%	25.9%	30.2%
Civil union	23.0%	22.2%	23.9%	21.0%	23.2%	22.6%

3.6. About what do the university students worry?

The topics of interest identified in the focus groups, some of which resulted in street protests, are displayed in Table 3.

More or less, these are the issues that attract the attention of the students. The public university and the organized students display higher interest in the lack of civil security, university laws, TV trash, and discrimination. The defense of the environment is of more interest to the students from public universities and less to those from the private. Corruption, labor law, law of universities, abortion and death penalty are of most interest to the organized and public university students.

The independents express and comment, with interest and expectation, on more prominent topics. The majority states having protested for the defense of animals (57.1%), followed by for the defense of human rights and the environment and against racial discrimination and the death penalty. The public university and organized students mention having participated in actions against corruption as well as against TV trash, lack of public security, university laws, and civil union. The organized students have protested more for the abovementioned topics. They also agree on theater, dance, and collective actions on the street being effective forms of political expression (71.6%); the uninterested join these activities in a significantly lower percentage.

4. Discussion and conclusions

The widespread discredit of political institutions in Peru, the proximity of the national elections, and some successful protests promoted by the youth with the support of the media and social networks (Fernández-Maldonado, 2015) form the context that helps in understanding the findings of this study.

In Lima, the university students express interest in politics though the number of those who decide to organize themselves into political parties or groups is small; this is a time of great disrepute of politics, not only in Peru but also in the world. There is a detachment from the traditional parties, although that does not mean distance from public affairs and new political ideas (Aguilar, 2011; Padilla-de-la-Torre, 2015; Reguillo, 2000; Krauskopf, 1998). While all students are interested in the problems of the country, for the private university and uninterested students, it is a future commitment, postponed for when they belong to the working class. Public university, organized, and independent students observe the current situation with more attention than their private university and uninterested counterparts, and they feel more immediately and directly committed because they acknowledge their indebtedness to the country for the free education they receive. It is worth highlighting that both public and private university students recognize their privileged status because they possess knowledge and information, which leads them to affirm their commitment to be good students.

All students express a fear of the violence that political protests can generate in public spaces. The students from private universities are more concerned than others because they fear the disorder would disrupt their academics. The years of political violence in the country and the constant emphasis on the media and politicians on their effects on economic growth are possible causes of these fears.

There are no unanimous views on the scope that political activities should have in the university. This is adopted by the organized students and occurs in public universities, wherein internal corruption is dealt with daily, and many shortages and the lack of security explain the students' interest in addressing these issues. On the contrary, private university and uninterested students are skeptical. This attitude can be explained in the case of private universities through the existence of organizational and business models that do not demand the involvement of students in their management. Thus, the lack of political activity in the private universities has its roots not in the indifference of the youth but in institutional policies because the universities themselves are restricting the participation of the students, slowing down their deliberative and propositional capacity (Sota, 2002).

The university students of Lima have an ongoing relationship with the media. They are the students' primary source of information, but the students have critical opinions that lead them to distrust and find supplementary sources. This search drives them to confront sources and endorses the information in other media, enlarge it, and to seek other opinions (Catalina-García, García-Jiménez, & Montes-Vozmediano, 2015: 601-619; Yuste, 2015). They also use their relationships and familiar and fraternal interactions (Castells 2007: 381). They recognize the power of the media in daily information, though they question the quality because of their personal interests, an aspect particularly highlighted by the organized students. Television is the medium most used for collecting information, while the other media are consumed through various screens and platforms. In this regard, agreeing with García-Avilés and others (2014), it was noted that the journalistic enterprises are still reliable because in all cases, diaries were mentioned. The amount of consumption and the critical attitude of the organized students is notorious.

Although there is much access to digital media, there is an underutilization of social networks, which reflects on the low percentage of students who begin to build autonomy through these (Castells, 2007). In general, the majority

reproduces, against digital media, the attitude they have towards traditional media; however, they do not interact and limit themselves to follow, comment, or exchange information with their immediate peers, even though they recognize these media for their interactive potential. This is in contrast to what is discovered in other contexts, such as in Madrid, Tunisia or Egypt, where the questioning of the traditional vertical sources leads to searching for alternative sources, horizontal and interactive construction of community, and participation with greater autonomy, oriented towards political change (Castells, 2007; Almansa-Martínez, 2016). In the case of this study, the mere use of social networks does not produce nor manage protests. Only the organized students prove to be effective in this regard, noticeable in the organization of some protests through these networks.

There is a disposition and sensitivity to new global issues such as the environment, discrimination, gender debates, and civil union, though they do not necessarily express a reflexive attitude. Among the organized students, corruption and the lack of security for citizens mobilize their interests with a political emphasis; this is why it is possible to affirm that their participation in some protests allow them to activate their emotions and connect with other individuals, i.e., to move to a collective and effective experience (Castells, 2015; Quiroz, 2011).

The independent students form the most extensive group in the investigation. This is an interested section that fluctuates between confusion, interest, and fear but has a great potential that can be channeled not only by political institutions but also by the universities themselves. The concern for the problems of the country constitutes an opportunity for the university to capitalize the potential of its students, generating spaces for debate, a teaching pedagogy, and "a methodology that encourages curiosity, inquiry, cooperation" (Agudelo, 2015; Martínez, Silva, & Hernández, 2010), and also enables the formation of autonomous political proposals.

It was noted that issues encompassing the society, culture, and fields closest to their everyday concerns that interest the students, although they are not expressly political or permanently committed to political causes (Montoya, 2003; Alvarado, Ospina, Botero, & Muñoz, 2008). A small section mobilizes, but due to the actions' sporadic nature, they do not necessarily imply a commitment on the students' part.

The results set the ground for future research that can help establish a more accurate picture about the disposition of the university students toward political affairs. However, it is essential to discern between the position of men and that of women, now that the representation of women in international politics is increasing, such as Angela Merkel, Dilma Rousseff, Cristina Kirschner; in Peru, the Congress President, Luz Salgado; the vice president of the Republic, Mercedes Araoz, and other leaders are pointing out that there is a growing interest of women in exercising political leadership.

From another study perspective, with qualitative techniques, we could inquire about the relationship between the specialty (science or humanities) and the university students' perception of political affairs.

The present study was limited to the city of Lima, Peru's capital, a city in which the greatest amount of national resources are concentrated, both regarding infrastructure as well as services. This centralism is particularly in the field of education (López, 2005; Cuenca, 2015), engendering the necessity to clarify whether this situation of inequality has a correlation with the political practices of the university students in the other regions of Peru.

Authors such as López (2005) emphasize the role of the family in education, which sometimes conflicts with the school. One aspect that we have considered in this study is the role played by the family in the political convictions of young people, and how the university is configured as a catalyst for the previously acquired ideologies.

About the methods of inquiry, the stories of life constitute a convenient resource for exploring in depth the beliefs and motivations of the subjects.

The interest in conducting this research aligns with other studies in Latin America, and the similarity found among the results allows us to conclude that the need for the university, in response to the criticism of the students concerning politics, is to create a space for deliberation and public action, as part of the integral formation of the student body.

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Technological Skills and New Professional Profiles: Present Challenges for Journalism

Competencias tecnológicas y nuevos perfiles profesionales: desafíos del periodismo actual

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ABSTRACT

The paper aims at understanding the intersections between technology and the professional practices in some of the new trends in journalism that are using the new tools: multimedia journalism, immersive journalism and data journalism. The great dilemma facing journalism when training new professionals –especially the youngest– is not anymore the training in new technologies anymore. The main concern lies in taking advantage of their skills to create a new computational model while keeping the essence of journalism. There is a twofold objective: answering questions about which tools are being used to produce pieces of news, and which kind of knowledge is needed in the present century. Based on the review of reports from professional organizations and institutes, it was developed an exploratory research to 25 European and American journalists was developed. We have selected three cases of study. They allowed us to conclude that the technology matrix is going to remain and that change and digital process is not turning back and demands to evolve and adapt to new dynamics of work in multidisciplinary teams where the debate between journalists and technologists must be ongoing. Different approaches nourish the double way of skills and competences in the profiles of the current technological journalist, which professionals perceive as a demand in the present ecosystem.

RESUMEN

Este trabajo pretende conocer cómo se producen las intersecciones de la tecnología con la práctica profesional en algunas de las corrientes periodísticas que más emplean las nuevas herramientas: el periodismo multimedia, el periodismo inmersivo y el periodismo de datos. El gran dilema del periodismo en la preparación de los profesionales (especialmente jóvenes) no pasa tanto por la incorporación de tecnologías y herramientas como por mejorar sus competencias y habilidades con un perfil que aproveche las oportunidades del modelo computacional manteniendo la esencia periodística. El objetivo es doble: responder a las preguntas sobre qué herramientas emplean los profesionales para elaborar piezas periodísticas con estas técnicas y qué conocimientos y habilidades tecnológicas no eran precisas para el periodismo del siglo XX pero sí en el del siglo XXI. Partiendo de la revisión de informes de las organizaciones profesionales o institutos de relevancia internacional se diseñó una investigación exploratoria sobre el trabajo de 25 periodistas europeos y americanos, y se eligieron tres casos de estudio que permiten concluir que la matriz tecnológica no solo no desaparecerá, sino que puede incrementarse porque el proceso de cambio y tecnologización no tiene marcha atrás y exige evolucionar y adaptarse a nuevas dinámicas de trabajo en equipos multidisciplinares donde el diálogo entre periodistas y tecnólogos debe ser fluido. Diferentes perspectivas alimentan la doble vía de las competencias y habilidades en los perfiles del actual periodista tecnólogo que los profesionales perciben que demanda el ecosistema actual.

KEYWORDS | PALABRAS CLAVE

Cyberjournalism, cybermedia, digital communication, multimedia, digital journalism, press, media production, technology.
Ciberperiodismo, cibermedios, comunicación digital, multimedia, periodismo digital, prensa, producción mediática, tecnología.

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1. Introduction

This exploratory study reflects on the concern about the technological side of communication processes, which has been a constant since ancient times, from the first in-depth reflection on the issue by Plato to the electronic age, in which McLuhan analyses the role of technology in the communicative transfer (Núñez-Ladeveze, 2016).

The interest in this issue continues because contemporary journalism and technology are closely linked, in a complex and diverse way (Anderson, Bell, & Shirky, 2012; Lewis & Westlund, 2015). The change in news production allowed by technology has been assessed in the third millennium by Pavlik (2000), Boczkowski (2004), Deuze (2007), Stavelin (2013) or Rodgers (2015). The results of the transformations in the practices of journalism in this century are collected in research on the new newsroom models (Domingo & Paterson, 2011: Hermida, 2013; Reich, 2013), which agree in stressing the technological dimension of the new journalist profiles.

Digital technology is present in every dimension of current journalism and is shown in four different sides: when there is a low dependence on technologies in the production process (Human-centric journalism); when technology clearly facilitates the work (Technology-supported journalism); when journalists depend on technologies to produce contents (Technology-Infused journalism); and when technologies manage the news creation (Technology-oriented journalism) (Lewis& Westlund, 2016). The dimensions of technological journalism, in any of its approaches, indicate that the management of devices for the production and the journalistic work in the Internet of things requires a more technological journalist than the professional of the industrial era, in the 20th century.

1.1. The technological dimension of journalism

The transformations of journalism in recent years have entailed a more computational profile, which moves it closer to a multidisciplinary field where information and computation skills are required in various degrees of intensity (Codina, 2016). The search for information and verification, which compose the essential elements of journalism, is affected by this computational dimension, which shows a gap between journalists who are able to practice this journalism with a sound technological preparation, and those journalists who do not have it and find themselves in a transition phase. The technological dimension, which foreseeably will become more important in future journalism, offers, in present intersections, various journalistic trends. The values of journalism throughout history, such as truthfulness, accuracy and impartiality (Schudson, 2003), as well as the social and service roles of journalism that feed a pluralistic society (Kunelius, 2007) are still alive. Production systems, however, have changed, as well as the result of their manifestations in communication processes. Current practices are preferably arranged, as movements or specializations, in multimedia journalism, data journalism, immersive journalism and transmedia journalism. Technology instills society and culture, causing hybridizations that distinguish the current partnership human-machine (Hamilton, 2016), and strengthening the case for the need to recognize technologies as a defining element of the digital society.

The great dilemma facing journalism is not so much the incorporation of technologies to the professional practice as a set of tools, but the preparation of professionals with a more technological profile, with competences and skills to take advantage of the opportunities of the computational model, in which the software has taken the lead (Manovich, 2013), and in which dimensions that define the journalistic quality from a professional perspective remain stable: relevance, comprehensiveness, diversity, impartiality and accuracy (Kümpel & Springer, 2015). Training in journalism must have a "double route" that both enhances the knowledge of the essential elements of journalism and combines them with technology training. The focus of present journalism is on technology, but also on the quality of contents (Masip, 2016; Deuze, 2017).

1.2. Scientific literature to understand the context

Today´s technologies have made possible the empowerment of citizens (Jenkins, 2006) and have forced journalists to be better trained in technologies (Lewis & Westlund, 2016). The new required insights for news professionals range from the management of content systems (Rodgers, 2015) to algorithms (Diakopoulos, 2015), audience research (Tandoc, 2014), and big data and data processing (Bruns, 2016). Thus the four sides of the technological specificity needed by journalists are configured (Powers, 2012), to work on various devices and channels of the present media ecosystem.

Organizations and entities focus their attention on the challenge of ICT for media outlets and professionals since the late 20th century. The first report by the UNESCO in 1989 on Communication and Information warned of the change in the industry (the in-depth political, economic and technological transformations), as well as the

document on the information 1997-1998. It was, however, the 1998 report on Communication by Lofty Maherzi (The media and the challenge of the new technologies), which drew global attention to the new defiances. A revolution in working methods was then predicted (Maherzi, 1998), with new dimensions for communication professionals, especially journalists.

Journalism, which has been linked since its emergence to technological innovation (Salaverría, 2010), is immersed in a far-reaching conversion (Casero, 2012). The technologies used by the media in production and dissemination processes, both traditional and digital natives (Cebrián-Herreros, 2009), have stepped up the range of professionals (Scolari, Micó, Navarro, & Pardo, 2008), who are increasingly using these tools that have become a kind of "lingua franca" for the work in the field of information and communication in the Network Society.

Journalists have played an active role in the dissemination of digital technologies (Geiß, Jackob, & Quiring, 2013), yet the truth is that before disseminating their duties they had to take up the challenge of knowing and using them as soon as possible to improve production and dissemination processes for information.

The working environment at companies, engaged in the renovation to compete and be updated with technologies, pushed professionals to quickly incorporate digital tools because they made work easy and showed their potential to improve journalistic practice (García-Avilés, 2007). Although professionals sometimes look down on new technologies, they have assessed the opportunities offered by these tools and have finally recognised their usefulness.

> Digital technology is present in every dimension of current journalism and is shown in four different sides: when there is a low dependence on technologies in the production process (Human-centric journalism); when technology clearly facilitates the work (Technology-supported journalism); when journalists depend on technologies to produce contents (Technology-Infused journalism); and when technologies manage the news creation (Technology-oriented journalism). The dimensions of technological journalism, in any of its approaches, indicate that the management of devices for the production and the journalistic work in the Internet of things requires a more technological journalist than the professional of the industrial era, in the 20th century.

The effects and consequences of these technologies are the main topics of many research works, which analyse the new dimensions fostered by technology in the production of journalistic pieces for the media in the Network Society. Multimediality (Deuze, 2004), interactivity (Scolari, 2008), new audiences (Carpentier, Schrøder, & Hallett, 2014) and new ways of participation (Masip & al., 2015), customization (Thurman, 2011), memory and documentation (Guallar, 2011; Guallar & al., 2012), or mobility and new devices (Westlund, 2014), deserve particular attention. At the beginning of the present decade, many authors warned of the change in the models of journalism (Trench & Quinn, 2003) within a new labour framework with alternative production methods (Fish & Srinivasan, 2012), and others recently confirmed the dominant trends of the technological profile (Newman, 2016; Gómez-Calderón & al., 2017). The interest on the technological impact has increased in the last three years, after the call of the technological dimension made by Lev Manovich, when he warned of the prominence of the software (2013) as central command of technology-mediated communication. From then on, different works on age gaps when consuming communication from mobile devices appeared (Weis, 2013) on skills to produce news for these devices (Barum, 2016), on new techniques in social media (Tifentale & Manovich, 2014) and the need for emerging checking practices (Brandtzaeg, Lüders, Spangenberg, Rath-Wiggins, & Følstad, 2015) as well as their techniques (Bradshaw, 2015).

2. Material and methods

Based on the review of scientific production to contextualize the connection between the practice of journalism and technology, especially from the Internet, we wanted to understand how intersections between technology and the professional practice occur in some trends in journalism that use the most technological tools: multimedia journalism, immersive journalism, and data journalism. The goal has been to answer questions about the tools used by professionals when producing pieces of news with these techniques, what technological knowledge is required and those technological skills which were not needed for journalism in the 20th century but are demanded in the 21st century. The methodological approach is based on the case study and exploratory studies to emphasize the need to understand the cases in a comprehensive manner instead of dissecting them in decontextualized segments (Creswell, 2007; Yin, 2009). The case study, which emerged in the field of social science as a technique to understand various problems in their social context, and which is based on methods that provide insight into one or more cases in depth (Eisenhardt, 1989), allow us to understand the evolution towards a more technological profile of the journalist that works in the current media, with renewed narratives, the main innovation trends in the field in recent years and the reasons why.

We also take over exploratory studies that help to increase familiarity with relatively unknown phenomena, to gather information for a more comprehensive research and to set priorities for further research (Dankhe, 1986). Exploratory studies, which are more versatile in terms of the method than descriptive and explanatory ones, are considered appropriate for this research, designed to remain open to the unexpected and to find previously unidentified perspectives, being interviews and focus groups the main instruments. The data shown are drawn from research that follows up regular projects conducted by journalists that work in the digital edition of various news media, both traditional and digital natives, in the USA and Europe during the past five years. The list of the 25 journalists below, chosen randomly to follow their statements and texts on technological change, professional profiles and the future of journalism, consists of professionals that held different positions in content development and management of network initiatives (traditional and digital natives). Both genres are included, as well as European and American professionals that are often involved in events on technology and journalism (notably, Spain, USA, and UK) (Table 1).

Table 1. List of selected journalists

Journalist	Media in which they work during the period of study
Al Shaw	ProPublica (www.propublica.org). USA
Elisabetta Tola	Wired Italia (www.wired.it). Italy
Mar Cabra	International Consortium of Investigative Journalists, ICIJ (www.icij.org). Le Monde (www.lemonde.fr). El Confidencial (www.elconfidencial.com). USA, France, Spain
Daniel Graso	El Confidencial (www.elconfidencial.com). Spain
Salvador Pérez Crespo	Technology Observatory at Telefónica (http://en.blogthinkbig.com). Senior Telecommunications Engineer. Professor. Spain
Adolfo Antón Bravo	Medialab_Prado (http://medialab-prado.es). Spain
Nonny de la Peña	Newswek. Immersive Journalism (www.immersivejournalism.com). USA
Verónica Ramírez	El Mundo (www.elmundo.es), La Sexta (www.lasexta.com) and Technology Review (www.technologyreview.com). Spain
Karma Peiró	TVE. Nació Digital (www.naciodigital.cat). Spain
Millán Berzosa	Google News Lab (https://newslab.withgoogle.com). Spain and Portugal
Kaeti Hinck	Washington Post (www.washingtonpost.com). USA
Xaquín González	The New York Times (www.nytimes.com) and The Guardian (www.theguardian.com). UK
Helega Bengtsson	The Guardian (www.theguardian.com). UK
Marta Ley	El Mundo (www.elmundo.es). Spain
Antonio Cucho	Ojo Público (http://ojo-publico.com). Peru
Nicola Huges	The Times (www.thetimes.co.uk). Spain
Marty Baron	The Boston Globe (www.bostonglobe.com), The Washington Post (www.washingtonpost.com). USA
Ray Soto	Gannett Digital. USA Today (http://marketing.usatoday.com) (www.usatoday.com). USA
Stacy-Marie Ishmael	Financial Times (www.ft.com). UK
Susan B. Glasser	Politico (www.politico.com). USA
Joy Robins	Quartz (https://qz.com). USA
Trei Brundett	Vox Media (www.voxmedia.com). USA
Gideon Lichfield	Quartz (https://qz.com). USA
Drake Martinet	Vice Media (www.vice.com). USA
Dean Baquet	The New York Times (www.nytimes.com). USA

The list above indicates the media in which these professionals worked, as well as researchers and professors with applied experience over the study period. An analysis of the interviews conducted

in the last five years has been carried out, including conferences in which the above mentioned participated, as well as those speeches available under open access, so that needed tools, knowledge and skills for daily work can be identified. Two pieces by the author were selected to analyse text, video, multimedia and interaction elements. Three out of the 25 journalists were selected for the case studies, applying narrative and research techniques criteria (immersive, data, multimedia and automation):

- Nonny De-la-Peña, one of the most relevant professionals in immersive journalism.
- Xaquín González, journalist and infographic designer at "The Guardian", with experience in "The New York Times», "National Geographic" and Spanish media, for his expertise in multimedia and data visualization.
- Mar Cabra, one of the best known investigative journalists. Not only has she published the "Panama Papers" and the "Falciani List", but she is also a member of the ICIJ.

The study was completed, following Krueger (1991), with a mini focus group. The starting point were the previous interviews with these experts and professionals and an open survey entitled "Working framework to outline competences and skills needed for current journalists", whose questions were divided into three large blocks to obtain data on: basic knowledge on the functioning of present societies (know-how); abilities (command) of current techniques and tools (sum of key knowledge and abilities, skills); and attitudes in journalism (curiosity, analytical skills, reflective and critical perception and honesty). In the dimensions of the journalist´s technological profile, for instance, the survey and debate focused on aspects such as: technological fluency, specific tasks for journalists and communicators –profiles–, digital skills for data checking, accuracy and deepening in real time and through multimedia techniques: management of an audience, communities and impact data; and ongoing learning combining on-site and virtual initiatives. The data collected are intended to understand the way junior journalists work for new media and the required technological skills. The group is especially valuable to explore the ways in which these people create meaning and to understand a particular issue (Lunt & Livingstone, 1996; Krueger, 1991): technological skills in the professional exercise of certain journalism trends.

3. Analysis and results

3.1. Technology matrix

The evolution of the Network Society, with new forms of communication that characterize and define the technological context in which we operate, led to a general conviction among the main players in the media ecosystem on the need for changes in journalism to remain relevant in the 21st century (Picard, 2010). Media companies and journalism are facing critical challenges in the digital society with renewed products.

In the new digital environment, journalists are required to have competences in technologies to perform their duties, mainly search engines, content production, and dissemination. Journalists are asked to evolve, from a polyvalent profile (Scolari & al, 2008; Hamilton, 2016) to have RRSS development and management (Flores-Vivar, 2009; Hermida, 2016; Jensen, 2016,) management skills of their own business (Casero & al, 2013; Örnebring & Ferrer-Conill, 2016) or proficiency in cutting-edge technological tools to build renewed narratives (Peñafiel, 2015; Paulussen, 2016) in the innovations produced in newsrooms and the revolution of the mobile communication (Westlund, 2016). Different replies were received from the sector, according to reports on journalism from associations (in Spain, the Madrid Press Association, with its Annual Report on the Practice of Journalism) and from editors, mainly the WAN-IFRA (World Press Trend). Both mainly collect reticence by senior media professionals reluctant to changes, as well as the embrace to technological changes, driven from the very beginning by the youngest in general terms (World Editors Forum, 2016)[1], and having unequal effects depending on the country both for journalism and democracy (Franco, 2009).

The best evidence of sensitivity with the explosion of technological innovation, online video, mobile communication and distribution in different platforms (Newman, 2016) is the unanimous recognition by professionals from the main media of the importance of the literacy in new technologies, which are allies of journalists in their daily work, as well as the need to constantly update on how to take advantage of the tools coming onto the market. That is the view of Nonny De-la-Peña, Xaquín González and Mar Cabra, also shared by, among others, senior journalists accountable for some of the world´s leading newspapers, as Marty Baron, editor of "The Washington Post" (Those are tools that were never available to newspapers before, and if we're smart about it we can deploy them in a highly effective manner), said to Rob Hastings, from "The Independent", in February 2016), and Dean Baquet, editor of "The New York Times" ("we have to move even faster because the world is shifting so quickly", said in an interview with Ken Doctor, from Niemanlab.org, in 2016).

The technology matrix, surrounding professional profiles of journalists in the Network Society, has created a renewed dimension that affects the essence of the profession, which includes the search and inquiry, paperwork, the creation and display of messages, and the dissemination and management. Journalists are required to have a sound humanistic training, talent and technological skills.

3.2. Dual route

Journalists[2] agree that their education should take a dual route where the essence remains – the elements of journalism as a technique of social communication and as the profession of journalism (Kovach & Rosenstiel, 2001), with a sound humanistic and communication training, as well as a proper training in technologies that include from "touching the code" to network structure, information architecture, manipulating data and programming. The dual route should act as the dual route theory of reading (Jobard, Crivelho, & Tzourio-Mazoyer, 2003)[3], if we establish a simile of the process linked to understanding the brain and learning, in such a way that they make a connection that gives meaning to the various professional profiles, which from a basic versatility lead to specialisations.

The analysed professional perspectives do not even question that the historical foundations of journalism will change, although it is agreed that the historical background (social, political, economic, and technological) has shaped some journalism´s dimensions. They agree in understanding technologies as allies for the practice of journalism, with the complexities and problems they create, and as needed tools to explore renewed formats, narratives, pieces of news and communication products for the digital society.

Some journalists (Nonny De la Peña, Xaquín González and Mar Cabra, among others, who are between 25-30 and 45-50 years old, and who represent different profiles of visualization, immersive and data and investigative journalism), use techniques that combine the traditional processing of news with current technologies and emerging techniques, with distinct profiles and that have acquired a certain strength in the current model of content production for the media ecosystem of the Network Society. It is, as they agree in clarifying in their presentations and seminars, the beginning of new paths for a journalism, present journalism, turning its eyes towards the conquest of the future.

The tools for the search process have a technology matrix, especially those linked to online checking, and there is almost always a need for understanding how to structure what was achieved and how to query a database –to understand at least their elements to collaborate with engineers and to create more complex projects–. The use of collaborative tools has, therefore, become a need in current newsrooms and the display and edition demands challenges for teams, which must develop new narrative categories to integrate differential aspects of the narrative, production, and visual edition, with the same relevance than visual elements (González, 2016)[4].

The search for newsworthy stories and their creation requires, in many cases, knowledge of the advantages of Google and Facebook algorithms as traffic sources and, above all, the appointment of integrated teams in which various profiles (engineers, designers, statisticians, photographs, videographers, audience editors), bring different perspectives for a final product with high-dose of added value for the news content the user receives. And although different techniques are used, work must also be done with material from the real word (Nonny De-la-Peña, 2015)[5], to offer non-fiction stories.

To open new paths and make a difference in journalism, identifying all kind of technological tools is essential to collect a large amount of data, process them and make them understandable. The availability of data implies a basic requirement that empowers the journalist, so there is a need to use techniques and tools up to now unusual in newsrooms (Cabra, 2016)[6]. Journalists at the forefront in the use of current technologies agree: the message with added value crosses borders of the inverted pyramid, and its search, production, and dissemination imply not only current technologies but also competences and skills to work in teams with different profiles that provide renewed dimensions to nonfiction stories. From their perspective, the various profiles must go over a new path with competences and skills resulted from the hybridization of technological and humanistic dimensions.

4. Discussion and conclusions

Technology feeds and defines current professional profiles. Since the disappearance of those journalists that only produced text with their typewriter, who remained well into the second half of the 20th century, when the newsrooms computerization came up, and they became digital (Baer & Greenberger, 1987), the technological dimension has had an impact, to a greater or lesser extent, in the profiles of journalists that work in digital newsrooms, integrated at different levels but in a digitisation process of news (Boczkowski, 2004). This trend has been

intensified in the third millennium, especially since the boom of full connectivity, social web, mobile communication, big data, the Internet of things and immersive technologies, among others. From the image of the "romantic journalist" with pencil and notebook, only a few concrete examples remain, as innovation in newsrooms, both traditional and digital natives, has changed profiles and working techniques (Paulussen, 2016; Westlund, 2016), which are now washed with digital tools.

The various professional profiles perceived by journalists at the moment, beyond concrete tools, have two central vectors. First, the essential elements of journalism, the set of precepts that have been built up over time and forged in communication processes throughout history, always under a humanistic and social perspective, more or less pronounced depending on the context. Second, the technological dimension, where it is not so much a question of knowing this or that tool, but understanding the rationale, entering different territories and having the knowledge for the individual work and the dialogue with interdisciplinary teams, which produce large proportion of the most complex pieces disseminated by current cyber media and that circulate on the flows of the present media ecosystem.

The technology matrix will not only not disappear, but may increase, as the process of change and technologization cannot turn back. Therefore, to adapt and evolve is essential: "Journalists, being more or less technologists, need to have the knowledge to cooperate with other technological profiles, which every day have more to say to tell what happens in society. Programmers, systems technicians, software developers... belong to the new teams, and all of them have to enter into dialogue. If journalists do not understand what interlocutors are talking about, their role in teams will be residual".

As noted by Xaquín González, "the narrative in journalism, ever-more visual, requires the establishment of interdisciplinary groups applying visualization techniques, so there is a need for developers, designers, statisticians, visualizers, and cartographers involved that understand each other and work in journalism". Therefore, we must address the need to train journalists for a changing environment in which current technologies set transformation, which requires journalists to understand technologies and their approach and singularities but without overlooking the pillars of journalism. Besides, journalists should know the argot used in technology: "journalists may know more or less of programming, but if they do not know the argot, they suffer from rejection in those teams created to produce pieces of news that require the cooperation of various specialists". (De-la-Peña, Cabra, & González.) That is why, professionals insist, "journalists need to know the history of technology to understand how systems work. If they do not have that view, they feel out of the working group". The challenge is that the reporter acquires knowledge and has an updated training. What professionals who have certainly served as a basis for this research and as a sample for a great number of reports from professional organizations and institutes monitored in the Observatory of New Media (World Editors Forum; Informe Anual de la Profesión Periodística; Reuters Institute, among others) claim, is that the technology matrix will not only not disappear, but may increase, as the process of change and technologization cannot turn back. Therefore, to adapt and evolve is essential: "Journalists, being more or less technologists, need to have the knowledge to cooperate with other technological profiles, which every day have more to say to tell what happens in society. Programmers, systems technicians, software developers... belong to the new teams, and all of them have to enter into dialogue. If journalists do not understand what interlocutors are talking about, their role in teams will be residual". This adaptation process of journalists towards a world that, until quite recently, was not their own, is complex but enriching, as it brings journalists added value. Therefore, these professionals must understand that the change is in how and not in what. Different approaches nourish the double way of skills and competences in the profiles of the current technological journalist, which professionals perceive as a demand in the present ecosystem.

Notes

[1] References are extracted from the reports Trends in Newsrooms 2014, 2015 and 2016, and recent documents by the WAN-IFRA.
[2] The statement is extracted from the analysed texts from the 25 selected journalists and the interviews of three chosen cases.
[3] The dual route theory establishes a framework to describe what happens in the brain when reading aloud.
[4] Contribution made by Xaquín González in 2016 in an interview by the authors of the text.
[5] The statement is extracted from the explanations of Nonny De-la-Peña on her report on Syria, using virtual reality techniques.
[6] Mar Cabra explained the knowledge of tools that allow for the collection of a large amount of data in order to make them understandable in the IV Spain´s Data Journalism Conference, in Madrid.

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Teacher-Student Relationship and Facebook-Mediated Communication: Student Perceptions

La relación profesor-alumno y la comunicación en Facebook: percepciones de los alumnos

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ABSTRACT

Student-teacher relationships are vital to successful learning and teaching. Today, communication between students and teachers, a major component through which these relationships are facilitated, is taking place via social networking sites (SNS). In this study, we examined the associations between student-teacher relationship and student-teacher Facebook-mediated communication. The study included Israeli middle- and high-school students, ages 12-19 years old (n=667). Student-teacher relationships were compared between sub-groups of students, based on their type of Facebook connection to their teachers (or the lack of such a connection); their attitudes towards a policy that prohibits Facebook connection with teachers; and their perceptions of using Facebook for learning. Regarding students' attitudes towards banning student-teacher communication via SNS and towards using Facebook for learning, we found significant differences between three groups of students: those who do not want to connect with their teachers on Facebook, those who are connected with a teacher of theirs on Facebook, and those who are not connected with a teacher of theirs but wish to connect. Also, we found significant associations between student-teacher relationship and student-teacher Facebook-mediated communication. We argue that in the case of student-teacher Facebook-mediated communication, there is a gap between students' expectations and in-practice experience. The key to closing this gap lies in both policy and effective implementation.

RESUMEN

La relación profesor-alumno es crucial para un aprendizaje y una enseñanza exitosos. Actualmente, la comunicación entre alumnos y profesores –factor esencial que facilita estas relaciones– sucede a través de las redes sociales. En la presente investigación examinamos las asociaciones entre la relación alumno-profesor y la comunicación alumno-profesor mediatizada por las redes sociales. La muestra incluyó a alumnos israelíes de educación media y secundaria de 12-19 años de edad (n=667). Se comparó la relación alumno-profesor entre sub-grupos de alumnos de acuerdo al tipo de conexión con sus profesores en Facebook (o la falta de conexión), sus actitudes hacia la prohibición de conexión por Facebook con los profesores, y sus percepciones acerca del uso de Facebook para el aprendizaje. Con respecto a las actitudes de los alumnos en relación a la prohibición de comunicación alumno-profesor vía redes sociales, así como el uso del Facebook para estudiar, encontramos diferencias significativas en tres grupos de alumnos: aquellos que no se interesan por conectarse con sus profesores en Facebook, aquellos que se conectan con sus profesores en Facebook, y aquellos que no están conectados con sus profesores, pero que desean hacerlo. Encontramos asociaciones significativas en la relación alumno-profesor y la comunicación alumno-profesor mediatizada por Facebook. En esta última existe una brecha entre las expectativas del alumno y la experiencia práctica. La clave para cerrar esa brecha se basa en las normas y la implementación efectiva.

KEYWORDS | PALABRAS CLAVE

Social networking sites, student-teacher relationship, student-teacher communication, student perceptions, mediated communication, Facebook.

Redes sociales, relación profesor-estudiante, comunicación profesor-estudiante, percepciones de estudiantes, comunicación mediada, Facebook.

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1. Introduction

Social networking sites (SNS), like Facebook, have been widely adopted and have changed the way people around the world communicate with each other. SNS educational usages have been extensively discussed, however mostly with regards to their pedagogical benefits (Greenhow & Askari, 2017; Manca & Ranieri, 2017). In this study, we take a different approach for examining the role of SNS in education, as we explore student-teacher relationship in real life and their relationship to student-teacher SNS-based communication. The underlying assumption for this line of investigation is twofold. First, student-teacher relationships are vital to successful learning and teaching (Birch & Ladd, 1998; Davis, 2003; Hamre & Pianta, 2001; Sabol & Pianta, 2012). Secondly, SNS are first and foremost intended to facilitate social interactions. Hence, the focus on student-teacher relationships via SNS is a more natural area of research with reference to these platforms. Furthermore, as social uses are an integral part of today's new media, it is important to highlight these aspects of students' and teachers' everyday digital life (Gutiérrez & Tyner, 2012).

Some intriguing questions have been raised regarding student-teacher connections on SNS and their effects on student-teacher relationships in real-life, and vice versa (Manca & Ranieri, 2017). Even the very term used in many SNS to describe connected users, friends", may challenge the common student-teacher hierarchy, as traditionally teachers are allowed some power over their students even when close relationship between the two are developed (Ang, 2005; Vie, 2008). Notwithstanding, as a result of blurring of time and space boundaries (MacFarlane, 2001; Scardamalia & Bereiter, 2006), teachers' role at large is constantly changing in the information era. SNS-based communication plays a major role in this change, extending the scope and setting in which teachers and students communicate, even more than traditional online platforms such as learning management systems. This may affect, in turn, mutual perceptions and beliefs (Mazer, Murphy, & Simonds, 2009), thereby changing student-teacher relationships and traditional hierarchical structures in schools.

For this reason, school authorities and policymakers have been pondering about their position regarding student-teacher SNS-based communication, often banning teacher-student communication via SNS altogether. In Israel, where the study reported in this article was conducted, the Ministry of Education first adopted such a banning policy; however, about a year and a half later, the regulation was refined, emphasizing the educational benefits of SNS, and allowing restricted SNS-related communication (Israeli Ministry of Education, 2011, 2013). Internationally, banning teacher-student SNS-mediated communication is an issue of debate in many countries. Teacher-student communication via social media was barred in several regions in the US and in Australia (Queensland Department of Education, Training and Employment, 2016; Schroeder, 2013) while other regulators have chosen to warn rather than ban, as in the case of Ireland, where it is formally stated that "Teachers should […] ensure that any communication with pupils/students […] is appropriate, including communication via electronic media, such as e-mail, texting and social networking sites" (The Teaching Council, 2016: 7). Public discussion on teacher-student communication via SNS reflects the complex nature of this issue and demonstrates the difficulty in adapting novelties in large-scale systems and organizations. However, most policies are not based on empirical evidence.

In this study, we focus on the secondary school population that was under-researched until very recently (Hew, 2011) and only in recent years this population has started to be studied (Asterhan & Rosenberg, 2015; Blonder & Rap, 2017; Fewkes & McCabe, 2012). Hence, our objective is to explore the relationships between students' perceptions of teacher-student relationship and student-teacher Facebook-mediated communication. We pose the following research questions:

- How is student-teacher communication facilitated on Facebook?
- What are students' attitudes towards a banning policy of SNS-mediated communication with teachers?
- What are students' attitudes towards the use of Facebook for learning?
- How is student-teacher Facebook-friendship characterized de-facto?
- What are the differences in students' perceptions of student-teacher relationships, based on the following variables? a) Type of student-teacher Facebook-connection; b) Types of Facebook-mediated communication; c) Attitudes towards SNS-banning policy; d) Attitudes towards the use of Facebook for learning; and e) The teachers' profile type used to connect with students.

2. Methodology

Data was collected anonymously using an online questionnaire that was distributed via schools' communication

platforms (with the assistance of educators and schools), social networking sites (mostly Facebook and Twitter), and various relevant professional and personal mailing lists. Our target population was students in lower and higher secondary schools. Informed consent was attained through the online questionnaire.

The timing of the questionnaire distribution is important to understand, as a few months prior to this period, the Israeli Ministry of Education had modified its policy regarding SNS, allowing limited Facebook-based connections between students and teachers via groups and only for learning purposes; before that, any teacher-student SNS-based communication was prohibited.

2.1. Research variables

2.1.1. Independent variables

• Communication via Facebook. We asked about the initiation of the student-teacher Facebook-connection and the means by which it is facilitated (in case a connection existed), e.g., Facebook groups, private chat, users' Wall, and Event pages. Also, we asked about the type of teacher's profile preferred by students to connect with (whether connected or wished to be connected). Additionally, we asked whether the teacher with whom the student is, or wants to be, connected is a homeroom teacher or not.

• Attitudes towards Facebook-use in Education. We measured students' attitudes towards Facebook usage for learning and their level of agreement with a banning policy (that is, when student-teacher interactions via SNS are prohibited).

> Teachers' role at large is constantly changing in the information era. SNS-based communication plays a major role in this change, extending the scope and setting in which teachers and students communicate, even more than traditional online platforms such as learning management systems. This may affect, in turn, mutual perceptions and beliefs, thereby changing student-teacher relationships and traditional hierarchical structures in schools.

2.1.2. Dependent variables: Teacher-student relationship

Students' perception of a teacher-student relationship was based on the three axes of Ang's (2005) TSRI framework, namely Satisfaction (refers to experiences reflecting positive experiences between students and teachers), Instrumental Help (when students refer to teachers as resource persons, such that they might approach for advice, sympathy, or help), and Conflict (referring to negative and unpleasant experiences between students and teachers).

2.2. Instruments and procedure

We used an adapted version of the Teacher-Student Relationship Inventory (TSRI), originally developed to measure teacher-student relationships as reported by teachers regarding a given student, using 14 items graded on a 5-point Likert scale (1: completely disagree, 5: completely agree) (Ang, 2005). The questionnaire was translated to Hebrew and changed to measure a student's perceptions of teacher-student relationship regarding a given teacher. For example, the item I enjoy having this student in my class was translated to "I think this teacher is enjoying having me in his/her class". The full, adapted questionnaire appears in Table 1 (see next page). We will refer to this new version as TSRI-S.

The TSRI was implemented as part of an online survey, using Google Forms. Within this form, students were asked about their current use of, and their connections with teachers via Facebook. Following their answers, they were guided to choose a teacher to whom they will refer while replying TSRI, based on the following four groups of students:

• Students who have an active Facebook account and are connected to a current teacher of them. These students filled out the questionnaire regarding a current teacher with whom they are connected on Facebook.

• Students who have an active Facebook account, are not connected to a current teacher, but are interested in

such a connection. These students filled out the questionnaire regarding a current teacher with whom they would like to be connected on Facebook.

Table 1. TSRI-S, adapted from TSRI (Ang, 2005)		
#	Axis	Item
1	Satisfaction	I enjoy having this student in my class
2	Instrumental Help	If the student has a problem at home, he/she is likely to ask for my help
3	Satisfaction	I would describe my relationship with the student as positive
4	Conflict	This student frustrates me more than most other students in my class
5	Satisfaction	If this student is absent, I will miss him/her
6	Instrumental Help	The student shares things about his/her personal life
7	Conflict	I cannot wait for this year to be over so that I will not need to teach this student next year
8	Conflict	If this student is absent, I feel relieved
9	Instrumental Help	If this student needs help, he/she is likely to ask me for help
10	Instrumental Help	The student turns to me for a listening ear or for sympathy
11	Conflict	If this student is not in my class, I will be able to enjoy my class more
12	Instrumental Help	The student depends on me for advice or help
13	Satisfaction	I am happy with my relationship with this student
14	Satisfaction	I like this student

• Students who have an active Facebook account, are not connected to any current teacher, and are not interested in such a connection. These students filled out the questionnaire regarding an arbitrary current teacher of theirs.

• Students who do not have an active Facebook account filled out the questionnaire regarding an arbitrary teacher.

We also asked about participants' views on positive aspects of student-teacher connections using Facebook. Participants who indicated that they were already connected to one of their teachers, and those who indicated they wished to be connected to one of their teachers, were also asked the following question: "How [does/could] this connection on Facebook is/be helpful to you?".

2.3. Population

Altogether, 667 students participated in this study. They were between 12-19 years of age (M=14, SD=1.6). There were 403 females (60%) and 264 males (40%). As a result of the ubiquitous accessibility to the online form, participants were from all over Israel.

2.4. Analysis

As some of the variables were not normally distributed, we used non-parametric comparison tests, specifically Mann-Whitney U Test and Kruskal-Wallis H Test, using IBM SPSS software, Version 23. Participants' responses to the open-ended items were coded using the directed content analysis method (Hsieh & Shannon, 2005), with variables derived from the Ang's (2005) framework.

3. Findings

We divided the research population (n=667) into four sub-groups of students:

• Connected students (n=67, 10%), who have at least one of their current teacher as a Facebook-friend.

• Wannabe Connected students (n=124, 19%), who do not have any of their current teacher as a Facebook-friend, but would like one of their current teacher to be a Facebook-friend.

• Not Wannabe Connected students (n=396, 59%), who do not have any of their current teacher as a Facebook-friend and do not wish to have on.

• Not on Facebook students (n=80, 12% of students), who do not have an active Facebook account.

3.1. Independent variables

3.1.1. Communication means

Among the Connected group (n=67), Group-based communication (either in open or closed Groups) was the most popular, with 33 students (49%) using it, followed by private chatting with the teacher, with 24 students (36%) mentioning using it. About a third of the students (22 of 67) mentioned hitting Like on teacher's status updates, and about fifth of the students (14 of 67) mentioned commenting on the teacher's updates. Less popular were communicating via Event pages (13%, 9 of 67), media upload/tagging/commenting (12%, 8 of 67), and writing

on the teacher's wall (4%, 3 of 67). All students mentioned at least one communication means, meaning that none of them keeps the connection to their teacher strictly passive.

3.1.2. Attitudes towards a banning policy

We asked students to what degree do they agree with a banning policy that prohibs any student-teacher connection via SNS. Considering only those students who had an opinion on that topic (n=482 of 667), 63% of the students (304 of 482) agreed or tended to agree with a banning policy, and 37% disagreed or tended to disagree with it (178 of 482). Analysis at the sub-group level, revealed that about 75% of the Not Wannabe Connected students (215 of 285) agreed or tended to agree with a banning policy while only 31% of the Connected group (19 of 49) and 39% of the Wannabe Connected group (29 of 94) agreed or tended to agree with it. This difference is striking and is statistically significant, with +*(2)=71.3, at p<0.001. Comparing the Connected and Wannabe Connected groups results in a non-significant difference, with $Chi^2(1)=0.9$, at p=0.34.

3.1.3. Attitudes towards using Facebook for learning

We asked participants whether they think Facebook could be used for learning (without mentioning specific applications). Overall, 52% (349 of 667) responded with a Yes and 48% (318 of 667) responded with a No.

Regarding students who have Facebook accounts (n=587, 340 females and 247 males) in the Connected group, 57% of the students (38 of 67) thought that Facebook can be used for learning, compared to 77% of the Wannabe Connected group (95 of 124) and 47% of the Not Wannabe Connected group (185 of 496). This difference is statistically significant, with c2(2)=34.2, at p< 0.001. Results are summarized in Table 2. Note the significant difference in answers between the Connected and the Wannabe Connected groups with $Chi^2(1)=8.1$, at p<0.01.

Table 2. Can Facebook be used for learning? Students' responses based on type of connection (n=587)

Type of Connection	Yes (% of group)	No (% of group)	Total
Connected	38 (57%)	29 (43%)	67
Wannabe Connected	95 (77%)	29 (23%)	124
Not Wannabe Connected	185 (47%)	211 (53%)	396
Total	318	269	587

3.1.4. Friendship parameters

Of the Connected students (n=67), 25 (37%) were connected to their teacher's personal profile and the same number – connected to their teacher's professional profile. Additional 17 students (25%) did not know to which type of teacher profile they were connected. Of that group, 25 students (37%) were connected to their homeroom teacher while the remaining (42 students, 63%) were connected to a disciplinary teacher who is not their homeroom teacher. Altogether, 17 students (25%) stated that they were the ones initiating the Facebook connection, 23 students (34%) mentioned that the teacher was the one to initiate the connection, and the remaining 27 students (40%) did not remember who initiated the connection.

Of the Wannabe Connected students (n=124), 24 (19%) stated that they would like to connect to their teacher's personal profile and about the same number stated they would like to be connected to their teacher's professional profile (26 of 124, 21%); the rest (60%, 74 of 124) did not have a preference about which teacher's profile to connect to. Also, 57 students (46%) stated that they wished to connect with their homeroom teacher, and the remaining (67 students, 54%) wished to connect with a disciplinary teacher who is not their homeroom teacher. The difference between the two groups regarding the type of teacher's profile to whom they are connected or wish to be connected (omitting the "Don't know/Don't care" options) is not statistically significant, with $Chi^2(1)=0.04$, at p=0.84.

3.2. Dependent variables

3.2.1. Reliability test and descriptive statistics

Reliability test for the adapted version resulted with high scores for Satisfaction (5 items, M=3.75, SD=1.1, Cronbach's α=0.88), Instrumental Help (5 items, M=2.75, SD=1.2, α=0.87), and Conflict (4 items, M=1.65, SD=0.9, α=0.88), all with n=667. Satisfaction and Conflict axes are highly skewed (their skewness values are: 0.92, 1.74, respectively) while Instrumental Help is rather normally distributed with the exception being a peak at the 1-value (skewness value of 0.14).

3.2.2. TSRI and de-facto connection on Facebook

We now compare between the distribution of TSRI axes across the four groups of students: Connected, Wannabe Connected, Not Wannabe Connected, Not on Facebook (n=667). The statistics are summarized in Table 3.

Table 3. TSRI-S values across student groups (n=667)

Group	Mean (SD) Satisfaction	Mean (SD) Instrumental Help	Mean (SD) Conflict
Connected (n=67)	3.71 (1.02)	2.72 (1.20)	1.57 (0.77)
Wannabe Connected (n=124)	4.07 (0.89)	3.25 (1.09)	1.60 (0.92)
Not Wannabe Connected (n=396)	3.67 (1.08)	2.55 (1.11)	1.67 (0.96)
Not on Facebook (n=80)	3.72 (1.18)	3.02 (1.15)	1.70 (1.00)

Satisfaction is significantly different between groups, with $Chi^2(3)=14.3$, at $p<0.05$, as well as Instrumental Help, with $chi^2(3)=38.5$, at $p<0.001$. Conflict is not significantly different, with $Chi^2(3)=0.9$, at $p=0.83$; comparisons utilized Kruskal Wallis H Test. For post-hoc tests, we ran pairwise Mann-Whitney U tests, using Bonferroni correction for multiple tests (i.e., dividing a by 6). Findings indicate that Satisfaction was only different between the Wannabe Connected and Not Wannabe Connected groups ($Z=3.74$, at $p<0.01$), with a higher mean for the former and an effect size of $r=0.16$.

Instrumental Help was different within three pairs of groups: Connected and Wannabe Connected (higher for the latter, with $Z=3.10$, at $p<0.05$), Wannabe Connected and Not Wannabe Connected (higher for the former, with $Z=5.79$, at $p<0.01$), and Not Wannabe Connected and Not on Facebook (higher for the latter, with $Z=3.33$, at $p<0.05$) with effect sizes of 0.22, 0.25, 0.15, respectively. Therefore, the mean for Instrumental Help was higher for students who wished to Facebook-connect with one of their teachers in comparison with those who were already connected to a teacher.

3.2.3. TSRI and communication type

Mann-Whitney U test on each of TSRI axes, comparing between using/not-using each communication means separately, revealed significant differences only in the case of using Groups and only for the Satisfaction and Conflict axes. The mean Satisfaction for students who communicate in groups with their teachers (n=33) was 4.07 (SD=0.59), compared with 3.36 (SD=1.22) for students who do not communicate in groups with their teachers (n=34), with $Z=2.7$, at $p<0.05$; this denotes an effect size of $r=0.28$. The mean Conflict for students who communicate in Groups with their teachers (n=33) was 1.37 (SD=0.55), compared with 1.77 (SD=0.9) for students who do not communicate in Groups with their teachers (n=34), with $Z=2.02$, at $p<0.05$; this denotes an effect size of $r=0.25$. In other words, students who communicate with their teachers via Facebook Groups feel more satisfied and less conflicted with their teachers in comparison with those students who do not communicate using Groups. There was no significant difference in Instrumental Help, with $Z=0.40$, at $p=0.69$.

3.2.4. TSRI and attitudes towards banning policy

For understanding differences in TSRI axes between students who agreed or tended to agree with the banning policy (n=304) and those who disagreed or tended to disagree with it (n=178), we ran a Mann-Whitney U test. The only significant difference was found in Instrumental Help, which was higher for students who disagreed or tended to disagree with a banning policy in comparison with those who agreed or tended to agree with it. This difference has an effect size of $r=0.15$. The results are summarized in Table 4.

Table 4. Comparing TSRI-S values based on attitude towards a banning policy (n=482)

Ang's Axis	Average (SD) over Students who Agree or Tend to Agree (n=304)	Average (SD) over Students who Disagree or Tend to Disagree (n=178)	Z (based on Mann-Whitney test)	Effect Size
Satisfaction	3.70 (1.08)	3.85 (1.05)	1.70; p=0.09	---
Instrumental Help	2.64 (1.17)	3.00 (1.11)	3.26**	0.15
Conflict	1.64 (1.00)	1.69 (0.94)	1.34; p=0.18	---

** p<0.01

3.2.5. TSRI and attitudes towards Facebook for learning

For understanding differences in TSRI axes between students who think Facebook can be used for learning (n=349) and those who do not (n=318), we ran a Mann-Whitney U test. Results are summarized in Table 5.

Significant differences were found in Satisfaction and Instrumental Help; both were higher for students who believe that Facebook can be used for learning compared to those who do not believe so. These differences have effect sizes or r=0.08 and r=0.11, respectively.

Table 5. Comparing TSRI-S values based on attitude towards Facebook for learning (n=667)

Ang's Axis	Average (SD) over Students who Think Facebook Can be Used for Learning (n=349)	Average (SD) over Students who Think Facebook Cannot be Used for Learning (n=318)	Z (based on Mann-Whitney test)	Effect Size
Satisfaction	3.86 (0.97)	3.64 (1.14)	2.04*	0.08
Instrumental Help	2.87 (1.13)	2.62 (1.16)	2.86**	0.11
Conflict	1.67 (0.93)	1.63 (0.95)	1.19; p=0.24	---

* p<0.05 ** p<0.01

3.2.6. TSRI and teacher profile

In the Connected group, 25 students are connected to their teacher using the teacher's personal profile and 25 are connected using the teacher's professional profile. Running the Mann-Whitney U test, we found no significant difference in any of the TSRI axes. Results are summarized in Table 6.

In the Wannabe Connected group, there are 24 students who want to connect with their teacher using the teacher's personal profile and 26 who want to connect using the teacher's professional profile. Running the Mann-Whitney U test, we found a significant difference with a medium effect for Satisfaction. Students who would like to connect with their teacher through the teacher's personal profile feel more satisfied with that teacher than the students would like to connect with the teacher through a professional profile. Results are summarized in Table 6.

Table 6. Comparing TSRI-S values based on type of teacher's profile, for connected and wannabe connected

Ang's Axis	Average (SD) for Teacher's Personal Profile	Average (SD) for Teacher's Professional Profile (n=50)	Z (based on Mann-Whitney test), Effect Size†
Connected (n=50)			
Satisfaction	3.76 (0.90)	3.95 (0.78)	0.90; p=0.37
Instrumental Help	2.71 (1.12)	3.06 (1.24)	1.02; p=0.31
Conflict	1.66 (0.81)	1.59 (0.88)	0.54; p=0.59
Wannabe Connected (n=24 for personal profile, n=26 for professional profile)			
Satisfaction	4.5 (0.66)	3.78 (0.83)	3.51***
Instrumental Help	3.43 (1.10)	3.15 (0.97)	1.08; p=0.28
Conflict	1.43 (0.86)	1.64 (0.83)	1.50; p=0.13

† for significant results only, *** p<0.001

3.3. Perceived and actual contribution to students

We now report on an analysis of the students' open-ended responses to the questions regarding the actual/potential contribution of communicating with their teachers on Facebook, which were coded by Satisfaction and Instrumental Help; these categories are not mutually exclusive. Of the 124 responses received by the Wannabe Connected students, 44 (40%) were coded as Satisfaction-related, and 76 (70%) were coded as Instrumental Help-related. Hence, the reasons for wishing to connect with teachers on Facebook were mostly on a practical level. For example:

"[The teacher] could update me easily and quickly about things that happened when I didn't come [to school]" (S344, F:14).

"[The teacher] could help me in the afternoon with school stuff if I needed help" (S87, M:12).

"That way, we could talk with the teacher and ask questions – it'd be much more comfortable than giving him a call" (S307, M:14).

"Things that you want to say to the teacher personally and you're too shy – it's possible using Facebook" (S586, M:17).

Still, a measurable amount of the responses indicated anticipation of a feeling of Satisfaction from this connection, as may be evident in the following examples:

"[The teacher] could ask me how I am, that's kinda nice" (S344, F:14).

"[The teacher] is just an interesting and quite a cool guy, it's just interesting for me what he's doing when he's not teaching" (S280, M:14).

"Teachers can participate in the lives of their students" (S560, F:16).

"It can strengthen the relationship between the teacher and the students and to cause the student to count on his teacher" (S592, F:17).

Of the 37 responses of the Connected students, 10 (27%) were coded as Satisfaction-related, and 31 (84%) were coded as Instrumental Help-related. While Instrumental Help is still the more frequent category among this group as well, the gap between this axis and the Satisfaction axis widened. To clarify the difference in distribution of these two categories between the two groups of participants, we performed a discriminant analysis; this statistical test was chosen due to the fact that the coding categories were interrelated, that is, a student's response could be coded in both categories. The emerging discriminant function significantly differentiated between the Connected and the Wannabe Connected students, with Wilk's $\Lambda=0.94$, $\chi2(2)=10.9$, at $p<0.01$.

4. Discussion and conclusions

In this article, we explored students' perceptions of student-teacher relationship in an era in which both parties are able to communicate via social networking sites (SNS). Recall that the original purpose of SNS was to promote social, interpersonal connections and communication. As suggested in this study, such connections and communication might also have important implications in the educational context. Overall, about 10% of our population had a teacher who was teaching them and with whom they were connected on Facebook, against the official policy which prohibited (and still prohibits) student-teacher friendship via SNS, demonstrating the need of students and teachers to connect in various out-of-class settings.

> Besides policy, educational processes should be the key to a safe, effective implementation of SNS by teachers and students. This should be achieved via an open dialogue between all the relevant stakeholders, including policy-makers, practitioners, teachers, and students, and based on empirical data. The key role of the students in this discourse is not to be underestimated, as they are the leading force and natural inhabitants of SNS.

The most popular means of communication between the connected students and their teachers was via Facebook Groups, as shown in previous studies (Asterhan & Rosenberg, 2015). Students and teachers find Facebook Groups to be appropriate as they offer an easy one-to-many communication along with a relatively high level of privacy and a better separation of their learning-related discussions and their personal activity (Kent, 2014). Many studies have highlighted the educational benefits of such groups (Ahern, Feller, & Nagle, 2016; Da-Silva & Barbosa, 2015; Miron & Ravid, 2015; Rap & Blonder, 2016). We extend this literature by referring to the benefits of groups with regard to student-teacher relationship at large. This is evident, for example, by higher levels of Satisfaction and lower levels of Conflict for students who communicated with their teachers via Facebook Groups, compared to those students who were connected to their teachers on Facebook but did not communicate with them via groups. Interestingly, no difference in Instrumental Help was found between these two modes, which might indicate that students use private channels to discuss personal issues with their teachers (Hershkovitz & Forkosh-Baruch, 2013).

While about three-quarters of the Not Wannabe Connected students agreed or tended to agree with a policy that bans student-teacher communication via SNS, less than 40% of the Wannabe Connected students and less than a third of the connected students agreed or tended to agree with it. Hence, some students are interested in strengthening connections with their teachers outside school boundaries, and when doing so, they prefer to use platforms they already know and are competent in their usage (Deng & Tavares, 2013; Jang, 2015). On the other hand, we found that only about a half of the students believe that Facebook can be used for learning, in line with previous studies (Mao, 2014).

The difference in attitudes between the Connected and the Wannabe Connected groups highlights the difference between expected benefits from a Facebook-friendship of students with their teachers and the de-facto benefits. Students tend to perceive social media as an informal space used mainly for socialization, rarely in

formal learning settings (Sánchez, Cortijob, & Javed, 2014; Selwyn, 2009); hence, due to their very nature as social virtual spaces, they should be examined through these lenses.

We also found some interesting results regarding the Wannabe students, which scored in the Instrumental Help axe higher than the connected students. Also, students who wished to connect to the teacher's personal profile scored in the Satisfaction axe higher than those who wished to connect to a professional profile. This may indicate the need for students to broaden the relationship with their teachers beyond the traditional, school-related setting, to the new online environments, extending real-life experiences (Hershkovitz & Forkosh-Baruch, 2013; Kert, 2011).

Nevertheless, in practice such satisfying expectations are not always fulfilled. Besides policy, educational processes should be the key to a safe, effective implementation of SNS by teachers and students (Stornaiuolo, DiZio, & Hellmich, 2013). This should be achieved via an open dialogue between all the relevant stakeholders, including policy-makers, practitioners, teachers, and students, and based on empirical data. The key role of the students in this discourse is not to be underestimated, as they are the leading force and natural inhabitants of SNS.

Based on our findings, we suggest that future research on this topic include wider and more diverse samples from different countries and cultures, as well as different types of SNS. This will assist in understanding how different social norms related to the education milieu are reflected in the SNS array; as a result, educational policies related to SNS may be better grounded in a local cultural context. Still, SNS are part of a wider, global phenomena; therefore, it is vital to examine their educational implications in a wider, international context, and to explore whether this situation reciprocates with educational settings.

Of course, this study is not without limitations. First, our research sample, attained from viral distribution of an online questionnaire, may be biased to some degree (Sax, Gilmartin, & Bryan, 2003); however, as recent studies show, online and traditional self-report questionnaires might be equivalent, and the former is perceived by participants as more protective of their anonymity (Ward, Clark, Zabriskie, & Morris, 2014; Weigold, Weigold, & Russell, 2013). In addition, this study was conducted in Israel, under some special circumstances related to an official policy of the Ministry of Education banning student-teacher connections via SNS; hence, participating students who were de-facto connected to their teachers were violating regulations. Therefore, results may be biased.

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Parent's Influence on Acquiring Critical Internet Skills

La influencia de los padres en la adquisición de habilidades críticas en Internet

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ABSTRACT

The accessibility and ease-of-use for children of Information and Communication Technologies lead us to suggest that one of the key questions for their potential empowerment is linked to their analytical use by means of the acquisition of critical skills. The family environment is considered an important factor in digital literacy and the education of critical citizens. The present paper analyzes the mediation role of the parents in their children's education. It shows a predictive model that includes parental education style and their trust in the interactive media for their children's acquisition of critical cognitive abilities. It also identifies the personal and contextual factors that are related to the parental education style. The model was tested on a representative sample of 765 families from the Madrid Community selected on the educational level, center type, and district income bases. It was found that children's educational level is the factor of greatest impact on the acquisition of critical abilities. Nevertheless, as parents adopt a less restrictive style regarding the uses of Internet, there is a more positive influence on the acquisition of critical abilities independently of the age effect. The results question the role of parental restrictions on the use of the interactive media to encourage the education of critical citizens.

RESUMEN

La accesibilidad y facilidad de uso de las Tecnologías de la Información y la Comunicación en los menores lleva a plantear que una de las cuestiones clave para su potencial de empoderamiento está vinculada al uso crítico de las mismas a través de la adquisición de habilidades críticas. El entorno familiar se postula como un factor determinante en la alfabetización digital y en la formación de ciudadanos críticos. El presente trabajo analiza el papel mediador de los padres en la educación de sus hijos. Plantea un modelo compresivo que recoge la influencia del estilo parental y la confianza de los progenitores hacia el medio interactivo en la adquisición de habilidades críticas por parte de los menores y se identifican los factores personales y contextuales que influyen sobre el estilo parental. El modelo se pone a prueba con una muestra representativa de 765 familias procedentes de la Comunidad de Madrid seleccionadas en función del nivel de enseñanza, tipología de centro y nivel de renta del distrito. Se comprueba que el nivel educativo de los hijos es el factor más influyente en la adquisición de habilidades críticas. No obstante, cuanto menos restrictivo es el estilo de control parental de Internet, más positivamente influye en la adquisición de habilidades independientemente de la edad. Los resultados cuestionan el papel de las restricciones en el uso del medio interactivo para la formación de ciudadanos críticos.

KEYWORDS | PALABRAS CLAVE

Internet, digital alphabetization, parental control, educational strategies, empowerment, family, children, parents.
Internet, alfabetización digital, control parental, estrategias educativas, empoderamiento, familia, menores, padres.

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1. Introduction and status of the issue

1.1. The new digital divide: empowerment

It is undeniable that Information and Communication Technologies (ICT) have become a fundamental tool and that knowing and using them at an advanced level is a priority in order to participate in a complex, globalized society. Leisure is ever more linked to the use of computers, tablets or cell phones, but also to the exercise of rights and active citizenship (Gutiérrez-Rubí, 2015); employability (Núñez-Ladevéze & Núñez-Canal, 2016) or access to permanent education depends on digital competence (Travieso & Planella, 2008). Children show great technological skills, but the same cannot be said for their capacity to critically understand the audiovisual context in which they live.

Ballestero (Fuente-Cobo, 2017) mentions four elements to summarize the digital divide concept: availability of a computer; another electronic device in the home or at work; acquaintance with the basic tools to access and surf the Internet; and the user´s competence to convert the information reached on the web into 'knowledge'.

The gap regarding access and connectivity has almost disappeared among children and young people in Spain. The use of ICT is occurring at ever younger ages. The study "Minors and Mobile Connectivity in Spain" states that two- and three-year-olds habitually access their parents' terminals to use children's applications for games, music, activities, and videos. Considering ownership, the latest survey on "Equipment and Use of Information and Communication Technologies in Homes" run by the Statistics National Institute (Spain) indicates that 25.5% of 10-year-old Spanish children have a cell phone, that this percentage doubles at the age of 11 and that the figure continues to increase until, at the age of 15, it reaches almost 100%. The drop in the starting age for the use of smartphones is not an exclusively Spanish phenomenon, but it does have a high incidence in our country, where the number of minors with smartphones is the highest in Europe and is comparable to the USA. Regarding connectivity, 93.7% of Spanish children connect to the Internet from their homes (INTEF, 2016) and those who have a smartphone are permanently in connection, except when they are asleep (Cánovas, 2014).

Exclusion from digital society is no longer based on accessibility to the web or possession of devices, but rather relies on the ability to behave analytically. The real digital divide nowadays is empowerment as regards digital literacy, defined as "acquisition of the intellectual skills needed to interact both with the existing culture and to recreate it critically and freely, and consequently, as a right and need for citizens of the information society" (Area, Gutiérrez, & Vidal, 2012: 9).

The often reductionist vision that schools have of digital competence (Ferrés & Piscitelli, 2012), focusing on the technical aspects and ignoring the training of the critical spirit, grants central importance to family mediation in the process of gaining the knowledge needed for a creative and safe use of information and communication technologies, which are becoming empowerment technologies (Reig-Hernández, 2012).

On this basis, the proposal of this study does not focus on defining a profile of a mother or a father depending on the use of Internet allowed to their children. The objective is to define how the parental control style and their confidence in the medium enable the empowerment of minors in the use of the Internet. The relationship between the empowerment of minors in the use of Internet and the acquisition of critical skills is clear, as the latter is crucial in the development of an independent and responsible use of the medium.

1.2. Influence of parental styles on digital empowerment

It appears to be proven that parenting styles influence the use that children make of Internet. Valcke, Bonte, Wever, and Rots (2010) distinguished between different parenting styles depending on the control exercised by the parents. They observed that the way in which children approached the technology is related to their parents' Internet use, their attitude and their experience online, and stated that the parenting style, the parent' behavior on Internet and their level of education were the variables that best forecast the children's use of Internet in the home.

Among the components which influenced the educational setting of the children, the parents' age appears to be decisive. There are studies that show that the older the parents, the less level of experience in their use of the Internet, and the less regulation of their children's use (Álvarez, Torres, Rodríguez, Padilla, & Rodrigo, 2013; Valcke & al., 2010). Álvarez and others (2013), apart from the age of the parents, add the level of education as a key element in the parents' attitudes: parents with a lower level of education are those who feel more involved in the regulation of their children's activities online and show higher-quality motivation based on the promotion of social interaction and learning. Nikken and Schols (2015) point out the influence of the use the parents themselves make of Internet on its use by their children, whereas Rial, Gómez, Braña, and Varela (2014) show that the control exercised by parents over their children is significantly lower when they do not use the Internet.

Padilla, Ortiz, Álvarez, Castaño, Perdomo, and López (2015) have also drawn attention to the influence of the physical space and the attitudinal component of the parents and carers on the frequency and extent of the Internet in the home. They analyzed which variables of the socio-demographic profile of the parents and the family are related to regulating the attitudinal components of the family and the physical setting when children use the Internet, together with the frequency and diversity of its use. These authors concluded that parents with children in primary school have more regulated use of Internet because the children connect in spaces they share with their parents, which allows them to have more control over what their children see (Álvarez & al., 2013; Valcke & al., 2010).

However, the research is not conclusive on which style of parental control is most appropriate. Some studies state that children use the Internet more when their parents adopt a more permissive style and that the opposite occurs in cases of an authoritarian style which, incidentally, is the most predominant (Valcke & al., 2010). The idea that it is recommendable to regulate use as a preventative measure to avoid potential risks is underlying. Connecting this with conflictive situations which may arise online, Melamud and others (2009), in research carried out in Argentina with children between the ages of 4 and 18, concluded that parents have little knowledge of what their children do on the Internet and underestimate its potential risks. Lobe, Segers and Tsaliki (2009) found that in those countries in which the strategies for parental control are weak, children run higher risks in their use of the Internet. Specifically, Spain has one of the lowest levels of risk as a result of less awareness of the risks combined with a more efficient family mediation in the form of conversation with children on their use of the Internet. Nevertheless, these studies are not conclusive as regards what the best parental control strategies are, nor on the influence they have on the acquisition of children's critical skills.

> The proposal of this study does not focus on defining a profile of a mother or a father depending on the use of Internet allowed to their children. The objective is to define how the parental control style and their confidence in the medium enable the empowerment of minors in the use of the Internet. The relationship between the empowerment of minors in the use of Internet and the acquisition of critical skills is clear, as the latter is crucial in the development of an independent and responsible use of the medium.

It does appear to be clear that dysfunctional parenting styles (abuse and indifference) influence Internet addiction (Matalinares & Díaz, 2013) and that intensive use by children is linked with homes where there is no parental control (Fernández, Peñalba, & Irazabal, 2015; Rial, Gómez, Braña, & Varela, 2014). The fact that parents are not Internet users also implies a risk for adolescents as they may make problematic use of the medium (Boubeta, Ferreiro, Salgado, & Couto, 2015).

On the question of how the risks to be found on the Internet should be tackled, the proposals are directed towards increasing preventive programs for responsible and safe use (Berríos, Buxarrais, & Garcés, 2015). The major challenge for the future would be to "maximize the positive effects and minimize the negative effects" of the Internet on children (Fernández-Montalvo, Peñalba, & Irazabal, 2015: 119). Tejedor and Pulido (2012: 70) recommend that the educational curriculum should include the empowerment of children regarding the risks of cyberbullying and grooming, and state that "global education strategies should be designed to consolidate skills related to media literacy", together with preventive models which include the families. De-Frutos-Torres and Marcos-Santos (2017) propose preventive actions based on the sharing of negative experiences on social networks by teenagers, and acceptable behaviors there.

The relevance of parent mediation seems obvious, and even children are aware of the importance of their parents as regulatory agents of the Internet contents they access. Nevertheless, this influence declines as children get older with a bias towards their friends and companions; this also occurs in more problematical situations (Jiménez-Iglesias, Garmendia, & Casado-del-Río, 2015).

There are many contributions on strategies for parental control, although there is little interest in studying the factors of influence in family mediation and their effectiveness (López-de-Ayala & Ponte, 2016). Torrecillas-Lacave, Vázquez-Barrio, and Monteagudo-Barandalla (2017), in a study focusing on the "hyper-connected homes" in the Community of Madrid, conclude that parents' opinion is very positive regarding ICT and that there are two different mediation styles: some parents use a more restrictive style which includes strategies for digital control of contents, timetables and time online; while others prefer shared surfing. They also point out that, independently of the mediation style preferred by the families, they all establish support strategies which go from intensifying family communication to awareness of the potential risks associated with publishing images and videos online. Concern about this issue is not merely the fruit of the risks Internet may imply for children, but it is also due to the enormous potential it has as a key platform to promote the autonomous learning and development of children (Kerawalla & Crook, 2002, quoted in Padilla, 2015). For this reason, it is of interest to explore the parent/child relationship in their approach to the Internet for connection and learning, capable of making children more independent and responsible.

The learning opportunities do not necessarily have to be delimited by the children's age. Although it is true that as the children advance academically they acquire greater skills to apply to the interactive setting, the results of the model lead us to affirm that parents may become the agents of change in the experience, by enabling their children to explore the web and by adopting a nonrestrictive tutelary style that allows the child to surf freely on those sites which are adapted to his/her level of maturity.

2. Material and method

2.1. Study

The first objective of the work is to identify which personal, attitudinal and behavioral variables are associated with the parental style which regulates Internet access. Among the personal factors, we include the age of the parents, their level of education, the number of children in the family unit, the age of the children, the type of home and the parents' experience of using the Internet for either work or personal reasons. The attitudinal variables gather the parents' confidence in the interactive medium and their concern regarding the risks which may affect their children. Finally, in the behavioral variables, we include prior authorization for access to the Internet, subsequent control after its use and limitation of the time online.

The second objective of the work focuses on identifying the variables which make a significant contribution to children's acquisition of critical skills in the use of Internet in the family setting. After reviewing the literature on the subject, we hypothesize that the parental style will affect the acquisition of critical skills, together with the remaining personal, attitudinal and behavioral factors already mentioned.

To explore the factors associated with the parents' style of control for the use of the Internet, the Chi-squared statistic has been used for the categorical variables and the analysis of variance1 (ANOVA) for the continuous variables. The predictive model has been tested through a linear regression analysis organized hierarchically by blocks using the stepwise method which is appropriate for the identification of the variables that make a significant contribution to the acquisition of critical skills in the use of the Internet. The interpretation of the results is based on the statistical F-test, the proportion of explained variance (standardized R2) and the standardized parameters of the regression equation[2].

2.2. Sample

The population is defined by schoolchildren from the municipality of Madrid. The extraction of the sample has followed multistage sampling stratified by clusters using the school as a sample unit. The strata were defined by educational levels (Preschool/Primary, Secondary/ Baccalaureate), the type of school (public or private/semiprivate)

and income level of the district (above average, average or below the average for the municipality of the city of Madrid). The schools were selected randomly within each stratus using the school register of the Education Board of the Community of Madrid. The collaboration of the school in the study was requested by telephone. The collaboration of the parents was organized through the school. The questionnaire was completed online. 765 valid questionnaires were gathered. Participation was 57% which indicates a good level of response according to the criteria of Baxter and Babbie (2004). 32% of the responses came from public schools and the remaining 68% from private schools.

2.3. Measurement tools

To collect the data an ad hoc questionnaire was created for this study. The personal data included were: age of parent, gender, the academic level reached, the frequency of use of Internet for work or personal (leisure) reasons and academic year of their child. The parents' confidence on Internet was measured on a 4-point Likert-type scale with scores which went from skepticism to confidence in the web (Mean =2.46; typical deviation 0.61).

To measure the parents concern with Internet risks, they were asked about the level of concern created by 10 situations in relation to their children: that they might be contacted by strangers, that crimes could be committed against their child, that they might be bullied or harassed by other children, that they might see inappropriate material, that their child might commit a crime, that it takes away opportunities for other activities, that he/she spends a lot of time online, that he/she does not have criteria to assess what he/she may find, that he/she does not control its use, that he/she misses opportunities for real contact with his/her friends. The answers were arranged on 4-point Likert-type scale grading the concern from low to high. The answers present a high degree of internal consistency (Alpha de Cronbach=0.92). For the analyses, a global score was calculated based on the mean sum of the ten situations (mean =3.27; standard deviation 0.66).

Several indicators have been used to evaluate parents' intervention in their children's activities on the Internet. A general question regarding whether parents' permission was required or not to use the Internet at home during non-vacation periods. A question about time limits for Internet use with answers that go from the most restrictive time periods to the least (less than an hour; between one and two hours; between two and three hours; over three hours and unlimited). Thirdly, data was gathered on the authorization for Internet use in eight different situations or scenarios: use of instant messaging, watching videos, surfing, having one's profile on a social network, downloading music or films, sharing photographs, music or videos with others, online shopping and installing apps from the web. Each response alternative reflects a parent/child relationship style which goes from the possibility of access only with permission, access with permission and supervision, and restricted access. The answers to these situations, which have a high internal consistency (Alpha de Cronbach=0.86) have been added to create a global indicator of the degree of regulation of Internet use which has been used to establish the parental style (mean=24.4 and standard deviation=4.5). Based on response distribution, three groups of approximately the same size have been established: the first has been called "free/somewhat restrictive access style" (scores up to 20 points), the second called "negotiated style" (scores between 21 and 25) and the third called "restrictive style" (scores over 25). Finally, in the parent-child relationship, we asked if the children's behavior after using the Internet was controlled. The actions included were: reviewing sites the child has visited, the WhatsApp groups, friends who have been added, the contents of his/her profile, the messages received or sent and the files downloaded. The positive answers have been added to obtain a global indicator of control (mean=2.97; standard deviation=2.26).

The acquisition of critical skills on the use of ICT has been used as a model dependent variable. This question reflects the number of critical skills acquired in Internet use the parents' opinion, disregarding where they were acquired (home or school). The issues included were: the importance of verifying Internet information, that there are good websites and others which are not good, how to use reliable sources when downloading Internet content, where to find information to address homework tasks, encouraging the child to explore and learn things online. The affirmative responses to each of these questions were added and formed a single indicator. The mean for affirmative responses is 3.67, and the standard deviation is 1.65.

3. Results

3.1. Factors associated with parenting style

The gender of the respondent is associated with the parenting style for Internet access. The differences are produced in the free or little-restricted style which appears more frequently in men than women, and in the

restrictive style where there is a higher proportion of women (77.9%) than men (22.1%). Taking into account the personal projection in the responses, it could be argued that mothers tend to place more restrictions on their children's habits. The age factor also shows statistically significant differences. The fathers and mothers who practice a free and negotiated control of Internet are older (49 and 46.3 years old on average, respectively) than the parents of a more restrictive style (mean age= 41.7). The level of education completed shows some significant differences, although there is no clear tendency. In the freestyle relationship, there is a higher proportion of parents with university studies, while in the restrictive-style relationship there is a lower proportion of parents with university studies and a higher proportion of parents with vocational training and baccalaureate. The number of children under 18 and the type of household does not return statistically significant differences. Finally, the children's level of education is a point that is related with the parenting style. Of interest is the fact that, at the first stages of academic learning (primary), there is a greater proportion of parents who adopt the restrictive style, compared to the period of secondary education and baccalaureate, when there is a higher proportion of negotiated and free access. In addition, the number of children in the household and the type of family (single-parent, spouses and children) is not associated with the style of family relationship.

Table 1. Personal factors related to parental control style for Internet

	Parental control style regarding Internet			
	Free (%)	Negotiated (%)	Restrictive (%)	Total (%)
Gender				
Men	35.4**	29.7	22.1**	27.7
Women	64.6**	70.3	77.9**	72.3
Statistical Chi-squared	Chi-squared=11.601 sig.=0.003 (g. l.=2)			
Mean age (SD)	49.0 (4.16)	46,3 (4.75)	41.7 (5.22)	44,9 (5.7)
Statistic	F=155.420 sig. =0,000 (g.l.=2)			
Level of education reached	Free (%)	Negotiated 8%)	Restrictive (%)	Total (%)
Elementary/Intermediate vocational training or equivalent	4.6	6.3	4.9	5.2
Advanced vocational training/ High School	25.6	21.6**	30.7*	26.8
University (graduate/engineer, etc.)	45.1*	42,8	39.1*	41.7
Postgraduate (master/doctorate)	24.6	29,3	25.3	26.3
Statistic	Chi-squared=23.180 sig.=0.184 (g.l.=18)			
Mean number of children under 18 in household (SD)	1,8 (0.78)	1,96 (1,0)	1.90 (0.88)	1,91 (0.88)
Test statistic	F=1.442 sig.=0,155 (g.l.=2)			
Household type	Free (%)	Negotiated (%)	Restrictive (%)	Total (%)
Single-parent	8.2	8,1	6.3	7.3
Spouse and children	89.2	88.3	90.5	89.5
Other	2.6	3,6	3.2	3.1
Statistic	Chi-squared=1.307 sig.=0.860 (g.l.=4)			
Child's academic year	Free (%)	Negotiated (%)	Restrictive (%)	Total (%)
3rd Preschool, 1st and 2nd Primary	1.0**	7,8**	47.5**	24.0
3rd and 4th Primary	1.0**	6,9**	20.9**	11.7
5th and 6th Primary	6.7**	17,4	19.5**	15.6
1st and 2nd Secondary	21.8**	33.0**	9.4**	19.5
3rd and 4th Secondary	31.1**	21,6**	1.2**	14.8
1st and 2nd Baccalaureate	38.3**	13.3	1.5**	14.4
Statistic	Chi-squared=444.138 sig.=0.000 (g.l.=10)			

**Significant difference in the level 0.01 *significant difference in the level 0.05

The relationship between the confidence and concern regarding Internet risks and the style of parental control on the Internet is coherent with the original hypothesis. Parents who adopted a free style tend to show a greater degree of confidence in the interactive medium (mean=2.56) compared to those who show a more restrictive style (mean=2.41). The awareness of the risks that children can run online also has a significant relationship with the style of parental control. Those who adopt a freestyle relation tend to show a lower degree of concern regarding the risks their children may run (mean=3.11), compared to those who are more restrictive in their relationship with the medium who show greater concern in this sense (mean=3.36).

In the free and negotiated styles, there is a lower proportion of parents who require prior permission before Internet use, compared to 92% of the restrictive-style parents who demand approval before surfing. The regulation of the time connected shows differences in the lower time band where there is a higher proportion of parents with a restrictive style (65.2%). Finally, in the free style, there are fewer subsequent controls than in the negotiated and restrictive ones. On the whole, a coherent scenario appears in which the parents' confidence leads to the adoption of parent/child relationship styles which are more relaxed and the concern regarding risks results in greater limi-

tations. In this sense, both the freedom granted and the restrictions are coherent in the uses, in the freedom of access, and the time of use and in the subsequent controls.

Table 2. Intervention in the online activity associated to parental control style

	Parental control style on Internet			
	Free (%)	Negotiated (%)	Restrictive (%)	Total (%)
Confidence in Internet Mean (Typical Deviation)	2.56 (0.58)	2.46 (0.62)	2.41 (0,61)	2.46 (0.61)
Statistic	F=3.707 sig.=0.025 (g. l=2)			
Concern for Internet risks Mean (Typical Deviation)	3.11 (0.70)	3.27 (0.61)	3.36 (0.65)	3.27 (0.66)
Statistic	F=9.315 sig.=0.000 (g. l.=2)			
	%	%	%	%
Requires parental authorization to use Internet % column	31.3**	58.6**	92.0**	66.8
Statistic	Chi-squared=216.996 sig.=0,000 (g. l.=2)			
Limitation of time of use	%	%	%	%
Less than one hour	14.4**	34.4**	65.2**	43.3
Between one and two hours	35.9**	37.1	24.7**	31.2
From 2 to 3 hours	9.2**	6.3	4.0**	6.0
Over three hours	3.1**	0.5	0**	0.9
Unrestricted	37.4**	21.7*	6**	18.6
Statistic	Chi-squared=176.200 sig.=0.000 (g.. l.=8)			
Number of subsequent parent controls Mean (Typical Deviation)	2.05 (1.98)	3.32 (2.12)	3.26 (2.56)	2.97 (2.36)
Statistic	F=20.897 sig.=0.000 (g. l.=2)			

**Significant difference in the level 0.01 *significant difference in the level 0.05.

3.2. The acquisition of critical skills

In the hierarchical regression analysis using the stepwise method, only those variables which make a significant contribution with the dependent variable are included in the model 3. Therefore, the analysis will permit us to identify which variables make a significant contribution to the acquisition of critical skills on the Internet. In the first block, only the children's academic year enters into the regression model. This variable explains 27.2% of the variance. In the second block, neither the confidence in the interactive medium nor the parent's concern regarding Internet risks influences the acquisition of the children's critical skills. Consequently, none of the attitudinal variables play a significant role in the regression despite their relationship with the parenting style. In the final block, the parental style of control of Internet, the control of subsequent activities and the time limit make a significant contribution. Taken as a whole, the model explains 35.6% of the critical skills in the interactive medium.

Regarding the parameters of the regression equation (table 4), it is found that the variable with greater predictive capacity is the academic year. As is to be expected, when the children go on to higher educational levels they acquire greater skills in the use of interactive media. The subsequent control of children's activities online is the second most influential variable in the acquisition of critical skills. The sense of the relationship is positive, that is to say, the more control parents have, the greater is the skill acquired by the children. The parenting style on the Internet is shown to have a significant effect on the dependent variable but in reverse order. The more the parents adopt a more restrictive style in access to Internet applications, the lower is the level of acquisition of critical skills by the children. Finally, the period allowed for the use of Internet shows a positive relationship with the acquisition of critical skills. The more time, the better acquisition of critical skills, although this variable has the least effect on the regression equation.

4. Discussion and conclusions

The parental style of control emerges as crucial in the empowering of children in the acquisition of critical skills, which coincides with earlier works which had shown the importance of parental mediation in the adoption of Internet (Valcke & al., 2010; Ihmeideh & Shawareb, 2014; Nikken & Schools, 2015). The wide variety of styles associated with the use of the interactive medium shows the importance of giving children opportunities to grow and acquire skills. The learning opportunities do not necessarily have to be delimited by the children's age. Although it is true that as the children advance academically they acquire greater skills to apply to the interactive setting, the results of the model lead us to affirm that parents may become the agents of change in the experience, by enabling their children to explore the web and by adopting a non-restrictive tutelary style that allows the child

Table 3. Linear regression equation statistics on the acquisition of critical skills stepwise method

	R squared adjusted	Statistic of change in R^2	Change in F (g.l.)	Sig. change in F
Step 1	0.273	0.274	278.85 (1, 739)	0.000
Step 2	0.279	0.007	7.129 (1,738)	0.008
Step 3	0.352	0.074	84.476 (1, 737)	0.000
Step 4	0.359	0.004	5.005 (1,736)	0.026

to surf freely on those sites which are adapted to his/her level of maturity. When parents adopt a restrictive style of relationship, the acquisition of skills deteriorates. At the same time, the subsequent controls by the parents monitor the learning process.

The acquisition of critical skills is not affected, directly at least, by the level of education in the family background, nor by the parents' age. In accordance with what has been stated by other studies (Álvarez & al., 2013), younger parents tend to adopt more restrictive relationship styles on the interactive medium. Likewise, it is found that confidence in Internet and concern about its risks do not directly affect the acquisition of skills, although they have a mediating role in the parental relationship styles. The parents with greater concern about the risks which are most critical of the interactive medium are less amenable to the idea of online exploration by their children.

Table 4. Standardized parameters of the linear regression equation on the acquisition of critical skills stepwise method

	Regression parameters		
Variables included	**Standardized Beta**	**T**	**Sig.**
Child's academic year	0.392	8.841	0.000
Parental control style on Internet	-0.162	-3.549	0.000
Number of subsequent controls	0.283	9.415	0.000
Time limit	0.075	2.237	0.026
Statistic for model (step 4)	F=103.151 sig.=0.000 (g. l.=1.740)		

At an applied level it would be interesting if, apart from the actions of parental guidance in indicating online risks, there were the insistence on the importance of granting opportunities for access to the children under parents' control for their empowerment. Along the same lines, Ihmeideh and Shawareb (2014) state the importance of schools and preschools working together with parents so that the Internet can be used appropriately in schools and at home.

Notes

[1] Before carrying out the ANOVA, the equality of variances was assessed using Levene's test.

[2] In the linear regression equation, the independence of the residuals was tested by means of the Durbin-Watson test, the quality of variances with Levene's test and the absence of the co-linearity of the variables. The entrance criteria for the variables in the regression is 0.05.

[3] The first block of the equation includes the personal variables: the parents' ages, an academic level reached, the frequency of Internet use, children's ages, number of members in the family unit and household type. The second block includes the confidence in the interactive media and the concern about Internet risks. The third block includes the variables relative to parental control activities: parental control style on the Internet, the requisite of authorization for the use of the Internet, limitation of time of use and the number of subsequent controls of the online conduct.

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