Gender equality, media and education: A necessary global alliance

Igualdad de género, medios y educación: Una alianza global necesaria
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- Received manuscripts internationalisation: 33 countries.
- Scientific Reviewers internationalisation: 23 countries.
- Country of origin: 4 countries (Spain, Mexico, Colombia & Turkey).
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Gender equality and ICT in the context of formal education: A systematic review

Igualdad de género y TIC en contextos educativos formales: Una revisión sistemática

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ABSTRACT
This article focuses on gender equality as one of the most relevant objectives of the educational system to alleviate gender violence and combat stereotypes. At the same time, ICTs have become a very important educational tool in a digital society like the one where we live. Around these two topics we conducted this research whose purpose is, from the scientific production of the last six years, to analyze the educational practices in formal contexts that deal with gender equality and ICTs (infant, primary, secondary and higher education). The research design is a systematic review, based on the PRISMA statement and the PICO strategy, using the 2013-2019 search period. After a screening process of a total of 90 documents, 18 papers were found that cover both study topics (gender and ICTs). A content analysis supported by semantic networks was performed, using Atlas.ti v.8. Among the main results, we highlight that most of the good practices in the different educational levels are related to the use of web 2.0. and STEM competences. Finally, we recommend the design of proposals that work on gender through ICTs, with the “smart classroom” as an interesting suggestion that is part of the emerging pedagogies.

RESUMEN
Este artículo centra su interés en la igualdad de género, como uno de los objetivos más relevantes del sistema educativo para paliar la violencia de género y combatir los estereotipos. Paralelamente, las TIC se han convertido en una herramienta educativa muy importante en una sociedad digital como la que vivimos. En torno a estos dos tópicos llevamos a cabo esta investigación cuyo propósito es, a partir de la producción científica de los últimos seis años, analizar las prácticas educativas en contextos formales que trabajan la igualdad de género y las TIC (educación infantil, primaria, secundaria y superior). El diseño de investigación es una revisión sistemática, sustentada en la declaración PRISMA y la estrategia PICO y usando el periodo de búsqueda 2013-2019. Tras el proceso de filtrado de un total de 90 documentos, se han encontrado 18 trabajos que contemplan ambos tópicos de estudio (género y TIC). Se ha realizado un análisis de contenido apoyado en redes semánticas, usando para ello Atlas.ti v.8. Entre los principales resultados, destacamos que la mayoría de buenas prácticas en los diferentes niveles educativos se relacionan con la utilización de la web 2.0. y con las competencias STEM. Por último, se recomienda el diseño de propuestas que trabajen el género a través de las TIC, siendo la «smart classroom» una sugerencia de interés que forma parte de las pedagogías emergentes.

KEYWORDS | PALABRAS CLAVE
Coeducation, feminism, gender equality, educational technology, childhood education, primary education, secondary education, higher education.
Coeducación, feminismo, igualdad de género, TIC, educación infantil, educación primaria, educación secundaria, educación superior.
1. Introduction

"All human beings are born free and equal in dignity and rights”. This is the first article of the declaration of human rights. However, organizations such as the WHO have highlighted that gender violence is currently an imperative public health problem, regardless of the culture of origin (WHO World Health Organization, 2013). It is a social pandemic present in all countries (Torres, 2010). The term gender differentiates between biological and social components and also involves stereotypes such as passivity, dependence, and obedience, which aggravate inequality, subordinating the feminine to the masculine with negative consequences for women (Ferrer & Bosch, 2013; Sánchez-Casales, 2014; Egea, 2019). We consider it meaningless to use the term equality without referring to the earlier feminist movement (Pino, 2017). Today’s feminism must seek a socialization that benefits from total gender equality, far from its false image, which results from myths and stereotypes (Solís, 2007; García-Jiménez, Cala, & Wheat, 2016).

At present, a widespread means to raise awareness and denounce gender inequality is through cyberfeminism, a concept that links technology, the internet and social values, (Catalán, 2017; Sánchez & Fernández, 2017) and which has great potential in education (Mérida, 2019). One of the current worldwide cyberfeminist movements has been “#MeToo”, as a means to report sexual abuse (Thissen, 2018). Traditionally there have been three models of classroom organization (Bonal, 1997): the segregated school (male and female students in separate spaces), the mixed school (both sexes in the same space) and the coeducational school (eliminating inequalities to offer both sexes the same opportunities). Despite social changes, many Spanish schools maintain the same spatial organization as they did five decades ago, which is why, as gender urban planning points out, a structure that favors egalitarian relations should be established (Saldaña, 2018). On the contrary, a culture that differentiates between gender-based expectations, skills and life plans continues to be perpetuated (Cordero, 2013). This begins in educational centers with sexual discrimination towards children and can cause difficulties in relationships in the classroom, and even be a cause of harassment (Ovejero, Yubero, Larrañaga, & Navarro, 2013), preventing academic success (Igbo, Onu & Obiyo, 2015). There has always been a tendency to divide students by gender for various activities, which further aggravates stereotyping (Rodríguez & Mirafloros, 2018) and it has been demonstrated how inequality in schools is still present, although transformed into new, subtler forms (Ugalde et al., 2019).

Co-education remains a challenge for the school (López-Pascual, 2007; Subirats, 2016; Tomé, 2017; Egea, 2019; Ugalde et al. 2019). In practice, the so-called hidden curriculum (Pacheco-Salazar & López-Yáñez, 2019) continues, and textbooks are a good example of this (Women’s Institute for equal opportunities, 2015). This situation puts not only the students in general at a disadvantage, but also specifically a group of students affected by homophobic and transphobic bullying, to the extent of even being a cause for suicide (Carrer, 2018). To combat this a model of coeducational school must be developed, supported by specific spatial arrangements, and a transformation of content and methodology; a change in mindset and a transversal approach to the problem (Bejarano et al., 2019; Gallardo & Gallardo, 2019). With these measures one can work to overcome sexism in a hierarchical education, favoring personal development, socialization and acceptance, and values and attitudes essential to stereotype-free growth (Pino, 2017). These achievements will inevitably be made through the improvement of teacher training, both in initial training (Bejarano et al., 2019) and continuing training (Gallardo & Gallardo, 2019). Carretero and Nolasco (2019) reveal that 75 % of future teachers could, albeit unwillingly, transmit sexist beliefs to their students. Amongst the various proposals for action, it is necessary to recognize the key role that technologies play in educational innovation and the improvement of the school curriculum (Escudero, 2014). The transition from a micro to a more global perspective in the field of technology has allowed us to replace an instrumental vision with a more methodological view (Cabero, 2003), in which technologies are ideal resources for communication, representation and expression of content, as well as the basis for shared construction of knowledge. In the context of formal education, recent work has expanded the ways in which we can learn with technologies, and how to promote change in classrooms in situations enriched by technologies (Prendes & Román, 2017; Serrano et al., 2016; Solano & Sánchez, 2016). This can serve as a starting point in promoting gender equality in the classroom. With the integration of technologies in the classroom, many educational institutions have been labeled “digital” (García-Aretio, 2019). However,
gender equality has not yet been greatly engaged by ICT’s, as we demonstrate in our research. Some of our proposals are limited to the relative inequality of access for men and women to STEM subjects (Science, Technology, Engineering and Mathematics) Although there are several initiatives which work on gender through ICT’s (Chamorro, 2010; Hirata, 2018; Rheingans et al., 2018), there is still a marked gender gap in both the professional and academic fields in reference to the use of technology (Calvo, 2019; Holth et al., 2016; Tiainem & Berki, 2019). The causes of this are various, including stereotyping of a lack of ability in females to work with technology. (Hill et al., 2010), the absence of female participants (Saéz & Clavero, 2016), and a lack of long-term teacher training (Pinedo et al., 2018). This is why it is necessary to highlight the usefulness of ICT in parallel terms: as a teaching content, employed so that STEMs do not contribute to gender inequalities, and as tools that both students and teachers can use, with female students even being empowered by the potential of ICT (González-García & Pérez-Sedeño, 2002). This role of ICT in the education of girls and women is seen as important by numerous international organizations (United Nations, 2015; UN WOMEN, 1995; UNESCO, 2006) (Boix, 2006; Gurumurthy, 2004), and raises awareness of the need to combat the stereotype of technological competence as being a masculine quality (Gil-Juárez et al., 2012).

We consider that technologies are “allies in advancing equal opportunities, given the space-time flexibility they offer us and the opportunities for online collaboration” (García-Valcárcel & Arras, 2010: 10). Using this perspective, we base the objectives of this research on those developed within the project “Gender Equality Matters (GEM): Tackling Gender-Based Violence”.

2. Methodology

This research is part of procedures carried out within the framework of the Gender Equality Matters (GEM) Project: Tackling Gender-Based Violence, funded by the Rights, Equality and Citizenship program of the European Union, which is to be developed in the 2018-2020 biennium.

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Our research question is: how is gender equality working through ICTs in formal educational contexts? In answering this question our objective is to analyze educational practices in formal contexts that work...
on gender equality with the use of ICTs. In order to reference and analyze the most significant studies in this field, the systematic literature review (SLR) method has been used, following the indications set forth by Conn et al. (2003) regarding the need to generate a documentary corpus in order to facilitate the review. To accomplish this, a database (http://bit.ly/2o1tdjJ) of the selected sample was created, in which the process of re-reading, editing and selection of information is favoured.

2.1. Process

To carry out an optimal search for scientific productions and thus guarantee their validity, several criteria were taken into account, based on the proposal by Tacconelli (2010) and the PRISMA statement (Urrútia & Bonfill, 2010). The criteria were: inclusion and exclusion, relevance, study validity, data description, elimination of duplication, risk of bias, application of Boolean operators and bilingual descriptors. The axis from which the aforementioned criteria were applied is the PICoS strategy: population, events of interest, context and study design (Pertegal-Vega et al., 2019). Population is the first search criteria: the use in Spanish and English of the keywords gender equality, coeducation, education, ICT and technology; our timeframe was limited to the last 6 years (2013-2019); type of document (article, book chapter and conference communication); language (English and Spanish) and area (Social Sciences). All the selected documents come from the main international multidisciplinary databases (Web of Science and Scopus) and Dialnet. Limiting the review to the last six years seeks to reference the most current documents regarding the research problems addressed. In addition, it was found that, in years prior to 2013, studies referring to ICTs and gender equality education were relatively scarce.

The focus of this review is based on educating in gender equality through ICTs. That is, those proposals that directly address the issue or try to ensure the improvement of gender coexistence. The research context is formal education, from pre-school education (from 3 years) to university. The study design prioritizes quantitative and qualitative articles that analyze specific or longitudinal experiences. A flowchart of the review process supported by the PICoS strategy is shown in Figure 1. After a first search based on the use of the above descriptors, an initial sample of 90 documents was obtained. After a round of filtering, using the above criteria, the final sample was 18 documents. In the last phase of the study, the results were analyzed using two quantitative models that demonstrate both the type of sample analyzed and its distribution within the different educational levels investigated. The research problem is analyzed using a semantic network generated with Atlas.ti v.8. It encodes and categorizes the most significant units of information of the selected documents. Next, the 18 citations created are linked to the 4 free codes that correspond to each of the educational levels.

2.2. Analyzed sample

The different scientific publications analyzed in the final sample are presented chronologically in Table 1.

<table>
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<th>No.</th>
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<td>1</td>
<td>Barragán &amp; Ruiz (2013)</td>
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<td>2</td>
<td>García-Vázquez (2014)</td>
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<td>3</td>
<td>Pär-Ola &amp; Faheem (2015)</td>
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<td>4</td>
<td>Maldonado (2017)</td>
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<td>5</td>
<td>Ferreira (2017)</td>
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<td>6</td>
<td>Permoser (2017)</td>
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<td>7</td>
<td>Stucchi (2017)</td>
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<td>10</td>
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<td>Hirata (2018)</td>
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<td>12</td>
<td>Navarro-Pérez, Carbonell, &amp; Oliver (2018)</td>
<td>Spain</td>
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<td>13</td>
<td>Rheingans, D’Eramo, Diaz-Espinoza, &amp; Ireland (2018)</td>
<td>USA</td>
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<td>14</td>
<td>Sullivan &amp; Umaschi (2016)</td>
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<td>15</td>
<td>Giotzos (2018)</td>
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<td>16</td>
<td>Martínez-Romera (2019)</td>
<td>Spain</td>
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<td>17</td>
<td>Aguilar (2019)</td>
<td>Colombia</td>
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<tr>
<td>18</td>
<td>Mérida (2019)</td>
<td>Spain</td>
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3. Analysis and results

The bar chart in Figure 2 shows the sample as the type of document consulted within the different time frames. Despite the limited number of samples in international and national databases, it should be noted that there is a steady increase in the number of documents dealing with education for gender equality and nonviolence through ICT, with the exception of 2016. Taking into account the rise prior to 2019, an increase in jobs in ICT in the coming years is considered probable.

The teaching practices developed are most evident at the level of Secondary Education (works 1, 2, 4, 7, 10, 12 and 18 in Table 1), as shown in Figure 3.

Despite there being a gradual growth in relation to the educational stage, in higher education there is a decrease (27.78%) compared to secondary education (38.89%). This is due to the fact that university courses that educate on gender equality through technology are mostly those related to STEM competencies (works 9, 11 and 13 in Table 1), except in two cases of those selected (works 3 and 16).

![Figure 2. Selected sample according to the type of document and its year of publication](http://bit.ly/2rxYoW7)

Proposals in Pre-school education are not completely non-existent, but are a minority (works 8 and 10). On the other hand, in Primary Education, gender equality and its treatment through technology (papers 6, 14, 15 and 17) is beginning to gain popularity.

We have developed a semantic network in order to visualize the results (Figure 4: http://bit.ly/2rxYoW7). Firstly, in Infant Education, gender equality has been examined in two different ways. On the one hand, through a project that regularly develops images, games and other digital resources (work No. 5), and on the other hand, through the STEM competencies which encourage and arouse female interest in these possibilities (work 8).

The inclusion of STEM competencies in Primary Education is promoted in order to encourage female interest in engineering and technology. We have found proposals about robotics (work 14), and in the development of cyberactivism, with digital discussion groups between schools (work 17) and, very relevant to this initiative, the development of web environments with which to play, learn and transform gender-based social reality (work 15). In Primary Education, a strategy known as peer tutoring has also been developed, addressing gender equality through a digital mentoring program among schoolchildren, which deconstructs gender stereotypes (work 6).
Similarly, to one of the proposals implemented in Primary Education, in Secondary schools, web 2.0 is also used to address cyber-activism, or in this case, cyberfeminism (work 18). Along the same lines, there are similar schemes, supported by blogs or digital social spaces, which work on subjects from a co-educational perspective, explicitly addressing feminism with activities and discussion forums (works 1, 5 and 7). In addition to schemes based on virtual environments, there are other projects based on different technological tools complemented by different strategies such as the flipped classroom or inverted class (works 2 and 4), or didactic proposals based on mobile learning, through a mobile phone application which tackles sexism (work 12).

Finally, in close relation to the proposals presented in Secondary Education, in Higher Education there are also proposals related to the use of web 2.0, through digital debates, which take place after viewing videos or talks (work 16). The use of specific programs which develop STEM competencies in university studies, such as engineering, is also examined in the selected samples (works 9 and 11). Finally, we must emphasize that two of the schemes are aimed specifically at females and develop certain technology-related skills. These specifically consist of integration in an undergraduate programme (work 3), and during an engineering course (work 13).

4. Conclusions

One of the most significant findings of our research is the lack of scientific literature on gender equality in education as examined through technologies. These are tools that would greatly contribute to alleviating social problems such as the gender gap - both in the professional and in the academic fields (Calvo, 2019).

The educational level with which more proposals are associated (7 codes), and that meet the established criteria, is Secondary Education (38.89%), which may be directly related to the fact that this is a stage in which gender violence in the classroom has been inherited from the previous educational levels, as indicated by Pastorino (2014) and González (2009).

Despite the “digital” label (García-Aretio, 2019) that educational institutions have been given, the resources used for dealing with gender issues remain mostly “analog”, such as directed readings, role-playing games or traditional storytelling (López-Pascual, 2007; Solís, 2007).

As various works indicate (Subirats, 2016; Tomé, 2017), co-education is necessary, through the use of long-term projects and not only isolated interventions. In most cases this is already being done, since many of the proposals we analyzed are based on such long-term projects, such as “Gender @ICT” (Ferreira,
“ICT-Go-Girls” (García-Vázquez, 2014): digital mentoring programs which deconstruct gender stereotypes in Primary Education (Permoser, 2017). In addition, long-term activities by both teachers and students are also common. An example of this last case could be the construction of web spaces with which to work on a subject from a co-educational perspective (Barragán & Ruiz, 2013), or the creation of a digital newspaper. (Mérida, 2019).

Analysing the material by educational stages, Pre-school education is the one which is least examined (11%). However, it is considered to be one of the essential stages for interpersonal development. Here, there is a widespread predisposition to educate using electronic devices (Bel & Esteve, 2019; Sánchez et al., 2019), as well as to co-educate (Brock & Sanahuja, 2019; Oltra, 2019). However, there are few links between these two aspects. At this stage there is an introduction to the STEM competencies which will be continued and expanded during the later stages of education (Savinskaia, 2017), and which represents a significant leap in reducing the “digital gender gap” (Calvo, 2019).

In Primary Education, STEM competencies continue to be developed (Sullivan & Umaschi, 2018) and there is an introduction to cyber-activism (Aguilar, 2019). In addition, an important innovation is digital mentoring with which to eliminate gender stereotyping (Permoser, 2017). This strategy, also known as peer tutoring, is used at various educational levels to foster an inclusive classroom where diversity can be addressed (Moliner, 2011; Molina et al., 2019).

Cyber-activism or cyberfeminism is an important initiative in Secondary schools, and because of this, social network groups, or digital newspapers which examine gender inequality are created, (Barragán & Ruiz, 2017; Ferreira, 2017; Stuchi, 2017; Mérida, 2019). A remarkable aspect of this initiative is that these forums often represent the individual character of the institution and participants, as opposed to public social campaigns such as “# MeToo” (Thissen, 2018).

In Secondary Education there also are methods which use the inverted class, (García-Vázquez, 2014; Maldonado, 2017) and various studies demonstrate the academic and socializing potential that the inverted class can have at this level, according to Galindo and Badilla (2016).

Mobile learning is also a strategy that has proven useful for the Secondary school population (Alises, 2017) and, despite the risks of smartphone use for young people, (Villanueva, 2012), we have found a mobile application designed to reduce sexist behaviour (Navarro-Pérez et al., 2018).

As in the previous educational stages, Web 2.0 is also used in Higher Education to teach gender equality through debates or talks (Martínez-Romera, 2019). We have also found initiatives related to the development of STEM skills in engineering on technology-related courses (Barros et al., 2018; Hirata, 2018). Digital literacy and technological competence are necessities in any university education (Acuña, 2014). However, proposals to implement digital competencies in only one specific degree course do not reduce the digital gender gap.

Two proposals have also been analyzed (Pär-Ola & Faheem, 2015; Rheingans et al., 2018) that may be problematic in terms of digital and technological competences as an aspect of gender imbalance. Offering training exclusively for females could foster sexism, thus perpetuating the idea of an imbalance in terms of the capacities of each gender, and contributing to inequality latent in the hidden curriculum (Cordero, 2013; Rodríguez & Mirafloros, 2018; Pacheco-Salazar & López-Yáñez, 2019). Ugalde et al. (2019) state that at first sight co-educational methodologies may be positive, but in recent years, stereotyping has occurred.

It is striking that around 75% of people studying for a degree in Education may transmit sexist beliefs to their students (Women’s Institute and for Equal Opportunities, 2015). However, there are no proposals in faculties of Education to counteract this. Therefore, it is necessary to analyze the training of educators and offer specific training on gender equality through mandatory seminars, according to Carretero and Nolasco (2019).

As stated above, the vast majority of technology-related proposals are based on the social web or web 2.0, and are intended to promote a collaboration between students, which would deconstruct stereotypes and confront issues related to gender inequality. Similarly, at all the levels investigated, there are proposals to develop STEM competencies or ICT skills, from either a mixed sex or solely female perspective. Looking at the conclusions of our study, it seems to be necessary to expand on certain aspects. Firstly, it is
essential to design proposals in the form of projects that favour gender equality from a digital perspective in all formal educational contexts. The lack of literature on these topics (gender and ICT), as evidenced in the review we have presented, shows us the need to work on co-educational teaching practices and ICT. In Boix’s work (2006), this idea is based on the conclusions of the 1995 “World Women’s Conference” in Beijing (UN WOMEN, 1995). Other international events and subsequent official documents give us ways of working for the empowerment of women through ICTs (United Nations, 2015; UNESCO, 2006). Along these same lines, González-García and Pérez-Sedeño (2002) stress the importance of redefining experiences that combat discrimination for the benefit of a better coexistence and social equality.

As a result of the falsehoods and stereotypes rooted in feminism (García-Jiménez et al., 2016), it is not only necessary to develop transversal practices, but also a methodology which explicitly addresses gender equality (Bejarano et al., 2019).

Finally, we propose two prospective lines of research. One of them is to qualitatively broaden the proposals studied, by using interviews with the originators of these proposals. In this way, guidelines can be developed for other educational contexts. We also suggest carrying out new research to expand on teaching proposals based on the “smart classroom” or smart class (Sumadyo et al., 2018; Bdiwi et al., 2019), since this implies a restructuring of the physical space to the benefit of gender equality (Saldaña, 2018). In addition, in intelligent learning spaces, technology is a tool which could lead to the narrowing of the digital gender gap. The development of digital skills should not be directed exclusively towards females (Pär-Ola & Faheem, 2015; Rheingans et al., 2018), but should be universal. This means understanding that technologies are vital for all students, regardless of gender; and that the acquisition of existing technological competencies learned from the beginning of formal education can contribute to reducing gender inequality occurring among students at University courses in the areas of science and technology (Elizondo et al., 2010; Puy-Rodríguez, 2017).

We have a long way to go in formal education. The feedback between research and real educational experiences will combat discrimination for the benefit of a better coexistence and social equality.

Funding Agency
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References


Follow us in Researcher

Generation Z’s Teachers and their Digital Skills

Pereiro-Merás, Ana María; Rivas, Alberto; Fernández, María José; and Martínez, José María

The presence of technological resources in schools and the high performance of so-called ‘Technology Generation’ or ‘Generation Z’ students is not enough to develop students’ digital competence. The primary key is determined by the technological and pedagogical skills of teachers. In this paper, we intend to analyze the level of ICT skills of teachers in primary and secondary establishing a competency framework adapted to the Spanish educational environment, using as a...
Gender studies in Communication Degrees
Los estudios de género en los Grados de Comunicación

ABSTRACT
This paper is the result of a research carried out under the umbrella of the “UNESCO UniTWIN Network on Media, Gender, and ICTs” Project, and it tries to determine the presence of subjects with a specific focus on gender in the current Communication Degrees offered at Spanish universities. The inclusion of subjects about gender equality in relation to media follows the suggestions of the IV World Conference on Women in Beijing (1995). The main objective of this research will be to investigate the presence of these subjects in Communication Degrees, identifying the elements that define them at a thematic, methodological and relevant levels within the curriculum. A mixed methodological design is proposed based on ex-post-facto research, with a descriptive orientation and the search for improvement, a qualitative analysis of study plans using ATLAS.ti and a panel of experts. The results reveal a scarce presence of this type of subjects, with a higher percentage in public universities than in private ones, and also a minimal relevance as compulsory subjects. This research study reveals the current formal training in gender studies of future generations of media professionals and serves as an endorsement for forthcoming changes of curricula in the European Higher Education Area context.

RESUMEN
El presente trabajo es fruto de una investigación desarrollada en el marco del proyecto «UNESCO UniTWIN Network on Media, Gender, and ICTs» para determinar la presencia de asignaturas con un contenido específico en estudios de género en los actuales planes de estudio de los Grados españoles en el área de comunicación. La inclusión de asignaturas que aborden la igualdad de género en relación a los medios y procesos de comunicación obedece a lo establecido en la IV Conferencia Mundial sobre la Mujer de Beijing (1995). El objetivo principal de este trabajo será la indagación del nivel de presencia de estas asignaturas en los Grados en comunicación identificando los elementos que las definen a nivel temático, metodológico y relevancia dentro del plan de estudios. Se plantea un diseño metodológico mixto partiendo de una investigación ex-post-facto, con orientación descriptiva y de búsqueda de la mejora, un análisis cualitativo de planes de estudio mediante ATLAS.ti y un panel de expertos. Los resultados inciden en una escasa presencia de este tipo de asignaturas, con mayor porcentaje en la universidad pública respecto a la privada y una mínima relevancia como materia obligatoria. Un trabajo que vislumbra la actual formación reglada en cuestiones de género de las futuras generaciones de profesionales de los medios y que sirve de apoyo para futuros cambios de planes de estudios en el Espacio Europeo de Educación Superior.

KEYWORDS | PALABRAS CLAVE
Equality, gender, communication, journalism, ICT, university, Degree, curriculum.
Igualdad, género, comunicación, periodismo, TIC, universidad, Grado, currículo.
1. Introduction

The development of an integral plan to promote gender equality and women’s empowerment through the media is a priority on the UNESCO agenda. Universities and colleges specialized in different areas of Communication are called to play a key role in helping eradicate any form of discrimination against women.

Section J of the “Beijing Declaration and Platform for Action”, adopted at the Fourth World Conference on Women held in Beijing in 1995, stressed the importance of mass media in achieving that goal (UN Women, 1995: 57). Since then, the international debate on gender equality in the media has generated extensive literature (Grizzle, 2014) and annual reports including, among others, “The World Summit on the Information Society” (EEES, 2003), “Report on equality between women and men in the EU” and “Women in the digital age” (European Commission, 2018a; 2018b), “Mainstreaming gender into policies and the programmes of the institutions of the European Union and EU member states” and “Review of the implementation of the Beijing Platform for Action in the EU member states: Women and the media. Advancing gender equality in decision-making in media organizations” (European Institute for Gender Equality, 2013a; 2013b), or “Global report on the status of women in the news media” (International Women’s Media Foundation, 2011).

Regarding universities, the Beijing Declaration proposed to “develop non-discriminatory education and training” (strategic objective B.4). Among the actions to be taken (Action 83), the Declaration emphasized the need to include a gender perspective in all educational programs, in particular in the curricula of higher education institutions (UN Women, 1995: 56-59). In its “Priority Gender Equality Action Plan 2008-2013”, UNESCO reaffirmed this recommendation, helping its development and launch in 2012 and together with the International Federation of Journalists the “Gender-Sensitive Indicators for Media.” Among its strategic objectives (A5.2) is to foster gender equality awareness among “journalists, other media workers and media officials (male and female) and access to education and training, including on gender related issues, for women and men in the media” (UNESCO, 2014: 40).

In 1992, UNESCO launched the “University Twinning and Networking” (UNITWIN) Program to promote cooperation and inter-university linkages worldwide. This initiative under the “Global Alliance on Media and Gender” involves more than 700 institutions in 116 countries (UniTWIN, 2017). As regards the Bologna reform and the creation of the European Higher Education Area (EHEA), the Preamble of the 1993 Berlin Communiqué already stressed the pivotal role of universities in ending gender inequality. One of the key drivers of the EHEA was to develop gender objectives and verification agencies for all Degrees (Saldaña, 2010).

In Spain, the conference on “Women’s, Gender and Feminist Studies. Graduate and Postgraduate Degrees” (“Los Estudios sobre las Mujeres, de Género y Feministas. Grados y Postgrados”), held at the Complutense University of Madrid (UCM) in 2006, draw attention to the urgent need to incorporate gender studies in all university curricula. This demand was also based on Title I, Chapter 4, Section 7 of Organic Act 1/2004, of 28 December, on comprehensive protection measures against gender-based violence, subsequently confirmed by Title II, Article 25, of Organic Act 3/2007, of 22 March, on effective equality for women and men, and all regional implementing regulations. The Spanish Network of University Quality Agencies (“Red Española de Agencias de Calidad Universitaria”, REACU) also addressed these concerns in the introduction of the Evaluation protocol for verification of official university Degrees (REACU, 2011).

The poor implementation of the objectives set forth in Section J of the 1995 Beijing Declaration (Verloo, 2005; Rees, 2005; North, 2010; Pollack & Hafner-Burton, 2011; Gallagher, 2015; Ross & Padovani, 2016; Padovani, 2016), gave rise to the creation in 2017 of “The International UNESCO UnitWIN Network on Gender, Media, and ICTs” under the framework of the “Priority Gender Equality Action Plan 2014-2021”, the “Incheon Declaration for Education 2030” and the “2030 Agenda for Sustainable Development” (UN, 2015). This was conceived as an inter-university project to train the new generations pursuing communication studies in gender equality.

In the Spanish case, numerous studies confirm the poor achievement of those objectives in professional practice (Gallego, 2004; Bernárdez et al., 2008, Matud et al., 2012; Martín & Navarro-Beltrá, 2012),
which is also the case for EHEA’s recommendations and the regulatory framework governing higher
education (Lópe-Díez, 2000; 2005; Ballarín, 2009; Bosch & Ferrer, 2012; Bosch et al., 2011; Castellsagué et al., 2014), and particularly in the field of Communication (Menéndez, 2013; 2014; Guarinos et al., 2018).

In this context, and in light of the Beijing+25 process scheduled for March 2020, UNESCO-UniTWIN launched in 2018 the project “Mapping Educational Strategies for Creating Gender-sensitive Journalism, Media, and ICT Curriculums” in 11 countries: Australia, Chile, Ecuador, Spain, United States, Ethiopia, India, Italy, Mexico, Dominican Republic and Costa Rica. Aware of the importance of contributing to this mapping, the UCM, based on Guarinos et al. (2018), developed a study covering the whole Spanish university system based on seven objectives:

1) To identify the subjects in communication studies curricula explicitly promoting gender equality in the media and ICTs—including the name of the subject.
2) To determine the optional or compulsory nature of those subjects.
3) To determine the varying presence of those subjects in public vs. private universities.
4) To describe the contents, methodology and bibliographical references for those subjects.
5) To identify the gender composition of the faculty.
6) To analyze the data and to assess the Spanish case.
7) To recommend strategic actions to be taken by UNESCO-UniTWIN to promote gender equality in communication studies.

2. Materials and methodology

This study applies a mixed methodology based on an ex-post facto, non-experimental approach (Latorre et al., 2005, Buendía et al., 1998; Bernardo & Calderero, 2000; Latorre et al., 2005), with a descriptive orientation towards improvement. In this type of research, the event has already occurred (Bisquerra, 2004) or is still occurring. Given that the researcher “has no control over the independent variables because their manifestations have already occurred or are inherently non-manipulable” (Kerlinger, 1975: 268), the focus is placed on “defining” the education phenomenon by answering questions about its situation.

As regards information gathering, the sample includes all official curricula for the 2017/18 academic year in the Spanish university system in Journalism, Advertising, Audiovisual Communication, Communication, Cultural Communication, Digital Communication and Social Communication Degrees. We downloaded the curricula from the official websites of each university, and we processed them using the qualitative data analysis software ATLAS.ti. Those primary documents were grouped by regions (autonomous communities) and public/private universities.

The sampling strategy used codes including the name of the relevant Degrees, a word finder listing the terms “gender,” “women,” “equality,” and “diversity,” and their subsequent “Auto-Coding” based on the Degree codes. The subjects were validated as part of the sample by verifying in the corresponding syllabus whether gender equality was one of their main objectives and central in their relation to the field of communication.

The final sample of 165 Degrees under consideration comprises 30 public universities and 25 private universities. Among those, 22 subjects corresponding to 21 different Degrees included the relevant codes in their own names. In order to qualitatively improve the recommendations of the final report for UNESCO-UniTWIN, a panel of experts was convened in April 2018 to discuss and assess the results, and to identify the needs and actions to promote the inclusion of gender equality in those syllabi.

The panel was made up of 42 experts among teaching and research staff (PDI for its initials in Spanish) from national and international universities selected based on their experience in gender equality and higher education in the field of Communication, their independence, geographical spread, and teamwork skills (Table 1).
3. Analysis and results

The results regarding the presence of specific gender equality subjects in the official syllabi of Communication Degrees in Spanish public and private universities in 2018 are presented below.

3.1. General features

In the academic year 2017/18, Spanish universities offered a total of 165 Degrees in the field of communication (including Journalism, Advertising, Audiovisual Communication, Communication, Cultural Communication, Digital Communication and Social Communication Degrees), as reflected in the sample. Of those, only 22 subjects had specific gender equality content explicitly included in their name in relation to the media, new technologies, and audiovisual culture (Figure 1).

Ordered by Degrees, Audiovisual Communication offers 8 subjects (36.36%), Journalism offers 6 subjects (27.27%), Advertising offers 5 subjects (22.72%), and Communication, Social Communication and Digital Communication offer 1 subject each (4.55%). As regards the optional or compulsory nature of the 22 subjects, Journalism offers the highest number of compulsory subjects: 3 out of 6, i.e., 50%. Advertising offers 2 compulsory subjects out of the total 5 (40%) and Audiovisual Communication offers 2 compulsory subjects out of the total 8 (25%). The single subject offered in Communication, Social Communication and Digital Communication Degrees is optional.

In terms of regional distribution (autonomous communities), Catalonia leads the ranking with 6 subjects offered (27.27%), followed by Valencia with 5 (22.72%), Andalusia with 4 (18.18%), Madrid with 3 (13.63%), and Castile-Leon and the Basque Country with 2 each (9.1%). None of the other regions offer these subjects.

When it comes to the compulsory or optional nature of the subjects, Valencia ranks first with 4 out of 5 (i.e., 80% of its offer), followed by Catalonia with 2 out of 6 (33.33%) and Madrid with 1 out of 3 (33%). All the subjects offered in Andalusia (4), Castile-Leon (2) and the Basque Country (2) are optional.

<table>
<thead>
<tr>
<th>Table 1. Panel of experts by academic ranks from national and international universities</th>
</tr>
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<tbody>
<tr>
<td>University</td>
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<tr>
<td>-----------------------------------------------</td>
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<tr>
<td>Univ. of Alicante</td>
</tr>
<tr>
<td>Autonomous Univ. of Barcelona</td>
</tr>
<tr>
<td>Autonomous Univ. of Madrid</td>
</tr>
<tr>
<td>Univ. of Burgos</td>
</tr>
<tr>
<td>Complutense Univ. Complutense of Madrid</td>
</tr>
<tr>
<td>Univ. of Girona</td>
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<tr>
<td>Univ. of Granada</td>
</tr>
<tr>
<td>International Univ. de La Rioja</td>
</tr>
<tr>
<td>Univ. Rovira i Virili</td>
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<tr>
<td>Univ. of Salamanca</td>
</tr>
<tr>
<td>Univ. of Sevilla</td>
</tr>
<tr>
<td>Univ. of Valencia</td>
</tr>
<tr>
<td>Total National Universities</td>
</tr>
<tr>
<td>Aston University, UK</td>
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<tr>
<td>Clark University, USA</td>
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<tr>
<td>University of the Atlantic, Colombia</td>
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<tr>
<td>Charleston University, USA</td>
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<tr>
<td>Dartmouth College, USA</td>
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<tr>
<td>Dickinson College, USA</td>
</tr>
<tr>
<td>Universität Giessen, Germany</td>
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<tr>
<td>Université Grenoble-Alpes, France</td>
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<tr>
<td>Universytet Lodzki, Poland</td>
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<tr>
<td>Louisiana State University, USA</td>
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<tr>
<td>University of Mass.--Amherst, USA</td>
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<tr>
<td>University of Minnesota, USA</td>
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<tr>
<td>Oxford Brookes University, UK</td>
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<tr>
<td>Federal University of Sergipe, Brazil</td>
</tr>
<tr>
<td>Université Paris-IV-Sorbonne, France</td>
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<tr>
<td>Total International Universities</td>
</tr>
</tbody>
</table>

https://doi.org/10.3916/C63-2020-02 • Pages 21-30
At a more detailed level, Andalusia offered 1 specific subject in Audiovisual Communication at the University of Sevilla (US); 1 in Digital Communication at the University Pablo de Olavide (UPO); 1 in the Communication Degree at Universidad Loyola of Andalucía, and 1 in Audiovisual Communication at EUSA-University of Sevilla (EUSA-US). Castile-Leon offered 1 subject in the Communication and Audiovisual Creation at University of Salamanca (USAL) and 1 in Advertising at University of Valladolid (UVa). Catalonia offered 1 subject in Audiovisual Communication, Journalism and Advertising at Universitat de Rovira i Virgili (URV); 1 in Journalism at Autonomous University of Barcelona (UAB), 1 in Public Relations at Superior School for Public Relations, affiliated to University of Barcelona (ESRP-UB), and 1 in Cultural Communication at University of Girona (UdG). Madrid offered 1 subject in Journalism at Complutense University (UCM) and 1 in Audiovisual Communication and the Double Degree in Journalism and Humanities at University Carlos III (UC3M). The Basque Country offered 1 subject in Audiovisual Communication and 1 in Journalism at University of the Basque Country (UPV). Finally, Valencia offered 1 subject in Audiovisual Communication at University of València (UV) and 2 in Journalism, 1 in Advertising and 1 in Audiovisual Communication at University Jaume I (UJI) (Figure 2).

Considering the public or private nature of the university, 19 subjects were offered by the public network (86.36%) and 3 by the private one (13.64%). Subjects in Journalism, Advertising and Cultural Communication were only offered by public universities. Subjects in Audiovisual Communication were offered both by the public and private network, while subjects in Communication and Digital Communication were only offered by private institutions. Of the total 165 Degrees, 73 were offered by
public universities (44.24%) and 92 by private ones (55.76%). Finally, looking into the gender composition of the faculty, all the syllabi refer to women teachers, except in two cases: “Communication for Equality”, at ESRP-UB and “Communication, Gender and Mass Culture in the Contemporary World” in Journalism at UPV.

3.2. Name and methodological approach

The 22 subjects have 16 different names in the syllabi: 75% of the subjects combine the concepts of “gender” and “communication” for a total of 12 different names with negligible variations; 18.75% of the subjects are named based on the concept of “equality” giving rise to 3 different names. The only markedly different case is the subject on the history of women (Table 2).

<table>
<thead>
<tr>
<th>Name of the subject</th>
<th>Type</th>
<th>Degree</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender and Communication</td>
<td>Optional</td>
<td>Journalism</td>
<td>Univ. Rovira i</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>Journalism</td>
<td>Virgili</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>Audiovisual Communication</td>
<td>Univ. Jaume I</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>Advertising</td>
<td>Univ. Rovira i</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td></td>
<td>Virgili</td>
</tr>
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<td></td>
<td>Optional</td>
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<td>Univ. Rovira i</td>
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<td></td>
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<td>Virgili</td>
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<tr>
<td></td>
<td>Optional</td>
<td></td>
<td>Virgili</td>
</tr>
<tr>
<td>Communication and Gender</td>
<td>Optional</td>
<td>Journalism</td>
<td>Univ. Complutense</td>
</tr>
<tr>
<td>Gender and Audiovisual Communication</td>
<td>Optional</td>
<td>Audiovisual Communication and Creation</td>
<td>Univ. Salamanca</td>
</tr>
<tr>
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<td>Audiovisual Communication</td>
<td>Univ. Carlos III</td>
</tr>
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<td>Audiovisual Communication and Gender</td>
<td>Optional</td>
<td>Audiovisual Communication</td>
<td>Univ. Sevilla</td>
</tr>
<tr>
<td>Gender Studies in Audiovisual Communication</td>
<td>Optional</td>
<td>Audiovisual Communication</td>
<td>EUSA-Univ. Sevilla</td>
</tr>
<tr>
<td>Communication for Equality</td>
<td>Compulsory</td>
<td>Journalism</td>
<td>Univ. Jaume I</td>
</tr>
<tr>
<td></td>
<td>Compulsory</td>
<td>Audiovisual Communication</td>
<td>Univ. Jaume I</td>
</tr>
<tr>
<td></td>
<td>Compulsory</td>
<td>Advertising</td>
<td>Univ. Jaume I</td>
</tr>
<tr>
<td></td>
<td>Compulsory</td>
<td>Advertising</td>
<td>Univ. of Barcelona</td>
</tr>
<tr>
<td>Communication and Gender Studies</td>
<td>Compulsory</td>
<td>Journalism</td>
<td>Autonomous Univ. of Barcelona</td>
</tr>
<tr>
<td>Image, Gender and Identity</td>
<td>Optional</td>
<td>Audiovisual Communication</td>
<td>Univ. of the Basque Country</td>
</tr>
<tr>
<td>Gender Studies</td>
<td>Compulsory</td>
<td>Journalism and Humanities</td>
<td>Univ. Carlos III</td>
</tr>
<tr>
<td>Gender Policies and Discourse Theory</td>
<td>Compulsory</td>
<td>Audiovisual Communication</td>
<td>Univ. of Valencia</td>
</tr>
<tr>
<td>Communication, Gender and Mass Culture in the Contemporary World</td>
<td>Optional</td>
<td>Advertising</td>
<td>Univ. of the Basque Country</td>
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<td>Advertising and Equality</td>
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<td>Gender and NICtS</td>
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<td>Digital Communication</td>
<td>Univ. Pablo de Olavide</td>
</tr>
<tr>
<td>History of Women</td>
<td>Optional</td>
<td>Social Communication</td>
<td>Univ. of Girona</td>
</tr>
</tbody>
</table>

From a situated knowledge perspective (Haraway, 1991), it should be noted that feminist critical theory is the dominant approach in all the syllabi. New masculinity studies are included in the subject “Gender and Communication” in the three Degrees offered at URV. Queer theory is only mentioned in two instances: “Gender Studies in Audiovisual Communication” in the Audiovisual Communication Degree at US, and “Gender Studies” in the Double Degree in Journalism and Humanities at UC3M. Only two subjects are informed by a postcolonial approach: “Gender Policies and Discourse Theory” in the Audiovisual Communication Degree at UV and “Advertising and Equality” in Advertising at UVa. The syllabus of this latter subject incorporates a specific block on gender studies and functional diversity, being the only one that adopts this theoretical angle.

The most-cited bibliographic references in the whole sample of syllabi under consideration are works by Juana Gallego Ayala (9 entradas), María Milagros Rivera Garretas (6), Luisa Muraro (5), Judith Butler (4), Laura Mulvey (4), María Zambrano (4), Annette Kuhn (3) and Giulia Colaizzi (3), followed by Simone Weil, Simone de Beauvoir, Teresa de Lauretis, Donna J. Haraway, Michel Foucault, Stuart Hall, Enn Ann Kaplan, Asunción Bernárdez, Eulàlia Lledó and Eloísa Nos Aldás (2 each). Other authors or references,
such as Virginia Woolf, Monique Wittig, Gayle S. Rubin, Barbara Zecchi or UNESCO reports are cited only once.

3.3. Results of the expert panel

The discussion on the results revealed little progress—two decades after the creation of the EHEA—in the elaboration or modification of Degree curricula to incorporate specific gender equality subjects in the field of Communication. This is all the more so if we look at previous studies such as Menéndez (2013; 2014) and, in Andalusia, Guarinos et al. (2018). The following conclusions and recommendations were reached for the report requested by UNESCO-UnitWIN:

1) Training in gender studies in Communication Degrees is particularly important to promote gender equality values, to foster a broader view of professional practice—not limited to a male perspective—and to help build an academic education that does not conceal women’s contributions in different professional areas and aspects.

2) Training should be carried out through subjects included in official curricula and syllabi, without prejudice to mainstreaming and complementary activities. Optional subjects should never reduce the offer of compulsory subjects.

3) In 4-year Degrees, at least one compulsory subject should be offered in the first or second year and at least an optional one in the third or fourth year.

4) Compulsory subjects should cover all aspects addressed by gender studies: feminist and women’s studies, men’s/masculinity studies, and LGBTIQ+.

5) The new “Verifica” (Verify) and “Modifica” (Modify) programs for official curricula provide an opportunity to include these subjects.

6) There is an urgent need to draw up a “White Paper” to promote education policies integrating gender studies in a more effective and specific manner, including an agenda focused on the objectives set forth in Section J of the 1995 Beijing Declaration.

4. Discussion and conclusions

Let us now point out the most relevant aspects regarding the presence of gender studies in the different communication Degrees offered by Spanish universities. Before, we will indicate the limitations encountered in this work.

The object of study is limited to the subjects included in official curricula of Degrees offered in the academic year 2017/18 in the field of Communication. Only Graduate Degrees are considered, since they constitute the basic and common training for university students. Optional subjects may vary each year depending on the course, the needs of the teaching departments and faculties, as well as the students’ demand. However, these aspects do not pose a major problem, since this study focuses on the subjects included in current official curricula.

Pursuant to Article 35 of Organic Act 4/2007 of 12 April, we have observed that curricula and syllabi are easily accessible online in public universities, in contrast to private universities.

Spanish universities offer few subjects that explicitly promote gender equality in the media and ICTs: only 22 subjects out of 165 Degrees, which shows the little relevance attached to gender studies in the media in Spain. Hence, the hegemonic perspective in this field is still not sufficiently aware and sensitive to gender issues. Also, poor training in this area will affect how future professionals analyze and develop information, discourses and our collective imagination.

It is somewhat remarkable that Audiovisual Communication Degrees offer more gender-related subjects than Journalism and Advertising, even if Journalism offers more compulsory subjects.

The fact that these Degrees only include 6 compulsory subjects in their curricula raises concerns about the achievement of the objectives laid down in Section J of the 1995 Beijing Declaration. This is especially so if Spanish universities intend to train future generations according to the 2030 Education Framework for Action, thus effectively promoting values for a more just, egalitarian and gender-diverse society. In this regard, the ‘2030 Agenda for Sustainable Development’ establishes in its objective 5 a more reduced and less specific framework than Section J of the 1995 Beijing Declaration regarding women and mass media.
which may be indicative of the agenda’s gradual de-politization. In that context, the commitment and cooperation of social actors in general and of the university system in particular are all the more necessary. The results of this research confirm such need and shed light on the situation of Spanish universities facing potential changes stemming from the upcoming Beijing+25 process.

In this regard, universities in Valencia and Catalonia are the most committed. These two regions offer the largest number of gender-oriented subjects—Valencia offers the highest number of compulsory subjects, and UJI is the Spanish leading university in this field. Andalusia, Madrid, the Basque Country and Castile-Leon offer these subjects as optional, except for the Double Degree in Journalism and Humanities at UC3M. The other regions lag behind by offering no such subjects.

The fact that 86.36% of these subjects are offered by public universities says a lot about the great challenge facing private institutions to incorporate gender studies in their curricula—a significant issue considering that 55.76% of the Degrees in this field are taught at private universities. For instance, some new Degrees such as Communication and Digital Communication are only offered by the private network. Only 19 subjects include gender studies in relation to the media and ICTs out of the 73 graduate Degrees that can be studied at public universities, which shows the shortcomings of current curricula, and points in the direction of change.

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In their names, these subjects fit into the theoretical framework defined by UNESCO indicators, acknowledging the key role of the media in promoting gender equality. In light of the gender composition of the faculty, this commitment should extend to the entire faculty, thus encouraging men to teach these subjects.

As for the content, methodology and bibliographical references, the results show that feminist critical theory is the core element in all the subjects. Subjects in Audiovisual Communication at US and the Double Degree in Journalism and Humanities at UC3M, which explicitly include LGBTIQ+ studies and queer theory in their syllabi, are an exception. Also remarkable are postcolonial approaches in Audiovisual Communication at UV and Journalism at Uva—in the latter case, also including studies on gender and functional diversity. These certainly are a minority, but may be relevant to design new subjects based on the inclusive indicators promoted by UNESCO.

The results show few bibliographic recommendations in the syllabi, which barely cite some key reference works in the field of gender studies. This was highlighted with concern by the panel experts, especially those coming from the English-speaking countries. There is an urgent need to update and enrich the bibliographic references in Spanish syllabi in order to include major figures in feminist critical theory and gender studies.

The poor theoretical training offered to students in the syllabi goes hand in hand with the scarce presence of these subjects in the official curricula of communication Degrees. This is of particular concern with respect to public universities, whose curricula should include at least one compulsory subject and an optional one.

The insufficient training in gender studies calls for the elaboration of a White Paper at national level. Furthermore, the expert panel’s recommendations and requests have been submitted to the Women’s Institute (“Instituto de la Mujer”) as reflected in the proceedings of the “7th GECA International Conference: Representation, Education, and Fight against Gender-Based Violence” (“VII Congreso Internacional de GECA: Representación, Educación y Lucha contra la Violencia de Género,” GECA, 2018). Sharing the results through the UNESCO-UniTwin network has served to frame this research as a model for future studies in Latin American countries. It has also provided discussion material for the drafting of “Gender, Media, & ICTs: New Approaches for Research, Education, & Training” (UniTWIN, 2019), a White Paper to guide the design of specific subjects by adapting the proposed content to each institution’s educational, political and social circumstances.

In the meantime, we can only hope that Spanish universities, faculties, and departments, promote training programs for faculty members focused on gender equality and diversity so that these contents are mainstreamed into all the subjects of the curricula. This is particularly important if specific new subjects cannot be offered in the short term. Only if we adopt such a global and inclusive perspective may we ensure that future generations of media professionals are educated and trained in gender equality.
Funding Agency
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References


Women on YouTube: Representation and participation through the Web Scraping technique

La mujer en YouTube: Representación y participación a través de la técnica Web Scraping

ABSTRACT

YouTube is the favourite entertainment platform for teens and pre-teens. It is configured as a space for interaction and collaboration that coordinates collective creativity as a generator of meaning. Because of this, nowadays the platform constitutes an enabling environment for subjectivation. Women and men participate by sharing or consuming videos, although the visibility and experiences are different for each gender. The aim of this study is to analyse the presence of women in the new spaces of participation, both from the perspective of producers and consumers of content. An analysis based on Web Scraping of the Instagram profiles of the 50 most successful YouTubers in Spain was carried out. The data obtained was analysed with the statistical software R. The results show a low representation of women among the channels with the highest number of views and subscribers. In addition, there is a lower presence of a female audience. Both roles, women as content creators and as consumers, are mostly associated with stereotypically feminine content such as beauty, drawmylife and fitness sports. The study shows that YouTube, the platform representing the new online participation spaces, reproduces the gender power structures of traditional media. An analytical approach to media education is needed to fight against sexist representations, stereotypes and under-representation of women in public spaces.

RESUMEN

YouTube es la plataforma favorita de entretenimiento de adolescentes y pre-adolescentes. Se presenta en esta etapa como un entorno propicio para la subjetivación, al configurarse como un espacio de interacción y colaboración, que coordina la creatividad colectiva como generadora de significado. Mujeres y hombres participan compartiendo o consumiendo videos, aunque la visibilidad y las experiencias son diferentes para unas y otros. El objetivo de este estudio es analizar la presencia de la mujer en los nuevos espacios de participación, tanto desde una perspectiva de productora como de consumidora de contenidos. Se ha realizado un análisis basado en Web Scraping de las 50 cuentas de youtubers de mayor éxito en España, a través de sus perfiles de Instagram. Los datos obtenidos se han analizado con el software estadístico R. Los resultados evidencian la escasa representación femenina entre los canales con mayor número de visualizaciones y suscriptores. Además, existe una menor presencia de público femenino. Ambos roles aparecen asociados mayoritariamente a contenidos estereotípicamente femeninos como belleza, drawmylife y deportes fitness. El estudio pone de manifiesto que YouTube, plataforma representativa de los nuevos espacios de participación online, reproduce las estructuras de poder de género de los medios tradicionales. Es necesaria una educación mediática crítica para luchar contra las representaciones sexistas, los estereotipos y la insuficiente representación femenina en espacios públicos.

KEYWORDS | PALABRAS CLAVE

Gender, stereotypes, audience, teens, pre-teens, youtubers, YouTube, web-scraping.


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1. Introduction and current status of research

The development of digital media and Information and Communication Technologies (ICT), in a complex context characterised by social, economic, political and cultural change, has led to variations in the way we communicate, relate and perceive reality. This rapid socio-technological advance clashes with the almost leisurely pace of the transformation of gender inequalities in and throughout the media (French et al., 2019).

The processes of media convergence, participatory culture and collective intelligence (Ayuste et al., 2012) resulted in the transformation of the perception of media and the way in which we relate to it, whilst also leading to profound implications for those who use it (Jenkins, 2008). Furthermore, these processes forecast a potential democratisation (Jenkins et al., 2015) in terms of access and participation.

These transformations have led to the understanding of the web as a space where participatory culture can also overcome the barriers or imposed constraints linked to corporeality; which would imply the possibility of constructing alternative identities, avoiding those that have been attributed or imposed. Although this idea may be appealing from a gender perspective, it is somewhat naïve, as it postulates that if the same opportunities of access are offered to groups that have not been socialised in the same way, nor have had access to the same goods, actions or rights (Ficoseco, 2016), a democratic and universal participation would be achieved. This would mean that the web is interpreted as a space alien to the social fabric and that gender socialisation is not taken into consideration, as disembodiment is associated with the power to break from gender constructs and the freedom to create alternative identities.

Research on traditional media reveals a scarce presence of women in these spaces when their corporeality becomes visible and they are attributed a gender identity. As the studies promoted by UNESCO (Byerly, 2011), show, women are under-represented, especially in places of power, such as government or management councils (<20% in Spain). Similarly, it is evident that the positions involved in the decisions regarding the content produced in the media are not occupied by them either. As a result, only 24% of the people to whom this content refers are women (Macharia, 2015).

Female representation and representativeness are limited and influenced by stereotypes (Grizzle, 2014). The figures reveal slow progress on this issue, which is further aggravated by the perpetuation of online media trends (Macharia, 2015). In new participation spaces, the results are similar but acquire new expressions. In the case of YouTube, Wotanis and McMillan (2014) determined that, although there are numerous investigations on the presence and participation of women on the platform and some of them manage to obtain favourable results in terms of equality (Rainie et al., 2012), there is a shortage of female referents among the 50 most visited channels.

Digital technologies are part of the social fabric, given that these technologies and society mutually produce and define themselves as contingent and open agents, expressing the social relations in which they are integrated (Haraway, 2006). The absence of women in the technological narrative, or the binary and stereotyped expression of them, is a constitutive part of technology as media and as a social tool with a patriarchal system of imaginaries associated with prestige, reason and power (Ficoseco, 2016). In this context, digital media emerge with a hint of democratisation and decentralisation but do not challenge the patriarchal nature of the media (Macharia, 2015). Technology is neither naïve nor neutral, while the media is structured in a way that impacts gender power relations (French et al., 2019). This structure imposes rules on how people behave and the roles and responsibilities they assume, thus creating pressures and expectations.

From a gender perspective, it is necessary to critically examine how gender power devices appear and what social practices they reproduce, that is, to review what is privileged and what is postponed in the architecture of the Internet (Byerly, 2011).

Based on the current reality described above, this study seeks to assess the presence of women in online participation spaces — specifically, on today’s largest entertainment platform: YouTube (Berzosa, 2017), the leisure space most visited by young people and pre-teens (Haddon & Livingstone, 2012). From a gender standpoint, our purpose is to establish to what extent women are part of this new social framework for entertainment, considering those with producer and prosumer roles, as well as those limited to content consumption.
1.1. Gender and identity construction on YouTube

Watching videos is one of the most widespread entertainment habits among young Europeans, with YouTube rising as the queen of online platforms, used by 90% of 12-15 year-olds (Haddon & Livingstone, 2012), who mainly consume humorous videos and content related to video games (Mascheroni & Ófalfsson, 2014).

Pre-adolescence and adolescence are the stages in which the platform shows greater success, coinciding with a key moment in the development of individuality and relevant decision-making for the future. This makes teens and pre-teens more susceptible to the influence of the environment when it comes to constructing their identity (Aran-Ramspott et al., 2018). YouTube constitutes an enabling environment for subjectivation as it is configured as a space for interaction and collaboration that coordinates collective creativity as a generator of meaning (Sánchez-Olmos & Hidalgo-Marí, 2016).

In this context, the mediating figures branch out into subjectivation and new forms of expression are configured, resulting in the promotion of new opportunities for the construction of the subject, thus placing the referents in these spaces in the focus of interest. At the same time, we must understand these opportunities in a context characterised by the convergence of the media and the socio-economic, political and cultural reality of the young people who participate on the platform, within which they are also subject to a gender socialisation.

Socialisation and education instill an ideal that situates the subject in the symbolic, the language and the available schemes of cultural intelligibility (Lacan, 1977), configuring a norm of conduct (Butler, 2010). Power forms the subject, provides it with the condition of its existence and the trajectory of its desire; in such a way that submission consists precisely of dependence on a discourse that is not chosen but paradoxically initiates and sustains the existence of the individual (Foucault, 1994). Therefore, socialisation and access to goods, actions and rights, among other issues (Ficoseco, 2016), inevitably determine gender power relations, as well as the role that women play on the platform, despite no existing explicit conditions.

The studies that have analysed the platform from a gender perspective manifest the appropriation of the environment and the unequal presence of identities. The lack of feminine referents between the figures of greater reach on the platform is evident (Wotanis & McMillan, 2014); as well as masculine domination characterised by sexism, visible in comments received by the female YouTubers that do not conform to the expectations of gender (Döring & Mohseni, 2018). Along with the conditioning of content according to gender, there is an imbalance in the production and reception of videos and a more active participation of men (Molyneaux et al., 2008; Sánchez-Olmos & Hidalgo-Marí, 2016), despite the greater effort that women invest in the quality of interactions (Pierson, 2015).

Gender does not seem to be a conditioning factor to be part of the platform. However, no research has been found that concludes equal participation, which reveals the traces of a participatory gap (Jenkins, 2009).

1.1.1. YouTubers: mediating figures in the construction of identity

The ways of dealing with culture have changed mainly due to the interaction with digital media (Dussel, 2017), which is especially evident in the field of YouTubers, a field characterised by a kind of participatory culture (Jenkins, 2009). There is a social connection between Youtubers and the audience, in a space where the latter frequently perform informal mentoring, thinking that they can teach something to their followers, who value their contributions. Therefore, today’s culture belongs to the audience, which is often rooted in their experiences and background (Jenkins et al., 2015).

The term YouTuber refers to content creators on YouTube (Berzosa, 2017; Van-Dijk, 2016). They are people, mostly young, who generate large masses of followers who support them over time. A community is formed around this figure, and the YouTuber himself or herself belongs to this community, which creates identity symbols. The interaction in the community is bidirectional: the YouTubers question their audience, who, in turn, provide feedback. This relationship, constituted in a relevant social context (Pérez-Torres et al., 2018), involves elements of collaboration, interaction with other users, learning opportunities, civic commitment and identity construction (Lange, 2014; Lenhart et al., 2015). The YouTuber phenomenon implies a generational and socio-temporal factor, which entails its own way of generating and consuming...
content (Berzosa, 2017). The attributes that characterise YouTubers are, in turn, those that propitiate their success: identity construction, processes of identification and empathy with the characters, as well as “the ability to improvise, to change, and to surprise”, in a way that is far from the logic of traditional media (Aran-Ramspott et al., 2018: 73). These are people who are close and accessible, and who challenge the margins of intimacy and privacy.

The uniqueness of the strategy of the YouTuber on the web is based on the periodicity in the publication of videos in a way that connects the audience and creates expectation (Berzosa, 2017). This results in engagement from the audience that visits the given channel repeatedly. Success relies on the retention of large masses that view their videos, which makes them influencers and a social reference for young people. They are “role models” as followers identify with their discourse and consequently become “subscribers” (Pérez-Torres et al., 2018: 67). This is a tendency shown in the work of Gewerc and Alonso-Ferreiro (2019), where the power of these models is evident: the YouTubers become someone to please by means of subscribing to their channel in response to their demands.

The admiration generated by YouTubers (García-Jiménez et al., 2016) makes them position themselves as mediators of media consumption, guiding the preferences of pre-teens and teens, leading them to videos of other YouTubers with the power of their discourse. Like this, they become mediators of the construction of the individual who socialises on online platforms such as YouTube.

The construction of the subject is produced via the mediation of others (Foucault, 1994), who act: 1) as examples of behaviour; hence the relevance of the visibility of female referents; 2) as figures of empowerment, contributing to the transmission of knowledge and principles; including jargon, values, and other elements identified in communication that contribute to configuring the community and the identity of the group; and 3) in the spaces of interaction, within which their exposure can cause unease. The same schemes that constitute social reality are transferred to these new spaces of online participation. There are different forms of appropriating and occupying spaces, in such a way that the dialogue is conditioned by the individuals who form this space. Namely, a group that assumes the responsibility of having the voice, while others occupy the periphery without exposure. In this respect, men subscribe to the request of the referent figure (Gewerc & Alonso-Ferreiro, 2019); while women, feeling unrepresented, become passive participants, observers that don’t leave comments nor generate content of any type.

1.2. Media education for full and critical participation

In this media setting, where YouTube occupies a prominent place among young people, critical media literacy is necessary (Buckingham, 2007; French et al., 2019; Gutiérrez, 2008; Jenkins, 2009; Jenkins et al., 2015) as an essential competence for the 21st century.

Dussel (2017) points out the vital necessity to tackle what circulates in YouTube and other networks in school, analysing with students how to produce and how to look at images, to contribute to the expansion of their worlds, and to help them become accustomed to other images and production methods. To this end, it is essential to address this learning process from a critical, reflexive and creative approach (Gutiérrez, 2008), breaking and confronting gender stereotypes. It is about preparing young people to read and write media (Buckingham, 2007), addressing the dual role of producers and consumers (Jenkins, 2009), so that they actively participate in digital culture and take advantage of the potential of YouTube as a space for social (Gutiérrez, 2008) and gender equality.

It is necessary to deepen their experiences with media outside the classroom (Buckingham, 2007; Dussel, 2017) and to understand critically and profoundly how forms of media work, how they communicate and intervene in relationships, how they represent the world and how they are produced and used (Buckingham, 2019). In this context, we should consider the participatory gap (Jenkins, 2009; Robles-Morales et al., 2016), which refers to inequality in access to media and opportunities to participate fully. Examining this gap from a gender perspective requires concern for the situation of women in this scenario, as well as consideration of their way of behaving on the web — a behaviour that implies ethical values.

The ethical challenge (Jenkins, 2009) focuses on the importance of the school context and refers to the learning of ethical norms during the online experience. Furthermore, it relates to issues of netiquette.
and digital identity management, since practices with Web 2.0 technologies, even if they are for fun and entertainment purposes, are important in the construction of one’s own identity (Jenkins, 2010). In the education of prosumers, users who participate and give feedback on the web, it is fundamental to instill respect and empathy, topics that are often forgotten although research reveals them as factors related to the low participation of women (Macharia, 2015). These topics must be taken into consideration to create democratic participation spaces.

2. Method

This project proposes a quantitative study employing a descriptive method that uses social network analytics (Thelwall, 2018) to investigate and illustrate the presence of women in the participation spaces generated on YouTube. For this purpose, the study of content-generating users with a greater reach (in the Spanish context) and of the audiences that subscribe to their channels was addressed from a gender perspective.

2.1. Sampling unit: YouTubers’ profiles

For data collection, a list of the 50 largest accounts was created. For this purpose, we selected those accounts that as of August 1st, 2019, housed the largest number of total views in their videos and the highest number of subscribers (Burgess & Green, 2018). This list was delimited in accordance with the situation and age group in which this study is framed: adolescents in the Spanish context. The following criteria were considered: the YouTube channel a) is located in Spain; b) generates content in one of the official languages of the country; c) does not generate children’s content; d) shows an Instagram account — the second most used platform in the age group (Mascheroni & Ófalsson, 2014) — in the YouTube profile; e) shared its last video in the last 5 months; and f) received its last comment in the last 5 months.

The resulting list was ordered according to a variable generated from the normalisation of the variables “views” and “subscribers”, establishing a ranking that considers the reach capacity of the 50 accounts that comprise the list. Furthermore, the genre expressed by the creators and the type of content generated was added. Table 1 includes the ten accounts with the greatest reach. The complete list made it possible to ascertain the presence of women among the main referents, as well as their scope and content.

2.2. Sampling unit: audience profiles

YouTube’s data policy makes it possible to see the channels followed by an account, but not the subscribers of that given channel. Due to this policy, Instagram was the platform chosen for the exploration of the audience. Furthermore, Van-Dijck (2016) highlights the importance of cross-platform interconnection (media convergence) as it allows for greater visibility and maximum presence. In this respect, Instagram is the platform preferred by young people after YouTube (Mascheroni & Ófalsson, 2014), which justifies our methodological decision.

Using the free software R, a loop was created, represented in Figure 1 (https://bit.ly/2OeUF8e), which performs a Web Scraping procedure with each of the accounts that constitute the initial list. This technique allowed us to extract a large amount of information from websites, obtaining public data accessible to anyone.

For this study, a process was programmed to go to the Instagram profiles subject to examination, click on the “followers” tab and extract the names of between 40,000 and 50,000 users, through a simple indiscriminate sampling: the program randomly chose the profiles that represent the sample, whereby any profile of the audience was equally eligible.

According to the proposed objectives, we sought to determine the gender of the people who make up the YouTubers’ audience, their preferences regarding content and the genre of the channel. As Thelwall (2018) points out, this information can be inferred from the names obtained from Instagram with the Web Scraping technique, which can be compared to the Continuous Register Statistic as of January 1, 2017, published by the National Statistics Institute of Spain. Here, the names registered in the Spanish context and the prevalence of the name concerning each gender can be found. If the frequency of a name in one of the groups (feminine or masculine) was one hundred times greater than the frequency associated with the same name in the opposite group, the association of said name with the gender of the first group was
accepted. If this was not the case, the name was categorised as neutral and was eliminated because it did not provide relevant information.

After comparing the sample with the Register, an average of 15,000 users was obtained for each profile, defined as female or male; whereby a confidence level of 95% and an error of 1% is achieved with a sample size of 9,603 for the account with the greatest number of followers. A total sample of \( n = 904,939 \) analysed names was collected (Table 1).

<table>
<thead>
<tr>
<th>Youtubers</th>
<th>Gender</th>
<th>Subscribers</th>
<th>Normalisation</th>
<th>F</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETTA777</td>
<td>M</td>
<td>27,090,883</td>
<td>3.25</td>
<td>3054</td>
<td>18255</td>
</tr>
<tr>
<td>elrubiusOMG</td>
<td>M</td>
<td>35,402,085</td>
<td>4.68</td>
<td>13641</td>
<td>46314</td>
</tr>
<tr>
<td>TheWillyrex</td>
<td>M</td>
<td>15,684,534</td>
<td>1.29</td>
<td>2349</td>
<td>14923</td>
</tr>
<tr>
<td>Willyrex</td>
<td>M</td>
<td>14,694,651</td>
<td>1.12</td>
<td>2349</td>
<td>14923</td>
</tr>
<tr>
<td>AuronPlay</td>
<td>M</td>
<td>17,270,734</td>
<td>1.56</td>
<td>5460</td>
<td>11793</td>
</tr>
<tr>
<td>DariRep</td>
<td>M</td>
<td>9,363,315</td>
<td>0.20</td>
<td>1335</td>
<td>16536</td>
</tr>
<tr>
<td>iTownGamePlay</td>
<td>M</td>
<td>11,707,556</td>
<td>0.60</td>
<td>2641</td>
<td>12511</td>
</tr>
<tr>
<td>Mikecrack</td>
<td>M</td>
<td>11,283,645</td>
<td>0.53</td>
<td>6377</td>
<td>13071</td>
</tr>
<tr>
<td>Makiman131</td>
<td>M</td>
<td>11,734,205</td>
<td>0.61</td>
<td>3991</td>
<td>12642</td>
</tr>
<tr>
<td>TheGrefg</td>
<td>M</td>
<td>11,045,262</td>
<td>0.49</td>
<td>1633</td>
<td>11390</td>
</tr>
</tbody>
</table>

The Web-based Scraping methodology facilitates access to and management of an enormous amount of data. There is no bias in its selection as it is performed under a simple random sampling, which provides a comprehensive view of the YouTube audience in terms of gender. This technique, based on the analysis of social networks using the software R, finds its limitations in the impossibility of locating profiles not easily identifiable with feminine or masculine names, an issue to which the assumption of a binary perspective of gender is added. Besides, we do assume a certain bias as it resorts to a second social network (Instagram) to recover the subscribers of each YouTube channel.

3. Results

3.1. Female YouTubers: presence of women who create and produce content

Among the 50 YouTube accounts considered to have the largest reach, there are a total of 4 female YouTubers, compared to 41 male YouTubers. Furthermore, there are 2 accounts shared by a woman and a man, and 3 accounts linked to mass-media and institutions such as football clubs.

The first five accounts correspond to VEGETTA777, elrubiusOMG, TheWillyrex, Willyrex and AuronPlay, channels whose main content is related to video games or entertainment linked to humour. All of them are managed by men, who appear as the creators and image of their content. In the case of VEGETTA777 and elrubiusOMG, their reach positions them on the international scene (Figure 2: https://bit.ly/2rxQrzO).

The first woman to appear in the ranking is ExpCaseros (ranked 13th), an account shared by a woman and a man who generate entertainment linked to experiments and do-it-yourself (DIY) tutorials. The next woman to appear on the list (ranked 27th) does so under this same condition, together with a man, generating entertainment content and draw-my-life videos (TikTak Draw).
The female creators of content who manage to be in the list of 50 accounts represent 12.2% of the total number of visible physical persons. Moreover, none of them manages to reach the top 10, meaning that the female gender has a notoriously inferior reach. These women create content such as entertainment, sports, beauty or gameplay, while male creators create content that includes entertainment, sports or gameplay.

It is evident that the contents related to female gender stereotypes are less valued among those that have a greater reach, as they rank starting from the 28th position; while content stereotyped as “masculine” or “neutral” holds the most privileged positions, although these positions are not occupied by the women who generate it.

In the overall list, gameplay is the type of content best valued by the YouTube community, produced by 54% of the accounts. Gameplay is also the best positioned, as it is the primary category of content in 8 of the top 10 accounts with the greatest reach. In contrast, women gamers (2) rank 33rd and 49th.

When it comes to sport-related content, only one female YouTuber enters the list and is the best-positioned woman among the women that generate content alone (28th position). She mainly shares content concerning aerobic exercises, the titles of which frequently include the word “adelgazar” (lose weight). The gender stereotype is also reproduced in the content linked to beauty, with no male YouTubers sharing this type of content and with only one woman entering the list and ranking 48th.

### 3.2. The relationship between gender and the audiences of the most far-reaching YouTube channels

The audience builds its gender identity through mediation with female and male YouTubers. It is noteworthy, therefore, that the sample studied is made up of 74.1% men and 25.9% women. In this regard, Figure 3 (https://bit.ly/35HxrNX) illustrates the breakdown of YouTube channels according to the gender of their audience, taking the content into account. Most YouTubers have a mostly male audience.

There are few accounts (6) of greater reach that gather an audience of more than 50% women, and, among these, the most valued content is created by an account with sports tutorials focused on losing weight (Gymvirtual) and by an account focused on makeup (LizyP). This means that the content that impacts the female audience to a greater extent is subject to the reproduction and perpetuation of beauty norms. Music content is the next most important content category, as the official account of Adeexe and Nau, two Spanish male teenage singers, has an audience of 82% women.

The accounts closest to reaching a gender balance among their audiences are the shared accounts managed by a woman and a man, followed by mass-media channels, whose content is plural and cannot be linked to a stereotype.

As can be seen in Figure 3, most of the YouTube channels examined in this study have a largely male audience that consumes content related to gameplay and entertainment. Female creators of this type of content also have mostly male audiences, but they are lower down the list due to the domination of male creators. Patty Dragna has 14% female subscribers and Sarinha 15%.

Women who create content linked to the female gender stereotype get greater recognition from the female audience. The content and its link to gender stereotypes present a greater influence than the gender expressed by the content creator. However, the channels that obtain the most balanced audiences in terms of women and men are those in which the two genders are expressed by the creators, that is to say, accounts shared between a man and a woman who create neutral content in terms of gender stereotypes (entertainment linked to humour).
4. Discussion and conclusions

This study, which investigates the role of women in the new media scene, on the main entertainment platform (YouTube), reveals the under-representation of female figures in the public sphere on the network, continuing the trend of what happens in traditional media, as revealed by UNESCO’s work on the subject (Byerly, 2011; French et al., 2019; Macharia, 2015). In the case of this social media platform, where the audience is not necessarily passive but has spaces for participation, female representation is linked to gender stereotypes and low participation.

The differentiated appropriation of the environment suggests the transfer of power relations from the physical space to the YouTube platform: a leisure space has been generated on the web, similar to the schoolyard, a recreational space and time not planned by the school organisation. The familiar image illustrates boys and male pre-teens on the football field, an hegemonic sport in the Spanish context and one which is usually situated in a central and privileged space on the playground. This is where the action takes place, where they interact and learn the rules and codes that they will transfer to other play spaces. Girls and female pre-teens, as explained in other studies (Cantó & Ruiz, 2005; Martínez-García, 2018; Castillo-Rodríguez et al., 2018), tend to occupy the periphery of playgrounds, standing around the football field while chatting, playing in small groups or amusing themselves as spectators. In these spaces they acquire learnings of all kinds, very valuable learnings. The most relevant of these being the place that they belong to and the place that the knowledge they have acquired in this space occupies.

Those YouTubers at the core of the media scene, at the top of the ranking, are men who share stereotyped content: gameplay, humour, and football. They are also the most recognised by pre-teens, as pointed out in the research of Aran-Ramspott et al. (2018), as they occupy a visible place that makes them referents. While there are women creators of all kinds of content, the female audience assembles around those who publish content linked to gender stereotypes, such as beauty or staying in shape. Women who produce content associated with videogames have male followers, although they are overshadowed by their male counterparts, who dominate the platform (Döring & Mohseni, 2018). This is because pre-teens who follow this type of content prefer a male referent, as proven in research conducted by Gewerc and Alonso-Ferreiro (2019). Their findings show that when given the opportunity to follow Sarinha’s profile, from which the pre-teens have learned some tricks, they decide to follow Luh, recommended by the female YouTuber herself in her videos.

The appropriation of the woman’s environment, circumscribed in the patriarchal system of imaginaries associated with prestige, reason and power (Ficosoco, 2016), translates into its visible absence as a potential referent and mediator for the construction of the subject. This impacts 1) on the given example, shaped to a greater extent by men; 2) on the transmission of knowledge, content, principles and values, among which women are not represented; and 3) on free, active and critical participation on the platform.

No physical barrier prevents young women from occupying the symbolic central point of this space and, nevertheless, they continue to be relegated to the peripheries. Through socialisation and education, an ideal is fostered that situates the subjects in the available schemes of cultural intelligibility (Lacan, 1977), thus determining the norms that govern their behaviour (Butler, 2010). The evidence highlights a peripheral presence of female participation. Furthermore, the presence of the more successful women is less decisive and influential compared to their male counterparts. Even when the content generated by these women corresponds to their gender stereotypes, they find themselves in less privileged positions, as the knowledge and interests they disseminate are attributed less value.

Whilst the figures illustrate that the majority of the audience is male, among all the accounts in the ranking there is indeed a broad audience made up of women, who represent the majority, or minority, depending on the content. In this regard, major educational concerns emerge. Namely, the democratic participation of women, not conditioned by stereotypes; the devaluation of content linked to the female stereotype; and the consumption of content created by and for men that mediates the construction of masculinity in their majority audiences, and in the same way mediates the subjectivation of female pre-teens.

Against this backdrop, media education presents itself as an opportunity, and it is, therefore, essential to develop actions to fight against sexist representations and in favour of equal access and participation of
women in digital media in which they have an insufficient presence (French and others, 2019). In this context, a challenge and an opportunity emerge, that is, to train in media education in order to create spaces and opportunities for equal participation.

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**References**


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Audiovisual project for childhood media literacy development

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ABSTRACT
The impact of media and social networks on users is growing. The fact that commercial activity is flooding most social networks motivates us to enquire about the success factors of posts, and to try to determine if the impact is greater or lesser depending on gender. Attracting attention and exciting the user or customer are the main objectives of advertising, especially interactive advertising. This quantitative research measures the psychophysiological signals of the attentional level and the emotional level of people taking into account gender, through Sociograph, when they visualize Instagram stories of real influencers. To measure the electrodermal activity by means of two electrodes, a measurement instrument is used which integrates the traditional register of the Electrodermal Activity (EDA) and processes the information of the individuals. A questionnaire, the screen to display the Instagram story, the Instagram stories of the influencers, a registration protocol and a record sheet of the activity sequences are used. We observed that a greater number of followers implies greater emotional activation, although it translates into negative emotions, and a greater emotional activation in men than in women, although it is they who show positive emotions towards the video and would make an act of purchase through Instagram.

RESUMEN
El impacto de los medios y las redes sociales sobre los usuarios es creciente. El hecho de que la actividad comercial esté inundando la mayor parte de redes sociales motiva a indagar sobre los factores de éxito de las publicaciones, y a tratar de determinar si el impacto es mayor o menor en función del género. Llamar la atención y emocionar al usuario o cliente son los principales objetivos de la publicidad, especialmente la interactiva. Esta investigación, de carácter cuantitativo, analiza los datos de las señales psicofisiológicas del nivel atencional y del nivel emocional de las personas teniendo en cuenta el género, a través de Sociograph, cuando visualizan Historias de Instagram de «influencers» reales. Para medir la actividad electrodérmica mediante dos electrodos, se utiliza un instrumento de medición que integra el registro tradicional de la Actividad Electrodermica (EDA) y procesa la información de los individuos. Se utilizan un cuestionario, la pantalla para la visualización de la Historia de Instagram, las Historias de Instagram de los influencers, un protocolo de registro y una hoja de registro de las secuencias de actividad. Se observa que un mayor número de seguidores implica mayor activación emocional, aunque se traduce en emociones negativas, y una mayor activación emocional en hombres que en mujeres, aunque son ellas las que muestran emociones positivas hacia el vídeo y realizarían acto de compra a través de Instagram.

KEYWORDS | PALABRAS CLAVE
Sociograph, gender, Instagram, influencer, EDA, emotions, neuromarketing, attention.

DOI https://doi.org/10.3916/C63-2020-04 | Pages: 41-50
1. Introduction and status of the issue

The Broadband Society (Fondevila-Gascón, 2013), social media and the Internet are changing the relationship between businesses and consumers. In fact, online communication surpasses offline communication, led by social media. Instagram surpasses Facebook in the number of active users by 15%, and it is also the first choice when developing “branding” and “engagement” marketing strategies (CECABLE, 2019).

The communications sector, particularly advertising, public relations and marketing, goes to great lengths to make the most of the options provided by the Internet to move and attract the audience’s attention. If we analyse an individual that sees an ad, we can control at least three variables: attention, emotion and memory (Torreblanca et al., 2012). Attention and emotion can be measured through Sociograph. This is called registering the Electrodermal Activity (EDA).

The essential goal of this research is to measure the psychophysiological signals of attentional and emotional levels, through Sociograph, of subjects when they see Instagram Stories of real influencers that have different amounts of followers. This allows us to verify the amount of (emotional and attentional) influence generated over the follower and to determine if their activation is positive or negative, in addition to the potential activation differences according to the gender of the subject that sees them. We also suggest getting to know user consumption habits or what an “influencer” is to them to determine their perception.

1.1. Stimuli and emotional contagion

With the appearance of social media, emotional contagion appears among users. On Facebook, it has been proven that if two individuals interact with someone outside of their personal contacts and the amount of emotional content on their timeline is reduced, these people produce less positive content and negative expressions (Kramer et al., 2014).

According to Christakis and Fowler (2007), the influence of each individual extends to a third-degree relationship (three degrees of influence of human behaviour). Physically, it’s possible for an emotion to be shared from one person to another (Hatfield et al., 1993), although it has been observed that this can also occur online. The auditory cortex is activated according to the emotional level of the stimulus (Plichta et al., 2011). According to this degree of perception, emotion can be stronger and become a memory, similarly to other areas of the brain through visual stimuli (Keil et al., 2005).

Therefore, emotion makes marketing and advertising useful. Moving the client or audience, for example, during interactive broadcasts on HbbTV (Hybrid Broadcast Broadband Television) (Fondevila-Gascón et al., 2015), customises the product. An experiment with TV ads using Electroencephalogram (EEG) and Heart Rate (HR) proved that it’s possible to know the attention, memorisation, pleasure and emotion experienced while seeing the ad, as well as which the most stimulating fragments are (Vecchiato et al., 2014).

Progress in neuroscience and the study of human reactions to external stimuli is considerable, especially due to the incorporation of new research methods, tools and technologies, such as Functional Magnetic Resonance Imaging (fMRI), EEG, Eye Tracking or EDA, which allow us to study and discover more about brain activity and influence on behaviour and relationships, despite critical approaches (Rego & Fernandes, 2005). EDA is the psychological analysis foundation on which this research is based (Monge & Fernández, 2012). Electrodermal Activity is a psychobiological phenomenon discovered by Fere (1888). It refers to the bioelectric activity of the skin (skin surface) and constitutes a parameter to register psychophysiological measurements. The changes originated in registering EDA depend on the secretion of exocrine glands and other skin structures that cause changes in electrochemical properties due to variations in the permeability of cell membranes (Aiger et al., 2013). EDA is related to moods (Cosculluela et al., 1988).

Electric conductance is used to measure the changes in electric transmission between two electrodes (EDR or phasic level and EDL or tonic level). EDL indicates baseline activation levels (attention), and EDR, the emotional response. This provides the individual’s attention and emotion values at the time the activity is performed. EDA is one of the most used psychophysiological indexes as physiopsychological correlate due to its connection to emotion, arousal and attention (Dawson et al., 2007). In order to measure electrodermal activity through two electrodes we use Sociograph, a measurement instrument.
that integrates the traditional EDA registration and processes individual information through Sociolab (Aiger, Palacín, & Cornejo, 2013). This allows objective and non-verbal validations of human behaviour, with responses that are hard to falsify (Aiger & Palacín, 2012). The values are expressed in Kiloohms and quantify the emotional and general activation index of an activity (Aiger et al., 2016).

EDL indicates baseline activation levels (attention). Brain activity, explained by the Yerkes-Dodson Law (Reeve, 1994) sets an inverted U relationship between activation and performance: when activation is very high or very low, performance decreases. Average values promote performance and concentration. Less resistance entails greater activation, greater resistance, less activation and attention (Aiger & Palacín, 2012). A third variable is related to spontaneous activity (NSA): this is the uncontrolled activity attributed to a known cause (situation response linked to the degree of activation). In order to correctly register the data, the electrodes must be placed on the non-dominant hand and attached to the skin with Velcro strips on the medial phalanges of the forefinger and ring finger (Aiger & Palacín, 2012). Therefore, EDA registers activity related to attention and emotion during the activity through Sociograph, which can measure groups. The analysis is performed with Sociolab software.

Tapia-Frade and Martín-Guerra (2017) verified the attentional level (EDL) and emotional level (EDR) of 30 subjects while they watched a set of ads. They determined that in comical-style ads EDR obtains a higher average than for other styles and that a sound change positively affects the subject’s attention to the ad.

Mediaset España requested attention and emotion measurements to reach their goal of staying ahead on TV programming. For this, they monitored subjects and were allowed to analyse the EDA of audio-visual pieces to obtain objective data. This allowed them to change plots and create characters that interested the audience more (Sociograph, 2019). Sociograph allows us to do market research and receive information about consumers. In this sense, Lewinski (2015) used facial coding to check the lack of facial expressions (happiness and sadness) in the videos used by the company ING on YouTube.

In contrast, there are not as many studies or as much research within the field of social media communication. Influencers are also dealt with in marketing strategies where the phenomenon is measured with Sociograph, and they study how the Youtubers with the most followers in Spain influence the perception of users who watch them (Alonso et al., 2018). Access to the psychological effects of actions, videos or content over users is viable through “Eye tracking”, a technology used to verify the effectiveness of “food styling” (Jaromír et al., 2017), that is, creating food photos to use in marketing. These authors use eye tracking to know the aesthetic effect of food attracts consumers.

1.2. Instagram and attracting attention

For this reason, Instagram, launched in 2010, with more than 900 million active users in 2019 and acquired by Facebook in 2012, is an intriguing object of study. Likewise, it is incorporating new updates, services and ad inserts. Instagram statistics show the hours of peak traffic (between 9 p.m. and 11 p.m.) and the ideal time to share an image (9 p.m.). In 2016 Instagram created Stories, which are 15-second videos, and are only shown for 24 hours on the creator’s profile; and they are the second most viewed option (50.2% of users).

For content creators, Instagram Stories attract traffic to the creator’s profile. The main Key Performance Indicators (KPIs) are likes, comments, post sharing, saved posts, profile visits and scope. The Instagram Stories option emerged from adapting Snapchat, a platform where you can add content that is available for 24 hours after it has been published. This service is one of the first to launch vertical content on the market, adapted to smartphones and which is perfectly compatible for mobile users. Instagram Stories allow you to include and adapt the videos and photos shared, adding other filter options, location, surveys, countdown, mentions or links (for accounts with more than 15,000 followers). According to Smith (2016), Instagram has the second highest level (after Facebook) of interaction (60% of all users log in daily). The number of active users per month is around one trillion. Out of all of the connected users, the group that amasses the most activity online is the group of users between the ages of 18 and 24, mostly men. 60.4% of the platform’s users respond to these sociodemographic traits. The communication style and content shown to users must match their tastes and preferences linked to age.
Within social media, an “influencer” is someone who has achieved certain social recognition thanks to their activity on social media. Most of their financial income comes from brand collaborations, which reach their target audience faster and more effectively (Santamaria-de-la-Piedra & Meana-Peón, 2017). Followers with similar interests to influencers want to be like them and follow their steps, so they consume the same products (Campion, 2016). Influencers act as brand advisers, given that their critiques or comments on products are respected. Since 83% of people follow brands on social media (IAB Spain, 2018), the number of companies that build strategies for this medium and collaborate with influencers increases, making it a growing means of communication, especially among young people.

The use and role of influencers in marketing strategies grows, although the path to be followed is intriguing and must take into account the notion of inclusive education (Aviva, 2009). 37.1% of businesses have been using them for three years, while 29% of businesses have been using them for less than a year (Brandmanic, 2018). 46.8% of brands used specialised influencer agencies to create marketing campaigns (brand strategies, recruiting new followers and sales conversion). Influencer marketing connects companies to these influencers. The brand generates greater visibility, engagement or branding. One of the main strategies on social media is word-of-mouth, the most effective for 85% of users, above influencer actions (82%) (Augure, 2018). Micro-influencers have less followers, but high engagement ratios, by targeting a theme and gaining audience loyalty, which represents a greater commitment to the consumer (9.7% more than an influencer) (Levy, 2017) and triggers effectiveness.

2. Material and methods

This research, performed during 2019, follows a quantitative methodology. To collect the necessary data, we got in touch with four influencers of different types according to range of followers (IAB, 2019), gender and category (Table 1 and Table 2).

![Table 1. Characteristics of research influencers](https://doi.org/10.3916/C63-2020-04)

<table>
<thead>
<tr>
<th>Number of Followers</th>
<th>Gender</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Level</td>
<td>Medium Level</td>
<td>High Level</td>
</tr>
<tr>
<td>Between 10,000 and 50,000 followers</td>
<td>Between 50,000 and 100,000 followers</td>
<td>More than 100,000 followers</td>
</tr>
<tr>
<td></td>
<td>According to if they are male or female</td>
<td>Network category (entertainment)</td>
</tr>
</tbody>
</table>

We requested a 15-second video in vertical format from the influencers, with the same communication traits as their usual character on social media. This was the way to make the result similar to an influencer marketing strategy within a conventional campaign. We obtained a minimum sample of 10 individuals for each influencer video, differentiating between the subject’s gender, so that each video was seen by at least five men and five women. Each influencer could use any kind of audio-visual tactics (visual effects, filters, audio effects, etc.), in this favourable environment. These variables were not controlled in the study.

![Table 2. Research influencers](https://doi.org/10.3916/C63-2020-04)

<table>
<thead>
<tr>
<th>Level/gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Level</td>
<td>Diego Villalba</td>
<td>Aroa Moreno</td>
</tr>
<tr>
<td>Medium Level</td>
<td>Abi Power</td>
<td></td>
</tr>
<tr>
<td>High Level</td>
<td>Alberto TM</td>
<td></td>
</tr>
</tbody>
</table>

The video’s objective was to transmit how good the promoted product was, which, in this case was an unbranded bottle of water, a neutral product, uninfluenced by feelings and of vital necessity. Before registering the EDA, we supplied a questionnaire that, together with the one filled out during the registration, was used to determine the sample’s qualitative data (type of emotion, range of influence, etc.). The data extracted from the EDA registration offers quantitative data regarding the activation level of EDL and EDR. Once the EDL and EDR signal is registered, it runs through an analogue-digital converter (PowerLab) to process the EDA through Labchart software. This application allows us to convert a graphic signal into a numerical signal to store it in Excel. This file shows columns with time, EDL, EDR and a fourth column which is manually coded by inserting the cuts written on the registration sheets. The following step is to convert the Excel files into plain text (.txt), in order to treat the signal with Electro software.
Finally, this software generates the results that are viewed in output files (.res) and are transferred to statistics software (SPSS or XLSTAT). This is the end of the signal processing route and the explanation of research instruments.

The subjects’ experimentation process began by providing an initial questionnaire to provide demographic, social and behavioural data on Instagram, and continued by accessing the Social Psychology Laboratory at the University of Barcelona with the individual. Individuals were placed in front of a screen to proceed with registration. During the registration with Sociograph, several activity modules were developed for the individuals to perform. Once the Activity modules were completed, the EDA registration with the subject was concluded. We registered a total of 42 individuals. The final sample, after processing the EDA, was 37, generating a total of 187,336 records (156.11 minutes registered). Anova or analysis of variance was applied to the Sociograph results with a risk of $p=5$.

The five records that did not pass the EDA processing were removed from the qualitative information. The entire research sample consisted of adults (between 18 and 24 years of age). Prior experience with Instagram was required and their socioeconomic level was not taken into account. Sample members were homogenous regarding the age variable (men with an average age of 22 and women with an average age of 21). Most men had a university degree (87.50%; 44.12% of women, more with non-university secondary studies, 52.94%). There was a mismatch between men ($n=8$) and women ($n=34$) which affected and minimised conclusions regarding the gender variable. A research ethics code was applied, and participants were called individually, chosen randomly to avoid influences between them that could affect the results.

EDA was only measured once per individual for the study. Each subject viewed a different video with a distribution that included the records rejected after EDA processing. The hypotheses of the study were the following:

- H1: Men activate more emotion and attention in women in Stories marketing campaigns.
- H2: In marketing campaigns, the most-viewed elements on Instagram are Stories.
- H3: The influence of advisers on the consumer is limited.

3. Analysis and results

General results per type of influencer (low, medium and high level) (Figure 1) revealed significant $F(2, 18731) = 1010.06$ greater targeted attention (EDL) in the high level, and less in the medium level with similar levels of distraction in the data. The level of significant emotional response (EDR) $F(2, 18731) = 65.07$ was greater in the high level and lower in the medium level. Low-level influencers have generated more heterogeneous emotional responses in comparison to the medium and high levels.

![Figure 1. EDA registration according to level](image)

The general reactivity result according to influencer (Figure 2) showed a greater emotional distraction (EDR) for influencer Aroa, which was significant $F(3, 17670) = 24.90$. No significant $F(3, 17670) = 338.41$, emotional (EDR) or attentional (EDL) reactivity differences were observed in
The emotional response and targeted attention data of the different activities according to influencer level aimed to identify average differences in activity modules, mainly for viewing and task. Greater and significant F (4, 4913)=552.24 EDR averages were observed in the high level for viewing and task. Standard deviation was homogenous. Regarding attention reactivity (EDL), we observed a mild but greater average in low level during viewing, although with a more significant F (4, 11928)=8837.15 heterogeneous distraction.

Regarding EDA psychophysiological responses in activities for each influencer, we observed significant EDR differences (Aroa F (4, 48883)=367.98 and Diego F (4, 7041)=0473.91) between both low-level influencers compared to Figure 3. Influencer Diego revealed a greater average emotional reactivity during viewing than Aroa (her distraction was heterogeneous). Aroa produced greater targeted attention, which was significant F (4, 4883)=6064.71. For the viewing activity, Abi generated less attention, significantly F (4, 5985)=2474.14. Diego registered a more heterogeneous attention distraction, significantly F (4, 7041)=0473.91. For the task activity, we observed significant F (4, 4913)=2242.73 greater targeted attention in the subjects that watched Aroa and Alberto, with similar averages. Task attention distractions were significantly heterogeneous in all four influencers. Moreover, emotional reactivity was quite similar in all four influencers (heterogeneous standard deviations).

Regarding the averages and standard deviations for the viewing module per influencer according to the subject’s gender, for EDR F (7, 1304)=148.51 we detected a large emotional range in men for influencer Abi (homogeneous standard deviation). Regarding EDL F (7, 1304)=107.92, we observed greater targeting in the men that watched Alberto. Aroa generated greater distraction for emotion registration (EDR). For influencer Diego, no significant ranges were observed beyond targeted attention in men.

The viewing modules according to individual influencer aimed to observe significant differences between men and women for the same influencer. We observed a mild attention range in men (standard deviation was greater than for women). We did not observe significant differences for emotion. The high heterogeneity in men for registering emotion was noteworthy. We noted a mild significance of attention in men together with a more homogeneous standard deviation, which was heterogeneous in women.

Viewing according to gender for influencer Abi revealed the clear range of emotion in men, which was homogeneous. For women, the signal was quite similar in all ranges and no major differences were observed.

When watching Alberto, we observed a greater attention span in men. The dispersion is slightly higher (more heterogeneous) than in women. This confirmed H1 (Men activate more emotion and attention in women in Stories marketing campaigns), with an emphasis on attention.
In the task activity, there were significant ranges in terms of targeted attention. We observed significant attention averages $F(7, 8952)=137.03$ for influencer Aroa with male subjects (standard deviation was more homogeneous than in women). The average attention for Diego among men was one of the most significant averages, with a lower standard deviation in comparison to other influencers. The attention for influencer Alberto among women was significant, but with a heterogeneous standard deviation in comparison to the aforementioned groups. Regarding EDR $F(7, 8952)=30.21$, all standard deviations were quite heterogeneous, except for Diego among men, who presented a homogeneous standard deviation and a low average range. The highest EDR average was observed in Alberto for men, but his standard deviation was very heterogeneous.

The psychosocial data extracted from the questionnaires reflected the trend of Instagram users (type of content viewed or perception of the Instagrammer according to the sample). Subjects classified influencers as content creators or celebrities. There were multiple content categories. The sample’s most followed trends were related to friends, humour, music, animals and food. Regarding the most-viewed elements within the app, Stories took first place, with posts in second place and Instagram TV last. This confirmed H2 (In marketing campaigns, the most-viewed elements on Instagram are Stories). Regarding the sample’s perception of the influencers’ influence, it tended to be limited.

Regarding the data on each influencer obtained from the post-viewing questionnaire, when it came to Diego, the men who watched him would have dismissed his Stories; nevertheless, the women, including exceptions, would have gone to the influencer or product profile. 20% of women would watch more of Diego’s content, although the influencer was unknown by both genders. The emotions most aroused in the subjects were, for men, amusement and annoyance and, for women, positive emotions, although also negative emotions (frustration or boredom). The most remarkable thing regarding attention in Diego’s Story was the way he communicated and sounded (probably his accent). Diego’s level of influence over the subjects was low except in women, with slightly more impact. We observed that none of the subjects would have purchased the product.

Regarding influencer Aroa, men left the Story, whereas women timidly accessed the product profile for more information. The emotions expressed by men regarding Aroa’s video were negative; however, women expressed positive emotions (amusement, friendliness or emotion). The most striking thing about Aroa’s Story was herself and the way she communicated. Regarding Aroa’s level of influence over the subjects, we considered it limited, except for the case of women, which were more inclined to buy the product.

Regarding influencer Abi, there were no differences between men and women when it came to the amount of time spent on the platform, 50% of subjects recognised the influencer. There was a low perception of the influence of opinion leaders and ample use of Instagram. We observed that the main reaction to Abi’s video was to skip the Story, although a percentage of women clicked through to the influencer’s profile. The emotion aroused in the subjects was negative in men (associated to boredom) but positive in women, who described her as a source of amusement (66.67%) and surprise (11.11%), although also peculiarity (11.11%). The factors that most stood out about Abi’s Story were the product (50% of men, 22.22% of women) and how she communicated (half of men and 66.67% of women). Regarding the influence described by subjects regarding Abi’s Story, it was modest, except for 12.5% of women who considered it average. This limited influence diverges from the 25% of women who would have purchased the product.

Regarding influencer Alberto, we observed no remarkable differences in the years of Instagram use between men and women. He was recognised by men, although they do not follow him on Instagram. Women spent more time on Instagram, and the perception of the control influencers had was average. The sample’s reaction to Alberto’s Story for both genders was to skip it or leave it, except for a small percentage of men who would have swiped up to see more content about the product. The emotion and attention aroused in the subjects, for both men and women, reflected positive and negative feelings. Men were split 50/50 between amusement and indifference, while women, despite the prevalence of boredom (44.44%), also thought of friendliness or amusement, without forgetting about indifference. What stood out the most to both genders were Alberto’s communication style and (in the case of women) his character...
and the product. Alberto’s range of influence over subjects was low for both genders, although half of the men and 25% of the women stated that they would have perhaps consumed the promoted product. Based on the results, we confirm that the most-viewed marketing campaigns on Instagram are Stories, that the influence of advisers on the consumer is limited and that the degree of influence generated over followers is proportional to the activation of emotion and attention. Therefore, H3 (The influence of advisers on the consumer is limited) was confirmed.

4. Discussion and conclusions

The research reflects the relevance for businesses to analyse attention and emotion in the use of marketing campaigns on social media, Instagram in this case. We confirm that the most-viewed elements on Instagram are Stories, in line with Brandmanic (2018). The most followed content is created by friends or about humour, music or fashion. The sample confirms that an “influencer” is a celebrity or a content creator, in contrast with what Campillo (2016) states, and the influence of advisers over platform users is considered limited.

Regarding the levels of emotion and attention activation, they are different according to the influencer’s range of influence. The more influence generated over the individual, the greater emotion and attention activation observed. However, the lower the influence, less emotion and attention activation. This confirms the influencer marketing strategy (Augure, 2018; Alonso et al., 2018; Santamaría-de-la-Piedra & Meana, 2018), its impact in terms of advertising (Fondevila-Gascón et al., 2015; Tapià-Grade & Martín-Guerra, 2017), and sector (Jaromír et al., 2017), and the effectiveness of EDA (Aiger et al., 2013) as measurement technology.

So, we observed activation differences according to the influencer. Attentional activation was higher in influencer Aroa (low level) and emotional activation, in influencer Alberto (high level). We observed differences according to the subject’s gender. Men revealed greater emotion and attention activation, especially regarding attention, with all the circumspection of an extendable sample of individuals and a scalable experiment.

We detected differences according to influencer and the subject’s gender. So, arranged from lesser to greater emotional activation registered, influencer Aroa did not manage to generate emotion in the subject, although she did attract the attention of both genders. This activation became negative emotions, dismissal of the Story, lack of interest in the act of purchasing the product or, in men, viewing more of her content. Nevertheless, a small percentage of women sympathised with the content. Influencer Diego did not manage to arouse emotion, and only a higher level of attention in men. Women interacted with his Story and spoke more positively about it. No purchases or interest in his content were achieved from either gender. Influencer Abi raised strong emotions in men and less in women, and he/she did not manage to attract the subject’s attention. Women showed more interest in her, expressed positive emotions and made the purchase. In men, although activation was greater, it did not convert into a purchase. Influencer Alberto generated emotion in both genders and attention only in men. Activation translated into positive emotions and produced a likely potential purchase in both genders. Therefore, we observed fluctuating ranges of attention and emotion.

The application of the registration with Sociograph to describe the nature of emotion and attention activation (EDA) in Instagram Stories presented various research limitations. Thus, the sample was limited, and male participation could be improved. Likewise, the number of influencers could also be optimised. Other variables could be taken into account, such as sound effects, clothing or visual effects in the influencers’ videos, factors that can affect emotion and attention and which have been standardised for this study. Therefore, delving into the videos’ visual standards and obtaining a larger and more varied sample of influencers are guidelines to follow in future studies.

In this sense, the influence and emotional load generated by social media content on the population suggests different types of research: sectoral, according to type of campaign, on different social media (even comparing them synchronously), on different media outlets, such as interactive HbbTV (Fondevila-Gascón et al., 2015), at different ages and different moments of the customer’s journey. The use of other tools associated to neuromarketing (EEG or Eye tracker) can help to define the source of emotion and
attention, fundamental for future decisions that actors can take within the field of advertising, especially interactively (HbbTV), where the emotion-attention pairing is triggered by the dialogue between the audience and brands. Establishing categories and types of emotional and attentional impact through ads is both a stimulating and monetizable challenge for companies.

**Funding Agency**
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Victims and perpetrators of feminicide in the language of the Mexican written press

Víctimas y victimarios de feminicidio en el lenguaje de la prensa escrita mexicana

ABSTRACT
This study investigates the language used by national newspapers in Mexico: “El Universal”, “La Jornada”, “Milenio”, and “Reforma”, when addressing the issue of feminicide regarding victims and perpetrators, as well as their relationship with the gender of the reporter and with each newspaper. The research is based on the analysis of qualitative content and the theoretical framework of framing. Categories were built on the type of language in cases of feminicide of 360 journalistic texts published during 2017: 1) Narrative of feminicide; 2) Justification of the perpetrator or alleged perpetrator; 3) Social issues; 4) Blaming the victim. The analysis yielded cases of victim blaming to a lesser extent than those of the perpetrator’s justification. Aspects of the narration of feminicide stood out both by the gender of the reporter and by the media in the four newspapers, from two perspectives: 1) The fact, the follow-up, or the context; 2) The fact, legal aspects, and statistics. Reporters, men and women, tend to justify the perpetrator; male reporters blame the victim more than female reporters; and female reporters contextualize feminicide through social issues: social violence, impunity, and failures in legal processes. “La Jornada” is inclined towards social issues, while “El Universal” tends to justify the perpetrator.

RESUMEN
En este estudio se investiga el lenguaje que utilizan los periódicos de tirada nacional en México: «El Universal», «La Jornada», «Milenio» y «Reforma», al momento de abordar el tema del feminicidio con respecto a víctimas y victimarios o presuntos victimarios, así como su relación con el género del reportero y con cada periódico. La investigación se apoya en el análisis de contenido cualitativo, y el marco teórico-conceptual del «framing». Se construyeron categorías sobre el tipo de lenguaje en casos de feminicidios de 360 textos periodísticos publicados durante 2017: 1) Narrativa del feminicidio; 2) Justificación del victimario o presunto victimario; 3) Problemática social; 4) Culpabilización de la víctima. El análisis arrojó casos de culpabilización de la víctima en menor proporción que los de la justificación del victimario. Sobresalieron aspectos de la narración del feminicidio tanto por el género del reportero como por el medio en los cuatro periódicos, desde dos perspectivas: 1) El hecho, el seguimiento o el contexto; 2) El hecho, los aspectos legales y la estadística. Reportero y reportera tienden a justificar al victimario; el reportero culpabiliza más a la víctima que la reportera; y la reportera contextualiza más el feminicidio a través de la problemática social: violencia social, impunidad y fallos en los procesos legales. «La Jornada» se inclina por la problemática social, mientras que «El Universal» tiende a la justificación del victimario.

KEYWORDS | PALABRAS CLAVE
Violence, woman, victim, perpetrator, feminicide, qualitative research, framing theory, digital press.
Violencia, mujer, víctima, victimario, feminicidio, investigación cualitativa, teoría del encuadre, prensa digital.

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1. Introduction

In 2007 in Mexico, the General Law on Women’s Right to a Life Free of Violence (LGAMVLV) was published, a legal strategy with which the State sought to address femicide. Ten years later, in 2017, the statistics showed an increase in crime against women at the hands of men for gender-related reasons with 671 cases, while in 2015 and 2016, 389 and 588 were counted respectively (SESNSP, 2018).

Research on feminicide in Mexico is based on two contexts: how feminism confronts patriarchy through the identification of gender violence (Amorós, 1992; Lagarde, 1990), and the paradigmatic case of Ciudad Juárez, Chihuahua, Mexico: during 1993, 12 women were killed and thrown in different parts of the city as if they were garbage (Gallur, 2014; Wright, 2011). In both situations, it is possible to identify that the victim is waste in this process, the disposable piece, and those who dominate the scene are men (Segato, 2013).

Feminicide involves the murder of a woman at the hands of a man because she is a woman (Caputi & Russell, 1990) and it represents the end of a continuum of anti-female terror that includes a wide variety of verbal and physical abuse (Radford & Russell, 1992; Monárrez, 2010). From a legal perspective, feminicide is defined as an extreme form of gender violence against women that occurs as a result of the violation of their human rights, and which happens in public and private spheres (LGAMVLV, 2007). The law in Mexico focuses more on strategies of persecution and punishment of those responsible for the acts of violence against women, than on demanding the elimination of messages that blame or stigmatize the victim from the media (Rodríguez, 2010).

Several factors converge in violence against women: misogyny, sadistic sexuality, and the social construction of masculinity (Caputi, 1987; Vallejo, 2002) which are ratified in court trials and represented in the media (Radford, 2006). There is a hierarchical language and a pyramidal organization (Segato, 2013) which reflects attitudes and values congruent with an androcentric discourse, which represents the domain and consolidation of the webs of power to maintain social control (Foucault, 1999).

The media play a fundamental role as strategists of change towards a society without gender discrimination. The reasons of a subjective nature, for which the murders are carried out, are explained by the perpetrator or by witnesses who knew the victim and talked to the press; the dead woman cannot defend herself or give her version of the facts (Monárrez, 2010). This content is not presented as a social problem of interest to the public, instead, only information on individual cases prevails (Rodríguez, 2008).

Commonly, such violence is attributed to individual dysfunction, to a drunk and angry attacker, to the volatile nature of love, to the alcoholic or the drug addict (Lagos, 2008), or to the creation of a tragic cultural hero. Many feminicide-suicides are explained as ambiguous homicide-suicides or as mysteries, not as domestic or gender-based violence (Richards, Gillespie, & Smith, 2014). Factors such as poverty, irrationality, and passivity are mentioned in relation to the victims of feminicide: in a patriarchal world they are defined as equivocal, bad women, sick, disabled, rare, failed, and crazy (Lagarde, 1990). An image is created between what a good woman and a bad one are, which is mediated by prejudices and assessments (Alcocer, 2014; Lagos, 2008).

In addition, for Shoemaker and Reese (1996) the article’s presentation is conditioned by the journalist’s gender, the writing is permeated by the gender, ethnicity, education and sexual orientation of the writer (Berkowitz & Liu, 2014). It is notorious that in a staff of reporters there are more men than women, and the articles on feminicide are informed predominantly by male reporters (Danés, 2017; Niemi & Pitkanen, 2016). In addition to this, Point J of the Beijing Platform highlights the neglect of the issue of gender by the persisting stereotypes in the media (UN, 1995).

In this case, framing (Benton & Frazier, 1976; Guo, Tien, & McCombs, 2012; Miranda & Iglesias, 2015) as a theoretical approach is used to propose the study of language in the news reports and the context of the news. The frames are interpreted as macro-attributes that allow defining a problem of the event and interpreting its causes (McCombs, 2004; Scheufele & Tewksbury, 2007). The definitions of a situation are constructed by organizational principles that govern social events and our involvement in them (Ardèvol-Abreu, 2015).

On framing and gender violence, Meyers (1994) research findings showed that the victim was blamed directly with an adverse profile: failure to report previous assaults, infidelity, or inappropriate behaviour.
with men; also, as indirect blame: by highlighting positive attributes of the aggressor. Bullock and Cubbert (2002) investigated that reporters portrayed the perpetrators as a different kind of people: violence only happens to certain people who are part of other cultures and of a lower social class; there was drug and alcohol use before the act of violence; the perpetrators were excused as self-defending. Gillespie et al. (2013) identified that the reporting focuses more on the criminal past than on the present feminicide case. While Fagoaga (1994) argues that gender violence is classified as a crime of passion, in doing so, it becomes a stereotyped causal relationship. The news reports focus on the perpetrator due to mental or physical illness (Taylor, 2009).

In this study, we analyse how journalistic texts address language on the issue of feminicide about victims and perpetrators or alleged perpetrators, in particular, we investigate: 1) What language journalists use to refer to victims and perpetrators; 2) The gender of the journalist and how it relates to the type of language used; and, 3) How these newspapers report the victims and the perpetrators of a feminicide.

2. Data and methodology

The universe studied includes all news reports related to feminicide and gender violence published in 2017. “La Jornada” published 348 notes (20.7%), “El Universal” 549 (32.7%), “Milenio”, 525 (31.3%), and “Reforma”, 257 (15.3%). There were about 1,679 texts (100%) (Table 1). These are national circulation newspapers and have the qualities of elite newspapers (Merrill, 1968). They represent an ideological plurality: “La Jornada”, the left; “El Universal”, centre; “Reforma”, the right (Rodelo & Muriz, 2016; Durán, 2009) and; “Milenio”, moderate left centre (Nájera, 2007). In relation to daily print run: “Reforma”, prints 1,388,875; “El Universal”, 119,429; “La Jornada”, 131,355, and; “Milenio”, 99,827 (PNMI, 2019).

Content analysis was used (Krippendorff, 2004; Riffe, Lacy, & Frederick, 2005; Wimmer & Dominick, 2011) through an inductive approach, a priori, to construct analysis categories with information from the news reports and research questions. Content analysis is a study and analytical method of communication: it is systematic, objective, and quantitative, and measures certain variables (Wimmer & Dominick, 2011); it is also used to analyse information from a qualitative approach (Krippendorff, 2006).

The unit of analysis of the study was defined as news reports which mention victims and perpetrators or alleged perpetrators of feminicides. In the beginning, a census of all the news reports relating to feminicide and gender violence was carried out. From there, the texts that focused on victims and perpetrators were selected (Table 1). A census should include all groups, classes of subjects or objects, concepts, or phenomena of a universe or population (Wimmer & Dominick, 2011).

In this case, the information of all the texts which met the criteria of the universe was collected; however, only those which met the criteria were analysed, 360, of which 52 (14.4%) were articles from “La Jornada”, 134 (37.12%) from “El Universal”, 110 (31.02%) from “Milenio” and 64 (17.46%) from “Reforma”. Approximately, 742 information pages in total. In the cases of “Milenio” and “La Jornada”, the news reports were selected from their respective websites; those from “El Universal” and “Reforma” were gathered via “ProQuest”, which was accessed through Tecnológico de Monterrey’s digital library.

The advanced search tool from “Reforma” was used with the search prompts: Publication Identification (PUBID) (32,652) AND (Woman OR girl OR young) AND (murdered OR homicide OR dead OR feminicide OR crime). In the case of “El Universal”, the search was: PUBID (47,134) AND (Woman OR girl OR young) AND (murdered OR homicide OR dead OR feminicide OR crime); the search covered 2017 in general and by months. To access “La Jornada”, a link that was in the newspaper website was used, which in turn took you to the Google Search engine through the website of the National Autonomous University of Mexico (UNAM) (https://bit.ly/2r16GoB). The criteria adopted were: (Jan. 2017) AND (Woman OR girl OR Young) AND (murdered OR homicide OR dead OR feminicide OR crime).

With respect to “Milenio”, the search was done directly on its website (https://bit.ly/32Vg8al), and (January 2017 Feminicide) was the search prompt. Searches were carried out each month with different words. As can be seen, three different search methods were applied, the newspapers were not accessible through the same platform, and “Reforma” and “El Universal” are subscription-based. On the other hand, not every news report from the required dates was available from “La Jornada” and “Milenio”.
via “ProQuest”. The greatest difficulty was with “La Jornada” because its digitalization process began after mid-2017; the files accessible via its platform were the printed version, without the capacity to search the text. All the information collected was analysed with the Nvivo 12 software.

<table>
<thead>
<tr>
<th>Table 1. Breakdown of texts by topic and newspaper</th>
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<tbody>
<tr>
<td>Theme</td>
</tr>
<tr>
<td>-------</td>
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<tr>
<td>Feminicide and gender violence</td>
</tr>
<tr>
<td>Victims and perpetrators of feminicide</td>
</tr>
</tbody>
</table>

3. Results

3.1. Journalistic language and texts

Categories were developed after reading news articles with the research topic in mind, regarding the way in which victims and perpetrators are presented in the Mexican written press in feminicide reporting. From the analysis of the journalistic texts, four categories emerged: narrative of feminicide (48%), justifying the perpetrator or alleged perpetrator (33%), social issues (16%) and blaming the victim (3%), which are made up of a series of subcategories (Figure 1).

Figure 1. Categories and subcategories on the language of the Mexican press on feminicide

3.1.1. Narrative of feminicide

1) The fact: The murder of a woman at the hands of a man and/ or its follow-up. In this sense, some articles only mention the facts or part of the judicial process. “Her relatives found Carmen’s lifeless body inside her bedroom at Juárez Pantitlán District, with strangulation marks. The body was lying on the bed covered with blankets, as if she were asleep, and her husband, the presumed culprit, had already escaped” (“Reforma”, December 26th, 2017).

2) The fact and/ or the follow-up contain elements such as statistics, other cases, laws, sanctions or penalties. The articles include legal language which mention the punishment for committing feminicide, the legal process, and what the law states about it. “Mexico City’s Superior Court of Justice informed that the sentenced person must pay 365,200 pesos for damages and 4,382 pesos for funeral expenses”
(“Milenio”, April 27th, 2017). Feminicide statistics that put in context the situation of the municipality where the crime was committed are mentioned, or those where there is a recount of all the recent cases, this is done to present the problem as more complex than just an isolated event. “The woman showed marks of violence, and according to the first testimonies, the attacker was her romantic partner, who fled the house. Griselda was last seen on Sunday, April 30th, at her home... According to civil society organizations, 42 feminicides have been registered in the Oaxaca entity so far this year” (“El Universal”, May 07th, 2017).

3.1.2. Justification of the perpetrator

It is acknowledged that the man is responsible for the murder of a woman. However, indirectly, the woman is also to blame. This happens when the articles highlight positive aspects of the perpetrator, which put his responsibility into question.

Some of the features that stand out are a justification because of an argument, quarrel or fight; these are followed by reporting drug use, alcohol abuse, and mental disease. “The Attorney General Office suspects Jorge Luis, and still does not rule out feminicide. All because, while drunk, the 29-year-old man admitted that he had drunk alcohol and taken drugs near the School of Chemistry and that they had had an argument. He added that the victim was called Lesby, 22 years old, with whom he had lived for four months” (“Reforma”, May 05th, 2017).

Anger, rage, love, and jealousy are recurring themes for justifying the perpetrator. “He killed her out of jealousy... Anayetzin Damaris was just over two months pregnant, and although there was a history of violence between them, they allowed her to approach him one last time to give him the news” (“El Universal”, November 17th, 2017).

In this category, other characteristics about the person who commits the crime are shown: he murdered a woman because he had economic problems and had no other alternative. Here the perpetrator is given a positive image, and he is described as a normal person on account of his behavior with other people besides the victim.

In addition, there is the man who after killing a woman tries to take his life; he is presented as a kind of suicidal, or failed suicidal, hero. “According to the Port’s Municipal Police, the woman’s neighbours reported violent acts in one of the houses and when the agents arrived, they noticed the crime. The husband had a knife and had tried to commit suicide by self-inflicting two wounds on his neck” (“El Universal”, November 1st, 2017).

On the other hand, in the news reports the perpetrator is mentioned as a man of merit for finally surrendering to justice, after first fleeing. “When I saw what I had done, I felt terrible; I went to my dad and explained to him what had happened. I could not take it anymore and turned myself in to the police” (“El Universal”, October 30th, 2017).

Some perpetrators are shown as a figure of normality, likeable and successful, someone who would be incapable of committing such a crime. “The Investigative Police in Mexico City seeks Mario Sáenz for his alleged responsibility in the murder of his girlfriend, Victoria Pamela Salas Martínez... considered by media outlets that have interviewed him as the best ‘skater’ in the capital” (“Milenio”, October 18th, 2017).

3.1.3. Social issues

Concerning the category of social issues, the crimes against women are justified as part of a more general social violence, even though they may know who is responsible or they may even have him in custody, it is contextualized in an atmosphere of widespread violence, under the permissiveness and normalization by the authorities and other institutions.

The articles focus on the failures to provide security for the population and the ones of legal processes; the let-downs relating to violence in general, drug-dealing or women-trafficking, as well as by widespread impunity. To a lesser extent, there is a mention of gender roles and the incursion of women into spaces that are culturally perceived exclusively for males. There is criticism of the authorities and the way they acted is put into question.
Activist groups, specialists, experts, family members and acquaintances of the victims present most of the demands. “Criminal experts and lawyers specialized in gender violence ruled out that Lesvy’s death, in a telephone booth in University City Campus on May 3rd, was a suicide, as stated by the Attorney General Office. The National Citizen Observatory [a Mexican civil organization] released a video yesterday in which it is shown that the conclusion of the expert opinions of the PGJ [Attorney General Office] does not coincide with the position in which the 22-year-old was found” (“Reforma”, August 4th, 2017).

Feminicide is considered as collateral damage of organized crime, in all its forms, thus the perpetrator disappears in the background, and the violent atmosphere becomes both the protagonist and the one responsible. “Mother and daughter were shot dead at their home in Ciudad Juárez, Chihuahua, after raising a family brawl early yesterday... He explained that this wave of violence suffered by the city from March of 2016 to date, with the increase in homicides in the style of organized crime, from October last to March this year, add up to 800 dead” (“La Jornada”, March 3rd, 2017).

The lack of haste in investigations is seen as a reflection of frequent impunity. It is referred to as part of the social fatigue generated by the role played by the authorities. “Relatives and colleagues of Verónica Guadalupe Benítez Vega... demanded the Attorney General of the State of Mexico (FGJEM) to solve this feminicide, and not give ‘carte blanche’ to impunity” (“La Jornada”, October 31st, 2017).

When victims are women in politics with greater relevance and presence than their husbands, or when they have a higher position than their co-worker romantic partner or in a lesser physical condition, then there are remarks of the activation of patriarchal mechanisms that lead to crime against some women. “The anger of some men at the professional and economic success of their [romantic] partners is reflected not only in that they are jealous because of the achievements of the women they live with, but with outbursts discrediting them. Besides the complaint that ‘they do not tend to their man’, tension arose that, in this case, seems to have turned into rage, said the Professor in Sociology” (“El Universal”, November 07th, 2017).

### 3.1.4. Blaming the victim

The woman is responsible for her death. In this case, it is recognized that the man was the one who murdered her; however, mitigating circumstances are mentioned. She was unfaithful, had a bad temper, was under the influence of alcohol or drugs, or she deserved it for working in a bad place.

Although this trend shows a lower percentage, the topics of violence, addiction, possessiveness, alcoholism, dependence, or introversion are aspects that are singled out. “As stated in the criminal court, for two years the two teachers had a relationship, but the man: ‘wanted to get rid of her because she was very possessive of him’. He wanted to leave her because he wanted to get married and have a family, but she would not allow it” (“El Universal”, July 2nd, 2017).

The crime against women for being unfaithful stands out in the category of blame. “Gilberto Morales Montemayor murdered his wife and threw the body into a ravine in Montemorelos, and indicated that he suspected she had been unfaithful” (“Milenio”, December 21st, 2017).

### 3.2. Reporter’s gender and its connection to the language they use

After identifying the way in which the articles address feminicide in relation to the language they use about victims and perpetrators or alleged perpetrators, the connection between the language used in the written press and the gender of the Journalist is also presented, as shown in Table 2.

In this breakdown it can be seen how the narration of the fact is focused on both male (14%) and female reporters (14%) and the news reports without the author’s name given (18.5%), that is, 46.5% of 48%. Female reporters (7%) and male reporters (6%), as well as the media (3%), provide 16% of the content on this category.
In the reporting where the victim is blamed, male reporters (1.5%) and the media (1%) have a higher percentage than female reporters (0.5%); the victim is judged, and negative aspects about her are mentioned; she is re-victimized because she was possessive, addicted, unfaithful, or an alcoholic. This category covers 3% in the news reports.

### 3.3. Way in which newspapers report victims and perpetrators

From the connection of the four newspapers with the four categories, it follows that the total of the news reports (172) represent 47% and mentions (182) 40% which fall in the category of narrative of feminicide. The newspapers with the highest density in the census are “El Universal” (134 news reports, 37%) and “Milenio” (110 news reports, 30.5%); in the category of the narrative of feminicide, “El Universal” (60 news reports) and “Milenio” (50) also present more than “La Jornada” (27) and “Reforma” (34). In general, the four newspapers present a larger tendency in this last category if compared to the other three (Table 3).

### Table 2. Breakdown of the type of language according to the gender of the writer

<table>
<thead>
<tr>
<th>Categories</th>
<th>Female Reporter</th>
<th>Male Reporter</th>
<th>Outlet/Agency</th>
<th>Female &amp; Male Reporters</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>News reports</td>
<td>Mentions</td>
<td>News reports</td>
<td>Mentions</td>
<td></td>
</tr>
<tr>
<td>Social issues</td>
<td>25</td>
<td>39</td>
<td>21</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td></td>
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<td>6%</td>
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<td>3%</td>
</tr>
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<td></td>
<td>43%</td>
<td>44.5%</td>
<td>36%</td>
<td>35.5%</td>
<td>21%</td>
</tr>
<tr>
<td>Narrative of feminicide</td>
<td>50</td>
<td>54</td>
<td>50</td>
<td>56</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>14%</td>
<td>12%</td>
<td>14%</td>
<td>12.5%</td>
<td>18.5%</td>
</tr>
<tr>
<td></td>
<td>29%</td>
<td>30%</td>
<td>29%</td>
<td>30.5%</td>
<td>39%</td>
</tr>
<tr>
<td>Justification of the perpetrator</td>
<td>28</td>
<td>37</td>
<td>44</td>
<td>66</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>8%</td>
<td>12%</td>
<td>14.5%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>24%</td>
<td>23%</td>
<td>37%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td>Blaming the victim</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>0.5%</td>
<td>0.5%</td>
<td>1.5%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>6%</td>
<td>50%</td>
<td>53%</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>24%</td>
<td>23%</td>
<td>37%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>131</td>
<td>121</td>
<td>162</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>29%</td>
<td>29%</td>
<td>34%</td>
<td>36%</td>
<td>36%</td>
</tr>
</tbody>
</table>

In the category justification of the perpetrator, regarding the news reports, “El Universal” (14%) and “Milenio” (11%) are above “La Jornada” (2%). “Reforma” has 7% of the total 34% total. In this category, in the relation of both news reports (118) and mentions (163) in “El Universal” the number is higher (48 and 79, respectively), which means that more mitigating factors which benefit the victimizer are mentioned, such as the quarrels, arguments, fights, and jealousy. In the category of social problems (58 news reports) which is connected to the context of violence, insecurity, short comings in the justice system and impunity, “La Jornada” (21 news reports) has a higher incidence and criticism prevails regarding these issues, while opposed to this, “Reforma” (4) has very few news in this category. Finally, on the category of blaming

### Table 3. Breakdown of the type of language in the texts according to the newspapers

<table>
<thead>
<tr>
<th>Categories</th>
<th>“La Jornada”</th>
<th>“El Universal”</th>
<th>“Milenio”</th>
<th>“Reforma”</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>News reports</td>
<td>Mentions</td>
<td>News reports</td>
<td>Mentions</td>
<td>News reports</td>
</tr>
<tr>
<td>Social issues</td>
<td>21</td>
<td>30</td>
<td>17</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>5.5%</td>
<td>6.5%</td>
<td>5%</td>
<td>5%</td>
<td>4.5%</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>34%</td>
<td>29%</td>
<td>34%</td>
<td>28%</td>
</tr>
<tr>
<td>Narrative of feminicide</td>
<td>27</td>
<td>30</td>
<td>60</td>
<td>65</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>7%</td>
<td>6%</td>
<td>16.5%</td>
<td>14.5%</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>16%</td>
<td>16%</td>
<td>35%</td>
<td>36%</td>
<td>30%</td>
</tr>
<tr>
<td>Justification of the perpetrator</td>
<td>6</td>
<td>6</td>
<td>48</td>
<td>79</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>1%</td>
<td>14%</td>
<td>18%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>4%</td>
<td>41%</td>
<td>48%</td>
<td>33%</td>
</tr>
<tr>
<td>Blaming the victim</td>
<td>17</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
<td>75%</td>
<td>82%</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>65</td>
<td>134</td>
<td>188</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>14.5%</td>
<td>14.5%</td>
<td>37%</td>
<td>42%</td>
<td>30.5%</td>
</tr>
</tbody>
</table>
the victim, the condemnatory effect on women despite being the victim, 9 texts out of 12 appeared in “El Universal”.

4. Discussion and conclusions

The language of the texts provided several categories that open the range of characteristics within the news reports. Not only were previously explored facets identified, such as blaming the victim, justifying the perpetrator, or how the crimes against women were approached (Bullock & Cubbert, 2002; Danés, 2017; Gillespie et al., 2011; Gillespie et al., 2013; Meyers, 1994; Richards et al., 2014; Taylor, 2009), but others were also identified as narratives of the facts. The reason why narratives of the facts could be connected to the newspaper’s profile, all of which are of national circulation and considered elite news outlets. It could also be because the articles are published in sections such as “States”, “City” or “Metropolis”, which takes them away from the crime section, and of being considered “nota roja” [sensationalist crime news], presenting them as a social interest issue, which is part of what the gender perspective handbooks recommend. In this paper, we find the dichotomous aspects of the language Meyers (1994) mentions: blaming the victim and justifying the perpetrator, however, the ratio of blame is 3%, and the justification of the perpetrator is 34%, a figure that coincides with reports from other works (Danés, 2017). This caught our attention. It could be said that the media avoid re-victimization directly when dealing with the victim; nevertheless, they do it indirectly through justifying the perpetrator, which could be because the primary sources are official.

On the category of the journalist’s gender, the literature indicates that the male figure prevails (Danés, 2017; Niemi & Pitkanen, 2016). Male and female reporters write information according to different contexts (Berkowitz & Liu, 2014; Shoemaker & Reese, 1996). In this case, there is no gender difference of the reporter between the categories with the highest tendency, but there is when writing about the social issue’s category. Female reporters have more impact, which could suggest are more critical about security issues and the judicial system, and could be identified with a feminist trend; however, for the media workers, the recommendation of the Beijing Platform (UN, 1995) prevails, which indicates the importance of educating students with a gender perspective, with critical judgment and analytical ability, to produce better journalists.

In the analysis of the language used in the news reports, and the identified categories, it was found that 1) all newspapers have a high percentage of the category related to narratives of the facts; 2) “Milenio”, “El Universal”, and “Reforma” tend to justify the offender; 3) “La Jornada” focuses on social issues, the newspaper that does this the least is “Reforma”; while “Milenio” and “El Universal” present relatively similar numbers in so far as to that category. This suggests that newspapers reporting is connected to their ideological spectrum, especially in social issues; however, for this study, that was a limitation because the research does not get into this aspect. On blaming the victim and justifying the perpetrator the findings of this study are similar to those of Danés (2017), but different from the works of Alcocer (2014) and Lagos (2008), because the adjectives used by the newspapers when blaming the victim are few, but there are many of the perpetrators pointed out in most of the investigations.

In summary, the language of the texts about victims and perpetrators could be changing because 1) the profile of the newspapers could be contributing to the conformation of another set of attributes which do not present an emphasis on other studies; 2) to some extent there is a self-censorship by the media to omit certain language which blames the victims directly; 3) the work that is constantly carried out by the current of feminism and that is iterative helps to diminish the effect of blaming the victim directly; 4) part of justifying the perpetrators could come from official voices, mainly done through press releases; and 5) of the constant mention of international laws or regulations to counteract the negative effect of media coverage on the re-victimization of women. There are no clues regarding the causes why male and female reporters act in a certain way at the time of writing the information. That leaves the interview of those who write these news reports pending in order to know the aspects that they consider when addressing these issues. It would also be interesting to know how audiences receive this information and how they interpret and use it to refer to the issue of feminicide and victims and perpetrators, and thus be able to know how much the journalistic text is connected to the information that readers receive.
Funding Agency
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References

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SEO and the digital news media: From the workplace to the classroom

SEO y cibermedios: De la empresa a las aulas

ABSTRACT
The constant struggle to attract new readers has led the digital news media to adopt search engine positioning strategies within their newsrooms. Given that readers are increasingly opting to consume their news via search engines, such as Google or Bing, this study explores perceptions and applications of search engine optimization (SEO) in the online news media and identifies the future training needs of journalists in this sector. To do so, 33 semi-structured interviews were conducted with individuals representative of three professional profiles: professional journalists, SEO consultants, and academics. Based on the data collected, we created five semantic categories – with 25 subcategories – and we correlated the perceptions of the SEO experts employed by the news media with those of the academics. The results highlight varying degrees of convergence and divergence in perceptions across these three professional profiles. Similarly, the results confirm the sector’s pressing need to attract readers by implementing search engine positioning techniques and, hence, its need to ensure future journalists are well trained in technical SEO, on-page SEO, off-page SEO, in the use of SEO analytics and audit tools, and in the ability to identify search trends so that they have the necessary skills to win the struggle for more readers.

RESUMEN
La lucha de los cibermedios para atraer nuevos lectores ha motivado el uso de estrategias de posicionamiento en buscadores en el seno de las redacciones periodísticas. Dado el consumo, cada vez más frecuente, de noticias a través de buscadores como Google o Bing, este trabajo explora la percepción y la aplicación de la optimización en buscadores (SEO) en los medios de comunicación online y determina las diferentes necesidades formativas de los futuros periodistas que quieran trabajar en este campo. Para ello, se realizaron 33 entrevistas semi-estructuradas a personas que representan tres perfiles profesionales diferentes: periodistas profesionales, consultores de SEO y profesores universitarios. A través de los datos recogidos, creamos cinco categorías semiácticas con 25 subcategorías y correlacionamos las percepciones de los expertos en SEO que trabajan en empresas periodísticas con las percepciones de los profesores en el contexto académico. Los resultados confirman los diferentes grados de convergencia y divergencia entre estos tres perfiles profesionales. Asimismo, se reafirma la creciente necesidad de atraer lectores a través de técnicas de posicionamiento en buscadores, por lo que señalamos la necesidad de formar a los futuros periodistas en SEO técnico; en SEO On Page; en SEO Off Page; en herramienta analítica; en auditoría SEO; y en la capacidad de identificar tendencias de búsqueda para que estén cualificados con las competencias necesarias para afrontar la lucha por los públicos.

KEYWORDS | PALABRAS CLAVE
Digital news media, search engine optimization, online journalism, web visibility, journalism training, University, SEO training, Google.
Medios digitales, posicionamiento en buscadores, periodismo online, visibilidad web, formación periodística, Universidad, formación SEO, Google.
1. Introduction

The need for journalism to adapt to the Internet has led to a series of changes in journalistic routines (Cebrián-Herreros, 2009; López-García, 2015; García-Avilés et al., 2018; Caminero & Sánchez-García, 2018), related, mainly, to new modes for disseminating news via digital platforms and, more specifically, for disseminating news via search engines (Smyrnaios & Rebillard, 2009).

The development of search engines, such as Google and Bing, helps users select the most relevant content in response to their searches (Machill et al., 2008; Richmond, 2008), which, together with the increase in competitiveness for information, accounts for the fact that the digital news media are becoming increasingly dependent on search engine optimization (SEO).

SEO, the set of techniques that ensures web content has the greatest chances of appearing at the top of the rankings of Google, Bing, etc. (Davis, 2006; Enge et al., 2012; Orduna-Malea & Alonso-Arroyo, 2017), is a means of attracting the greatest number of readers (Iglesias-García & Codina, 2016). Maximizing web visibility in this way means search engine positioning strategies need to be employed in the routines of the digital news media (Maciá-Domene, 2011; Giomelakis & Veglis, 2015a; Google, 2012; 2019a; 2019b; Harry, 2018). In this emerging scenario, traditional journalism is having to face a number of major challenges including the increase in online news, which has triggered the growing dependence of news editors on search engines (Smyrnaios, 2015; Arias-Robles, 2016), and the developing ‘social role’ of journalists coinciding with the adoption of SEO techniques (Carlson, 2007; Ellcensor, 2012; Gonzalo-Penela et al., 2015), developments that require the attention of scholars.

Studies examining the relationship between SEO and the news media confirm that much can still be done to improve the convergence between journalistic routines and those of SEO (Giomelakis & Veglis, 2015b; Codina et al., 2016; Charlton, 2016; Lopezosa & Codina, 2018). And while some recognize that it has become increasingly common to find SEO experts in newsrooms, the need to seek optimal convergence between the best journalism and the best SEO practices continues to be pressing (Dick, 2011; Smyrnaios & Sire, 2014).

Despite this research, the use made today of SEO in the digital news media remains largely unknown. To further our understanding, the main characteristics of the search engine positioning strategies employed by newsrooms need to be described and, simultaneously, any shortcomings, limitations and needs can be identified so that a diagnosis be made of just how the journalism sector can best address the positioning of its content. Ultimately, obtaining this information should enable us to propose changes in Spain’s university curricula that can ensure better training for the sector’s future professionals.

In short, the overall aim of this study is to examine the role played by SEO in journalism and to identify the corresponding training needs of students of journalism to guarantee they are able to implement SEO strategies in the newsroom. To do this, we conduct a series of semi-structured interviews, a methodology that, to date, has yet to be applied to the study of search engine positioning in relation to university education. Specifically, we set ourselves the following specific goals:

1) To explore what SEO experts employed by the news media, consulting firms and universities think about the role played by search engine optimization as applied to the cyber media in promoting the success of digital journalism.

2) To determine whether there is a consensus among these groups of professionals about the different elements of SEO being applied to the news media.

3) To make recommendations in terms of the competencies and skills that should be part of SEO training for journalism students.

2. Material and methods

In carrying out this study, we conducted 33 semi-structured interviews (Coller, 2000; Valles, 2002; Alves & Díaz-Noci, 2019) during 2018 and 2019 with SEO professionals working in the digital news media, with SEO consultants and with teachers providing university training in SEO.

Initially, desired informants were selected on the basis of a prior design that included all three professional categories described above (see below for specific details). Next, we employed one of the most frequently recommended procedures in such cases, the application of so-called critical criteria (Valles,
2002), whereby we identified which professionals had access to the most relevant information, were most socially and physically accessible, were most willing to participate, and best able to communicate their responses with the necessary precision. After sending out invitations to SEO experts identified in this way, we were able to conduct a total of 33 interviews.

A list of the 33 interviewees can be consulted at http://bit.ly/2OdmZYJ, where the subjects are classified according to whether they are journalists/professionals with responsibility for SEO in the digital news media, SEO experts in the field of consulting, or university professors that teach SEO. The table also includes information about the specific digital news platform, firm or university in which they work.

Interview responses were recorded either by email or by digital sound recording and subsequently transcribed. The results were then analyzed both manually and using the qualitative research tool NVivo. The latter enabled us to identify semantic networks from which we created categories and subcategories.

Table 1 shows the specific functions of the experts selected for interview in each of the three groups of professionals, according to the criteria discussed above (Valles, 2002).

<table>
<thead>
<tr>
<th>Table 1. Professional profiles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEO managers in the digital news media</strong></td>
</tr>
<tr>
<td>Journalist for digital news platform of international importance</td>
</tr>
<tr>
<td>Journalist for small digital news platform publishing regional news</td>
</tr>
<tr>
<td>SEO manager for digital news platform of international importance</td>
</tr>
<tr>
<td>SEO manager for medium-sized digital news platform</td>
</tr>
<tr>
<td>Webmaster responsible for SEO tasks on a digital news platform</td>
</tr>
<tr>
<td>Owner of a small digital news platform performing basic SEO tasks</td>
</tr>
<tr>
<td>Manager of digital content services and SEO for a digital news platform</td>
</tr>
<tr>
<td>Subdirector of a regional digital news platform</td>
</tr>
<tr>
<td>Director of a digital news platform</td>
</tr>
<tr>
<td>SEO manager of a business media group</td>
</tr>
</tbody>
</table>

Below we outline the five specific dimensions or categories of analysis addressed by the interviews and, for the subsequent exploitation of the responses obtained, we break these down into their corresponding subcategories:

1) News production routines: SEO routines performed by the journalist, routines developed specifically for SEO, search trend analysis, web analytics and SEO training.

2) SEO tools: Free SEO tools, paid SEO tools, Google’s own tools, plugins and content management systems (CMS) and other tools.

3) SEO perception: Importance of SEO in the newsroom, technological convergence, resistance to change, best SEO practices, worst SEO practices.

4) SEO techniques: On-page SEO, off-page SEO, technical SEO, trending topic analysis and its application in the news media, analysis of trending topics and interactions in social networks and their application in the news media.
5) SEO opinions and visions: Voice search, business model, new professional profiles, new SEO techniques and search engine regulation.

3. Analysis and results

Below we identify the most important ideas extracted from the interviews. To do so, we identified semantic networks of the given categories and subcategories using NVivo operated in manual data analysis mode.

1) Key ideas emerging from interviews with journalists/professionals with responsibility for SEO in the digital news media:

- News production routines: The editor analyzes search trends to identify newsworthy items and timeless topics, and converts them into news stories, reports, etc. that can be used to position content on Google. Basic SEO actions have to be used (optimization of headline, image and text for search engines) on the news story. The SEO professional provides editors with support, addressing doubts they might have in relation to aspects of positioning and drafts reports on audience results, internal searches conducted by users and user behavior analysis within the digital news media in general. In this way, an understanding is gained of search trends and editors can be informed about new content that they can create and position. We confirmed that the digital news media, thanks to the efforts of their SEO professionals, offer content plans to outside firms to help them improve their brand image and create a new business model. Finally, the SEO professional checks the news stories prepared by editors and journalists to confirm they are optimized for search engines.

- SEO tools: The use of Google tools is widespread today in newsrooms. Likewise, SEMrush is the most frequently used paid SEO audit tool in newsrooms. However, news media companies do not usually have access to paid SEO audit tools, preferring to use their free versions. The most frequently used free tools are Google Chrome extensions and the Alexa Website Ranking online software. As for CMS, digital news media run on a WordPress platform optimize their news with the Yoast SEO plugin (a tool that extends CMS functions).

- SEO perception: Journalists recognize the importance of SEO for newsrooms as a strategy for attracting readers. Search engine positioning in newsrooms is becoming more widespread because traffic from social networks is on the decline and because many readers consume their news via search engines. In-house training is usually provided for editors informing them about the basic elements of SEO and their strategic importance for the media company. Editors have a fairly basic grasp of SEO, but the transformation from paper to digital format often makes it difficult for them to be professionally updated. Digital native editors tend to internalize SEO strategies much better. Newsrooms increasingly take SEO into consideration but acknowledge their abusive use of certain practices that are detrimental to the reader and the social task of the journalist. Finally, exceptions exist with some editors believing that 100% of the readers of their digital news media come from direct traffic (without going through search engines).

- SEO techniques: Results confirm that Google Trends needs to be used in combination with the analysis of comments and hashtags in social networks to track trends and to convert them into news reports; tools such as NewsWhip and CrowdTangle have to be employed to predict content engagement, which also helps create new stories that are not on the media’s agenda; competitors have to be monitored daily to detect which news stories are being published so that all the day’s topics can be identified and worked on and all events can be identified days before they occur, creating a calendar of publications, so that, in this way, on the day of the event (the day when the number of searches increases), the digital platform has already written and optimized its report, news story, etc., and can compete successfully for the best Google rankings.

- SEO opinions and visions: SEO and its relationship with journalism looks set to be strengthened over the coming years, as it is essential for attracting readers and promoting new business models. New challenges have to be faced within SEO and the digital news media, primarily in terms of achieving the best voice search rankings. The digital news platforms that lead the way in SEO...
will ultimately be the ones that enjoy success. Likewise, the relationship between journalism and SEO will depend on the links forged between media organizations and search engines. If a newspaper wants to face the future more effectively, SEO has to be included as a training discipline, a daily practice and a constant space for ongoing professional upgrading. As Google’s algorithms evolve, journalists will have to adapt accordingly. Respondents acknowledged the possibility that the EU will end up regulating Google or it is, at least, a possibility that will be debated.

2) Key ideas emerging from interviews with expert SEO consultants:

- **SEO opinions and visions**: Taking into account trends in search engine positioning, strategies that focus on search intent need to be developed, semantic searches, voice searches and improved user experience. The best way to optimize the search intent is by writing content as if responding directly to the user’s query. To optimize semantic searches, the content needs to be enriched with synonyms, compound words, long tail keywords (search queries of more than three words), while audiovisual content needs to be incorporated and Schema.org and Google Action technologies used. For voice search optimization, content needs to be created in the form of questions that respond to (very precise) very long tail keywords, since questions will predominate in voice searches. The markup “speakable”, developed by schema.org, should be used. “Speakable” is able to identify the most appropriate sections on a web page for audio reproduction for text-to-speech (TTS) conversion using TTS technology. Finally, to optimize user experience, the web must be well structured, have good internal linking, with optimal loading speed, employing accelerated mobile page (AMP) technology and using mobile-first indexing (which gives more importance to the mobile site than to the desktop version).

- **SEO techniques**: The consensus is that the best strategy for positioning a website is a combination of the different types of SEO: that is, on-page SEO, off-page SEO and technical SEO. Of the three, technical SEO is considered the most important, followed by on-page and off-page SEO, respectively.

- **SEO tools**: Ahrefs is the most frequently used paid SEO audit tool followed by SEMrush and Screaming Frog. Google tools are also a priority to ensure SEO works well. Finally, other tools used by the SEO experts to a lesser degree include Safecont, XOVI, Moz, WooRank, etc.

- **SEO perception**: The experts believe that the national digital news platforms generally implement very good SEO strategies, though they also acknowledge that some media firms have poor or non-existent SEO strategies. They highlight the following as good SEO strategies: the use of AMP technology, the purchase of vertical websites to obtain more web traffic and more authoritative links, the creation of quality content, the optimization of the crawl budget (tracking and indexing time granted by Google to a certain website), and the exhaustive study of search trends to create content. In contrast, they highlight the following poor SEO strategies applied by the digital news media: the massive sale of links to third-party sites, the production of duplicate content (copied content that Google considers plagiarized), the use of click-baiting (headlines and flashy links designed only to generate clicks), and search engine over-optimization (techniques employed to artificially manipulate website optimization). According to those interviewed, the digital news platforms that employ the best SEO strategies are ‘El Mundo’ and ‘OKDiario’, followed by ‘La Vanguardia’, ‘ABC’, ‘El País’, ‘El Español’, etc.

- **News production routines**: Digital news platforms need to create attractive headlines and use keywords (that is, those words consulted by users in search engines) to optimize positioning, take advantage of old content by renewing these earlier news report, and review all aspects of basic SEO before publishing a story. Likewise, online news media need to carry out technical and indexing improvements, they should employ AMP technology and ensure good internal linking between stories using keywords that are trending in real time. They might also acquire thematic blogs to send web traffic and authority in the form of external links to the digital news platforms (of the same business group) to optimize positioning. Finally, communication between the head of SEO and the editors of the digital news platform must be effective and favor consensus,
especially with regard to writing headlines and the configuration of labels for images.

3) Key ideas emerging from interviews with university professors teaching SEO:

- **SEO perception:**
  - SEO opinions and visions: The subject of SEO should be incorporated as strategic content in university education, since it is a professional profile that media firms are increasingly seeking to recruit.
  - News production routines: SEO training is usually provided transversally as part of a broader subject. In short, while SEO is found as an independent subject on master’s programs, this tends not to be the case in undergraduate courses.
  - SEO techniques: SEO training in Spanish universities is both theoretically and practically based. The main items taught in relation to SEO theory are the following: the history of SEO, search engine operation, study of visitor flow from search engines, the profile of the SEO professional in the digital news media and SEO as a critical vision of the Internet. In contrast, the main practical elements taught in relation to SEO comprise the following: On-page SEO, off-page SEO and technical SEO. Students are taught how to select keywords, use Google Trends, write headlines and structure and create content for SEO, use SEO tools, exploit publications in social media to make content visible and to use WordPress and its SEO plugins.
  - SEO tools: Google tools are the SEO tools most frequently introduced and used in class. Training in the use of free tools prevails over that of paid tools. The most frequently used free or freemium tools are Alexa SiteInfo, SimilarWeb, GTmetrix, and WooRank. Finally, the main functions of the tools taught in class are related to positioning metrics, interaction and content engagement.

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Perceived level of agreement – high</th>
<th>Perceived level of agreement – medium</th>
<th>Perceived level of agreement – low</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEO routines performed by the journalist</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Routines developed specifically for general SEO tasks</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Search trend analysis</td>
<td></td>
<td></td>
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<tr>
<td>Web analytics</td>
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<td></td>
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<tr>
<td>SEO training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free SEO tools</td>
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<td>Importance of SEO in the newsroom</td>
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<td>Technological convergence</td>
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<td>Best SEO practices</td>
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<td>Technical SEO</td>
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<td>Trending topic analysis and its application in the news media</td>
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<td>Analysis of trending topics and interactions in social networks and their application in the news media</td>
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<td>Voice search</td>
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<td>Business model</td>
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<td>New professional profiles</td>
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<td>New SEO techniques</td>
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<td>Possibility of future search engine regulation</td>
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Table 2 shows the main convergences and divergences of opinion as expressed by professionals in the three groups studied. Here, for each of the subcategories identified we run a semantic check to see if their perspectives coincide. A high perceived level of agreement is said to occur when all three parties (professionals employed in the journalism industry, SEO consultants/experts not employed directly by the
industry and university professors) express the same ideas, a medium level when two of the three parties agree, and a low level when all three parties disagree or express different opinions in relation to the same subcategory.

Based on an analysis of the responses obtained in the interviews, we have built various models which we express graphically. These models are designed for two distinct profiles: that of the journalist/editor with responsibility for implementing SEO tasks and that of the SEO (non-journalist) expert employed in the news media company.

<table>
<thead>
<tr>
<th>Profile</th>
<th>Skills</th>
<th>Training</th>
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</thead>
<tbody>
<tr>
<td>Journalist</td>
<td>On-page SEO</td>
<td>SEO headlines</td>
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<td></td>
<td>Keywords and content clusters</td>
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<td></td>
<td>SEO image optimization</td>
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<td>News article design: tables and layout</td>
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<tr>
<td>Trend analysis</td>
<td>Google trends</td>
<td>Identification of newsworthy event</td>
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<td>Creation of editorial calendar</td>
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<tr>
<td>Ethics of SEO</td>
<td>SEO and the social task of the journalist</td>
<td>The debate on the regulation of Internet information</td>
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<td>SEO manager</td>
<td>SEO strategies</td>
<td>AMP</td>
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<td>Schema.org</td>
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<td>Internal linking</td>
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<td></td>
<td>Mobile-first indexing</td>
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<td></td>
<td></td>
<td>Optimization of strategies for buying vertical websites</td>
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<tr>
<td>Tools</td>
<td>Google Analytics</td>
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<td></td>
<td>Google Search Console</td>
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<td>Google Trends</td>
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<td>SEMRush</td>
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<td></td>
<td>Ahrefs</td>
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<td>Types of optimization</td>
<td>Search intent optimization</td>
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<td></td>
<td>Voice search optimization</td>
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<td>Semantic search optimization</td>
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<td>User experience optimization</td>
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<tr>
<td>Business opportunities</td>
<td>Identification of future search trends to improve web traffic</td>
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<td></td>
<td>Providing consultancy services to firms</td>
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<tr>
<td></td>
<td>Purchase of vertical websites to generate income</td>
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</table>

The first training profile includes elements such as SEO ethics, trend analysis and on-page SEO, while the second includes business opportunities, tools, types of optimization and advanced SEO strategies. Figures 1 and 2 show the fields of knowledge for each of the two profiles.

4. Conclusions

Studies have already been undertaken examining SEO as a business strategy, highlighting the importance of search engine positioning to attract readers (Carlson, 2007; Smyrnaios & Rebillard, 2009; Muerza-Ferrer, 2017); however, such studies do not concern themselves with internal business elements, such as new business models or the relationship and communication established between SEO managers and editors and their teams of journalists, aspects which, in contrast, the results of our interviews seem to emphasize.

Likewise, although news strategies have previously been discussed from the point of view of on-page SEO, off-page SEO and technical SEO (Giomelakis & Veglis, 2015a; 2015b; Charlton 2016), including distinctive working frameworks (Codina et al., 2016) and specific strategies, such as the concept of SEO headlines (Asser, 2012), the specific use of keywords (García-Orosa & López, 2014), and the use of technologies such as AMP (Heijmans, 2016), these studies do not include two aspects that emerge from our interviews: namely, the identification of search trends as part and parcel of the work of the SEO manager in the newsrooms of the digital media, and voice search optimization and other emerging aspects of SEO (e.g. semantic SEO, search intent, etc.). Similarly, studies of visibility and SEO auditing applied to the
digital news media report the use of the main tools discussed here: i.e. SEMrush, Ahrefs, Majestic, Alexa, MOZ, among others (Rodríguez-Martínez et al., 2010, 2012; García-Carretero et al., 2016; Lopezosa & Codina, 2018; Lopezosa et al., 2018; Lopezosa et al., 2019); however, they tend to comprise case studies and to focus on visibility rankings of the digital media in search engines, yet they fail to verify whether the newsrooms are using these tools to analyze and position news content.

Finally, a number of studies of SEO applied to the digital news media make recommendations for newsrooms (Giomelakis & Veglis, 2015a; 2015b; Codina et al., 2016; Asser, 2012; García-Orosa & López, 2014), but they do not consider the training that editors/journalists and SEO managers of media platforms need, bearing in mind that good journalistic practice is vital, and that SEO is the support for its dissemination and expansion. Next, we return to reflect on the objectives set out when initiating this study and discuss the results and conclusions that can be drawn:

1) All three groups of professionals identify the need to implement the same types of strategy in promoting search engine optimization, that is, on-page SEO, off-page SEO and technical SEO.

SEO managers working in news media houses confirm the strategic need to take into account search engine positioning techniques when working with news content. Likewise, expert SEO consultants recommend buying third-party vertical websites in order to send authoritative links to their main digital news media sites in order to attract more readers and obtain greater web authority. They also recognize the need to foster optimal internal communication between the SEO department manager and the editor and journalists. The university professors also recognize the importance of SEO for newsrooms; however, training in this field typically forms part of a much broader subject area in university studies. Similarly, all three groups of professionals speak of the need for newsrooms to make effective use of SEO analytics.

Finally, the interviewees believe that SEO and its relationship with journalism will go from strength to strength over the forthcoming years, although major new challenges are likely to emerge, including voice search optimization, new business models and the possible regulation or political debate concerning the news media and search engines.

2) The perceived level of agreement between the three groups of professionals is high to medium. Indeed, a clear distinction is drawn between the SEO routines implemented by editorial teams and those implemented by SEO professionals or experts. The perception of SEO professionals is that journalists need to apply the basics of content SEO and search trend analysis, while the work of SEO experts should center on advising editors about content optimization and advanced SEO strategies, ensuring that news stories are optimized for search engines, and identifying publication opportunities and business opportunities in the form of new customer services.

Generalist SEO consultants believe that editors should be able to apply a basic SEO to their news stories, while SEO experts should concern themselves with the more technical aspects of optimization. Somewhat tellingly, it should be stressed that SEO studies in university education today provide the basic SEO training for journalists; however, this training is insufficient if, in the future, the student wants to find employment as an SEO expert for an online media company. Likewise, all three groups of professionals identify the need to measure results using web analytics. Specifically, SEO experts working in the digital media draft reports proposing business strategies that can help news platforms obtain a better positioning and, as a result, more readers. SEO consultants working outside the digital news media stress the need to use web analytics tools specifically to improve user experience and, in this regard, universities do introduce students to tools such as Google Analytics so that they learn which metrics can be used to obtain a better understanding of users.

As for tools, those offered by Google are deemed essential by all three groups of professionals, above all Google Analytics and Google Search Console. In the case of paid SEO tools there is no consensus as to which are the most useful. In fact, in newsrooms their use is scarce. However, overall, based on an analysis of the responses given, the preferred tools appear to be SEMrush, Alexa, SimilarWeb and Sistrix. In contrast, for the SEO consultants, Ahrefs is considered the most complete tool. And as far as university training is concerned, free tools predominate, while there is a clear need for students to acquire a greater understanding of CMS and specific positioning plugins, specifically WordPress and the Yoast plugin. The use of positioning strategies in the news media is becoming more and more commonplace, although
there is a minority of journalists that remain resistant to change and who even think that optimizing news content for search engines does not improve the visibility of their news stories. It should be stressed that, although the three groups of professionals recognize the importance of the same types of SEO strategies (on-page, off-page and technical), digital news platforms and universities highlight the emergence of new SEO strategies, including the identification of trending searches via Google Trends and the analysis of social media interactions in order to write new stories to obtain better positioning.

Finally, the individuals interviewed here believe that SEO experts should be capable of recognizing a user’s search intent and apply this to their content. Likewise, they believe they should be able to exploit semantic content to the full, improve user experience and undertake the necessary work to position voice searches. In parallel to this, the universities need to set about consolidating the teaching of SEO as a subject in its own right or, at least, as strategic content for training future professionals for the journalism sector, although it is not yet clear what profile and skills an SEO expert should have for the newsroom, given that the journalist and the engineer find themselves at opposite ends of this training spectrum.

3) SEO training needs to focus on providing SEO strategies specifically designed for news editorial teams and journalists, on the one hand, and on SEO strategies for SEO experts working within news media houses, on the other. SEO training for editors and journalists should focus above all on ensuring these teams acquire the essentials of on-page SEO and, more specifically, that they can:

- Optimize news stories for search engines;
- Analyze and recognize search trends;
- Identify best SEO practices; and
- Consider the ethics related to the use of search engine positioning strategies in relation to the social role of journalists.

In contrast, the training for students who want to find jobs in the SEO department of a digital news platform should focus on more advanced strategies, that is, ensuring they can:

- Identify publication opportunities based on search trends. To do this, students need to learn how to use Google Trends, analyze social media interactions and use such paid tools as NewsWhip and CrowdTangle.
- Identify business opportunities;
- Perform technical SEO actions focused on optimizing search intent, optimizing both voice and semantic searches, and optimizing user experience;
- Use SEO and web analytics tools, including those developed by Google (Google Analytics and Google Search Console) as the paid tools, such as SEMrush and Ahrefs;
- Perform off-page SEO actions, specifically that they study strategies to identify thematic vertical websites that can be purchased in order to obtain more web traffic and authority.

While this study has confirmed the adequacy of semi-structured interviews for obtaining relevant insights into the role played by SEO in the digital news media, in the future new analyzes need to be conducted that address the continuing development of this relationship. To gain these insights, other qualitative methods might favorably be adopted, including the Delphi technique, expert panels, or consensus methods.

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Influence of family and pedagogical communication on school violence

Influencia de la comunicación familiar y pedagógica en la violencia escolar

ABSTRACT

School violence alludes to peer bullying and aggression in school. The field of communication has studied school violence by analyzing the influence of media and interpersonal relationships on aggressive behaviors. This article provides a perspective on school violence and concentrates on determining the influence of interpersonal communication with parents and teachers on adolescent aggressors and victims in school contexts. A non-experimental correlational-transverse design was used with a sample of 1,082 adolescents (M=15.61; DT=0.90). Three reliable scales were implemented to assess adolescent aggression and parental and pedagogical communication. Findings indicate that aggressions among adolescents at school and the interpersonal communication with parents and teachers present differences associated with gender (p=0.00). At the family level, it was found that offensive communication among parents and children (β=0.225; p=0.00) predicts an increment on school victimization. At the pedagogical level, it revealed that teacher communication intended to discipline students (β=−0.297; p=0.00) and make them see the importance of school and learning (β=−0.120; p=0.04) predicts a decrease in aggressive behavior among adolescents and school victimization. These new findings in education evidence the need to strengthen students’ interpersonal communication with their parents and teachers to obtain better results when implementing strategies to intervene and prevent school violence.

RESUMEN

La violencia escolar hace alusión al acoso y agresión entre iguales en la escuela. A nivel comunicacional, se ha estudiado este problema analizando la incidencia de los medios y las relaciones interpersonales en las conductas agresivas. Este artículo aporta una perspectiva de la violencia escolar centrada en determinar la influencia de la comunicación familiar y pedagógica en adolescentes agresores y víctimas en la escuela. Se usó un diseño no experimental de tipo correlacional-transversal con una muestra de 1.082 adolescentes (M=15.61; DT=0.90). Se aplicaron tres escalas confiables que evaluaron las agresiones entre adolescentes y la comunicación parental y pedagógica. Los hallazgos indican que las agresiones entre adolescentes y la comunicación que estos tienen con sus padres y profesores presentaron diferencias asociadas al género (p=0.00). La comunicación ofensiva entre padres e hijos (β=0.225; p=0.00) predijo el aumento de la victimización escolar. Pedagógicamente, se encontró que la comunicación del profesor orientada a generar disciplina en los alumnos (β=−0.297; p=0.00) y hacerles ver la importancia de estudiar y aprender (β=−0.120; p=0.04) predicen respectivamente, la disminución de los comportamientos agresivos entre adolescentes y la victimización. Estos hallazgos novedosos en materia pedagógica evidencian la necesidad de fortalecer la comunicación interpersonal de los estudiantes con sus padres y profesores para lograr resultados eficaces en la implementación de estrategias de prevención e intervención contra la violencia escolar.

KEYWORDS | PALABRAS CLAVE

Violence, family communication, teacher-student communication, adolescent, school, teachers, family relationships, pedagogical practices.

Violencia, comunicación familiar, comunicación profesor-estudiante, adolescente, escuela, docentes, relaciones familiares, prácticas pedagógicas.
1. Introduction and state of the issue

The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019) brought forth, at the 2019 World Education Forum, a report that reveals an increase in the cases of school violence worldwide, since one in three students have been threatened by peers, and a similar proportion have been subject to physical aggressions. School violence refers to any form of harassment or offense on a physical and psychological level among peers at school (Leganés-Lavall, 2013), and it is a troubling problem because it raises school dropout rates (Ruiz-Ramírez et al., 2018) and reduces the academic performance of students (Cerda et al., 2019).

Aggression and bullying behaviors among students can be generated on a face-to-face basis or online, through social media, and other types of internet-ready digital devices (cyberbullying). The reasons why school violence occurs are varied. Demographically speaking, for example, studies indicate that school violence has gender-related differences (Jain et al., 2018; Machimbarrena & Garaigordobil, 2018), whereby physical harassment is a common practice among boys, and psychological harassment is more frequent among girls (UNESCO, 2019).

Other studies have identified gender-related differences within the overlapping link between schools and cyberbullying (Baldry et al., 2017) and other related variables such as roles in cyberbullying, maternal communication, inductive discipline and psychological control (Gómez-Ortiz et al., 2018). In general terms, family, media and school environments all influence school violence (Cid et al., 2008).

In the family context, empirical evidence reveals that family environment (Calvete et al., 2018; Labella & Masten, 2018; Xia et al., 2018), intrafamily conflicts (Ortega-Barón et al., 2016) and hostile communication between parents and children (Aguirre, 2018; Boniel-Nissim & Sasson, 2018; Castañeda et al., 2019; Romero-Abrio et al., 2019) all influence aggressive behaviors in adolescence.

In the field of media, Gentile et al. (2011) were able to demonstrate how children’s exposure to violent content in the media predicted an increase in aggressive behaviors and a decrease in prosocial behaviors throughout the school year. Hence, Al-Ali et al. (2018) consider that it is important for parents to enhance their knowledge about media and broadcast content, so that they can play a protective role in their children’s behavior.

Regarding the school environment, research indicates that school violence is related to school norms (Rey & Ortega, 2005) and students’ social skills (Pérez, 2005). It has also been found that the school environment is associated with students’ well-being (Varela et al., 2019), and the relationships they build in school (Jain et al., 2018; Valdés-Cuervo et al., 2018) help prevent school violence. In the case of cyberbullying, Ortega-Barón et al. (2016) detected that academic self-esteem is a predictor of victimization in adolescence.

Within the framework of intervention processes on school violence, experts have established the need for schools impacted by this issue to generate greater levels of confidence within the educational community to denounce peer victimization (Berger et al., 2017) and implement clinical care policies to support victims (Price et al., 2019). Accordingly, there are successful experiences such as the “Asegúrate” (Be Safe) program that focuses on strengthening the work of faculty against cyberbullying by intervening in strategic areas such as the modes of communication amongst students on social media, the communication network’s coexistence rules, and the criteria towards setting up safe friendships (Del-Rey-Alamillo et al., 2018).

Other experiences suggest that school violence decreases when tolerance principles are promoted and coexistence is improved through the reinforcement of communication and interaction amongst students (De-los-Pinos & González, 2012). In any case, communication has proven to be an effective resource to develop alternatives to violence as long as it allows students to learn to resolve conflicts peacefully and to adequately express their tensions or discrepancies (Jalón, 2005).

Therefore, strengthening interpersonal communication between students is an essential strategy to prevent school violence. This is confirmed by Estévez et al. (2007) when they revealed that adolescents with lower levels of violent behavior at school are characterized by having positive communication with their parents and more favorable attitudes towards institutional authorities such as school administrators and faculty. Valdez-Cuervo et al. (2018), in turn, have indicated that teaching practices are related to peer violence at school due to their effect on the school environment and empathy. In other words,
teachers and the school, in general, play an important role in the prevention of school violence. Research by Doumas and Midgett (2018) precisely shows, at a pedagogical level, that a positive school environment fostered by faculty contributes to reducing victimization and harassment. It is known that the level of justice imparted by the faculty and their interaction with their students influence the relationship between unfairly treated victims’ sensitivity and the altruistic behavior of students (Jiang et al., 2019). However, despite this high flow of literature, empirical evidence on the communicational role of teachers in the face of school violence is still scarce. In addition, studies on how communication between teachers and students (pedagogical communication) and between parents and children (family communication) can jointly influence over aggressive behaviors at school are in short supply. This article offers novel empirical evidence through two objectives that contribute to the analysis of school violence from a communicational perspective: 1) Identify whether school violence among adolescents and the interpersonal communication they have established with their parents and teachers show differences related to gender; 2) Determine the influence of family and pedagogical communication on aggressive adolescents and victims of school violence.

2. Methodology

The research carried out was exploratory and correlational; following a non-experimental, analytical and cross-sectional design.

2.1. Participants

The subject population of this study were adolescents at the secondary and middle school education levels in Colombia, which comes to approximately 4,709,538 students, according to Colombia’s Ministry of National Education. A sample was selected by quotas of 1,082 adolescents (Z=1.96; VM=0,25) between 14 and 18 years of age (M=15,61; SD=0,90). These adolescents attended schools identified, per the work of Jiménez and Jiménez (2018), as institutions impacted by frequent cases of school violence.

Gender was the quota established to split the sample equally (50% men and 50% women), since, according to UNESCO (2019), this variable is associated with school violence. The selection of participants was made intentionally on a conglomerate basis, thus seeking representativeness in terms of both gender and age as well as levels of schooling. The sample size reflected the interest in reducing the error margin from 5% to 3%, due to the type of sampling carried out and the sociodemographic characteristics of this population.

2.2. Instruments

The information was gathered through a questionnaire comprised by three reliable scales: The School Violence Intensity Scale (VES) by Jiménez and Jiménez (2018), the Parent-Adolescent Communication Scale (PACS) by Barnes and Olson (1982) and the Student-Teacher Communication Scale (ECD) by Gauna (2004). The VES scale identifies, within a range of 1 (never) to 5 (very often), physical and verbal aggressions (for example, shoves, blows, mocking comments and insults) suffered by and generated against others in school. These attacks among adolescents explain, at a rate of 66%, the total variance of school violence. The overall internal consistency of this scale displayed an acceptable Cronbach’s alpha of 0.75.

The PACS scale evaluates, within a range of 1 (never) to 5 (always), communication between parents and children. In this study, a version comprised of seven items was used, three of which evaluate offensive family communication (for example, «My parents tell me things that hurt me»), and the remaining four items evaluate open family communication (for example, «I can talk to my parents about what I think without feeling bad or uncomfortable»). The internal consistency of this scale was 0.71 for the offensive family communication factor, and 0.85 for the open family communication factor. Both factors explain parental communication by 61%.

The ECD scale has seven items that assess, within a range of 1 (totally disagree) to 4 (totally agree), the teacher’s communication in the classroom (for example, «The teacher’s communication with the students is based on the highlighting of achievements, not mistakes»).

The overall internal consistency of this scale was 0.78. The items explain, by 61%, the total variance of the verbal pedagogical communication perceived by adolescents. These scales were chosen based.
on their reliability, and the original evaluation form was maintained. In the case of the VES Scale, its greatest advantage is that it has been adapted to the population under study (Jiménez & Jiménez, 2018). The PACS Scale, compared to others, was created for the adolescent population and has been used in studies on school violence showing good statistical behavior (Estévez et al., 2007; Castañeda et al., 2019; Romero-Abrio et al., 2019). The ECD Scale focuses on the teacher’s pedagogical communication in the classroom, thus differentiating itself from other questionnaires that traditionally focus on the teacher-student interpersonal relationship (Zapata et al., 2010; Jiang et al., 2019), which has been widely studied.

2.3. Procedure
The information was collected with the informed consent of the parents and directors of each school. Adolescents were trained on how to fill out the questionnaire, and, in that process, all their concerns were tackled. The questionnaire was administered face-to-face. The data obtained were processed with the SPSS v23 statistical software.

2.4. Data analysis
To achieve the first objective of this investigation, the Student T test and the Mann-Whitney U test were applied in order to determine gender differences in school violence among adolescents, as well as in the communication they maintain with their parents and teachers. The levels of the aggressions suffered and generated by the adolescents in school were previously averaged, and the scores from the indicators of family and pedagogical communication were added. Similarly, three levels of communication (low, moderate and high) were set based on the minimum (MIN), and maximum (MAX) dispersion values as well as the thirty (P30) and seventy (P70) percentiles.

The second objective that determines the influence of family and pedagogical communication on offending adolescents and victims was achieved by applying Spearman’s correlation test between the communication factors and the aggressions evaluated. A multiple regression analysis comprised of the variables that showed a significant correlation was implemented. The statistical procedure carried out matches the causality criteria set by Hill (2015), who claims that statistical association is the first requirement towards establishing causality. After applying collinearity tests, seven predictors were included. This number is appropriate for the sample size and for estimating medium-sized effects (Tabachnick & Fidell, 2001).

3. Results
The findings achieved from the two objectives outlined in this study are laid out in this section.

3.1. Gender-related differences between school violence and family and pedagogical communication
This study found that 70% of adolescents had suffered physical and verbal aggressions at school and admitted to having assaulted their classmates at least once. The remaining 30% claimed to have never been the victim of physical or verbal attacks or having assaulted other peers at school.

Upon implementation of the Student T test, significant differences were found between school violence and the adolescents’ gender. Men were, on average, more frequent victims of physical and verbal aggressions in school (M=1.89; SD= 0.74; p=0.00; Cohen’s d=0.28) compared to women (M=1.69; SD=0.67). Likewise, men reported being more aggressive on average (M=2.35; SD=0.92; p=0.00;
Cohen’s d= 0.24) than women (M=1.93; DE=0.87). Within the context of communication, the data in Table 1 indicate that the communication of parents and teachers with adolescents happens most frequently between low and moderate levels. The Mann Whitney U test identified significant differences between the gender of adolescents and the levels of family and pedagogical communication. In this case, the finding was that women scored significantly lower (64.1%) than men (35.1%) at the level of verbal communication with their teachers (p=0.00; r-Rosenthal= −0.08).

In terms of offensive communication between parents and children (p=0.00; r-Rosenthal= −0.07), women scored higher (57.6%) than men (42.4%). Regarding open family communication, although there were no significant gender-related differences (p=0.09; r-Rosenthal= −0.05), adolescent women scored lower (47.6%) than men (52.4%).

3.2. Influence of family and pedagogical communication on offending teenagers and victims

In the «Open Family Communication» factor, the credibility of parents correlated significantly (p=0.00) and negatively with the aggressions generated by adolescents against others in school. Within this same factor, it was found that parents’ willingness to pay attention to their children correlated significantly (p=0.00) and negatively with the aggressions suffered (school victimization).

In the «Offensive Family Communication» factor, it was established that the act of speaking aggressively to children (p=0.04) and telling them harmful things (p=0.00) correlated significantly and positively with victimization.

In the educational setting, within the «Pedagogical Communication» factor, it was found that the use of communication by teachers in order to instill discipline in students within the classroom (p=0.00) correlated significantly and negatively with the aggressions caused. The use of communication by teachers to bring out students’ achievements and not their mistakes (p=0.04) and to make them realize the importance of studying and learning (p=0.04) correlated significantly and negatively with victimization.

The following image (Figure 1) shows the indicators for the variables under study that correlated significantly with school violence.

![Figure 1. Specific aspects of family and pedagogical communication associated with school violence](image)

A regression analysis applied to the above variables, which held a significant correlation, significantly allowed us to identify the predictors of family and pedagogical communication that influence school violence among adolescents.
The values in Table 2 point out that family and pedagogical communication influences school violence among adolescents, predicting 8.5% of violent behavior and 11.6% of victimization. Specifically, it was determined that offensive communication between parents and children, characterized by saying harmful things ($\beta=0.22^{**}$) and hostile speech ($\beta=0.16^*$), significantly forecasts an increased victimization.

The regression analysis revealed, by the same token, that teachers’ pedagogical communication focused on making adolescents perceive the importance of studying and learning ($\beta=0.12^*$) significantly predicts a decrease in victimizations. Communication between teachers and students aimed at instilling good discipline ($\beta=-0.29^{***}$) was the only significant predictor that showed a reduction in violent school behavior.

### 4. Discussion

The main objective of our study was to determine the influence of family and pedagogical communication on offending adolescents and victims of school violence. A discussion is hereinafter laid out between this study’s own findings and those of other studies in order to point out similarities, contributions and empirical limitations.

In general terms, it was found that the communication of parents and teachers with adolescent students’ ranges from low to moderate levels. That is, family and pedagogical communication is deficient within this context, which is affected by issues of school violence. For this reason, parents and affected schools need to improve interpersonal communication with students. The above is even more truthful when studies reveal that emotional ties between students and adults in school (Jain et al., 2018), communication aimed at teaching students how to peacefully resolve their conflicts (Jalón, 2005) and the involvement of families in the prevention of school violence (Valdez-Cuervo et al., 2018) effectively contribute to the reduction of peer aggressions.

On the other hand, we have identified that aggressions amongst adolescents in school and the communication they maintain with their parents and teachers displayed significant differences in terms of gender. In such a case, men were more likely than women to be offenders and victims. On the other hand, at the communication level, women were more likely than men to receive insults from their parents and to exert a lower level of communication with their teachers.

Our findings related to gender match those of various studies that reveal how school violence is exercised differently amongst men and women (Machimbarrena & Garaigordobil, 2018; Jain et al., 2018; UNESCO, 2019); such findings also show that gender differences permeate the field of family and pedagogical communication. Such aspects are present in Linares et al. (2019), who point to the manner in which family and cultural issues associated with sexism and gender inequalities coexist behind cyberbullying among adolescents. In this context, education in terms of equality is relevant as an essential value towards preventing gender violence (Gallardo & Gallardo, 2019), especially because gender is associated with the
roles played in harassment on both face-to-face and virtual interactions (Baldry et al., 2017) and intervenes in the relationship between adolescents’ perception of parental practices and participation in cyberbullying (Gómez-Ortiz et al., 2018).

In reference to the main objective, we have found a relationship between school violence and communication between parents and children. Significant correlations indicate that when family communication is open, victimization decreases, as well as the likelihood of adolescents adopting aggressive behaviors; however, when communication is offensive, the probability of victimization rises.

The regression analysis showed that offensive family communication is a predictor of victimization. This result is consistent with the study by Romero-Abrio et al. (2019) that associates victimization in adolescence with problematic family communication. Accordingly, this coincides with the works of Aguirre (2018) and Castañeda et al. (2019) that point out how open communication with both the father and mother correlates negatively with school victimization; while offensive parental communication correlates positively with victimization.

Research by Xia et al. (2018) enables a better understanding of our findings by showing that adolescents who were subject to domestic violence were more likely to accept violent norms and be exposed to peer aggressions, which increased the likelihood of aggression and victimization in their life. In this respect, Labella and Masten (2018) claim that the family is an adaptation system that affects violent behaviors in children or can prevent them if it provides warmth and healthy behaviors.

On the other hand, novel data were found to indicate that communication between teachers and students with a focus on generating discipline in the classroom is a predictor of reduced aggressive behavior in school. Discipline refers to the set of procedures, rules and norms that teachers implement to maintain order in the school (Valdés-Cuervo et al., 2010).

Various studies warn that, when discipline collapses, conflicts between students increase (Mayora et al., 2012) as well as antisocial behaviors at school (Pérez, 2005). Our findings reaffirm the essential role of discipline in countering school violence. In this particular regard, there are correlated studies that highlight coexistence rules (Del-Rey-Alamillo et al., 2018) and teachers’ assistance as variables that reduce cyberbullying in adolescents (Ortega-Barón et al., 2016).

The work by Valdez-Cuervo et al. (2018) underscores the relevance of non-permissive teaching practices and the participation of teachers in strategies such as direct interventions and meetings with offenders as effective resources to curtail school violence.

Another novel pedagogical finding was that teachers’ communication focused on bringing out students’ achievements correlated significantly with a reduction in victimization. This is due to the fact that this type of communication contributes to improve academic self-esteem, which, in turn, reduces victimization (Ortega-Barón et al., 2016). Therefore, children with low self-esteem are more prone to become victims of harassment (Van-Geel et al., 2018).

Lastly, we established the fact that teacher communication in the classroom is a predictor that reduces school victimization as long as it leads students to realize the importance of studying and learning. This finding stresses the relevance of pedagogical communication to avoid school violence when it generates significant learning that makes students aware of the importance of education. This is related to what was claimed by Boggino (2005), who, addressing the prevention of school violence, proposed organizing teacher training to favor meaningful student learning by addressing specific and contextualized issues, active participation and the generation of concepts, values and social norms.

It is relevant to note that, although the influence of family and pedagogical communication on school violence was low (between 8.5 and 11.6 percent of the total variance), it is similar to that of other related studies confirming the multicausal nature of this phenomenon. From the above, the following stand out: the work of Boniel-Nissim and Sasson (2018) that shows how family communication predicts victimization at 4% of the total variance as well as that of Ortega et al. (2016), which points out the manner in which family cohesion, academic self-esteem, family conflict, assertiveness and teacher support predict cyberbullying victimization between 6.2% and 9.7%.
5. Conclusions and recommendations

Our study contributes to the analysis of school violence from a communicational standpoint. The findings obtained allow us to conclude, firstly, that gender makes a difference in the way in which school violence is exercised among adolescents and in the type of communication students hold with their parents and teachers. We suggest, on the basis of the present study, new studies that explore the role of pedagogical communication against gender violence in schools. It is known that teachers’ antibullying behavior is associated with low levels of victimization (Doumas & Midgett, 2018). In turn, school confidence increases when students notice that their teachers take corrective measures against gender violence on the basis of sexual orientation and abstain from making alienating comments (Berger et al., 2017).

Secondly, we conclude that family and pedagogical communication influences the victimization and aggressive behavior of adolescents in school. Empirical evidence leads us to infer that offensive family communication is a risk factor for school violence, whereas open communication by parents and teachers with teenagers actually serves as a protective factor to reduce or avoid such violence. This issue is related to the theories of Estévez et al. (2007), who assure that there is an association between parental communication and school violence, and between teachers’ expectations and students’ attitude towards institutional authority, which is strongly linked to violent behavior.

All aspects indicated in this study reveal the need to strengthen communication and the family-school relationship to accomplish better results in the implementation of prevention and intervention strategies for school violence, as confirmed by some successful intervention programs in this field (De-los-Pinos & González, 2012; Del-Rey-Alamillo et al., 2018).

Based on our findings and the research by Gentile et al. (2011), which indicates how mass media influence school violence, we suggest new studies to determine if open family communication intervenes as a protective factor in the relationship between children’s exposure to violent media content and aggressive behaviors.

We propose, at the educational level, that a study is carried out to assess whether pedagogical communication is more effective as an intervention in school violence when mediated by the relationships between teachers and students, as well as by the justice dispensed by the teacher against acts of indiscipline. This proposal is based on the study of Jiang et al. (2019) that reveals how justice from teachers strengthens the bond with their students and influences the relationship between victim sensitivity and altruism.

We highlight, as a limitation of this study, the fact that only urban adolescents participated in the sample. For this reason, other studies that analyze school violence in rural institutions are required, since, in the Colombian case, the impact of the internal armed conflict has been different for those two contexts (Ospina-Ramírez et al., 2018). However, this article is one of the first empirical developments towards assessing, on a joint basis, the role of pedagogical and family communication against school violence.

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References
To-friend or not-to-friend with teachers on SNSs: University students’ perspectives

ABSTRACT

A large majority of university students use social networking sites (SNSs) actively. Nevertheless, there are very limited studies examining students’ perceptions about student-teacher relationships in SNSs comprehensively. The purpose of this research was to investigate university students’ perceptions about interacting with their teachers in SNSs, and to this end an exploratory mixed-methods design was utilised. Qualitative data were collected from 21 students via interviews, and quantitative data from 1,324 students in 19 universities in Turkey via a questionnaire. Content analysis, descriptive analysis and principal component analysis methods were used to analyse the data. The content analysis contributed to the formulation of the questionnaire items. The principal component analysis yielded the following four dimensions: perceived utility, perceived barriers, perceived favourable teacher behaviours, and perceived unfavourable teacher behaviours. The most prominent finding is that the students were mostly opposed to their teachers’ sharing their political and religious views; however, they were in favour of teachers sharing information about their personal life. Despite some students displaying some hesitation, especially concerning the level of respect between them, the majority of students had a positive outlook towards teacher-student friendships. The students indicated that being friends on SNSs would increase their motivation towards the course.

RESUMEN

La gran mayoría de los estudiantes universitarios utilizan activamente las redes sociales (RRSS). Sin embargo, hay estudios limitados sobre las percepciones de estos con base en la relación estudiante-profesor en RRSS. El propósito de esta investigación fue investigar las percepciones de los estudiantes universitarios sobre la interacción con sus profesores en redes sociales. Para este fin se empleó un diseño exploratorio mediante métodos mixtos. Se recopilaron datos cualitativos de 21 estudiantes por medio de entrevistas y datos cuantitativos de 1,324 sujetos en 19 universidades de Turquía mediante cuestionario. Para analizar los datos se aplicaron análisis de contenido, análisis descriptivo, y análisis de componentes principales. El primero contribuyó a la formulación de los ítems del cuestionario. El análisis del componente principal arrojó cuatro dimensiones: utilidad percibida, barreras percibidas, comportamientos docentes percibidos como favorables y desfavorables. El hallazgo más destacado fue que los estudiantes se opusieron principalmente a que sus profesores compartieran sus puntos de vista políticos y religiosos. No obstante, estaban a favor de que los docentes compartieran información sobre su vida personal. A pesar de que algunos estudiantes mostraron dudas, especialmente con respecto al nivel de respeto entre ellos, la mayoría del alumnado tenía una perspectiva positiva hacia las amistades profesor-alumno. Estos indicaron que ser amigos en las redes sociales aumentaría su motivación hacia el curso.

KEYWORDS | PALABRAS CLAVE
Social networking, student-teacher relationship, university student, teacher, interaction, communication, self-disclosure, privacy.

Redes sociales, relación profesor-alumno, estudiante universitario, profesor, interacción, comunicación, autorrevelación, privacidad.
1. Introduction

Improvements in the Internet and technology have introduced new communication tools and styles. In particular, social networking sites (SNSs) have become some of the outstanding communication tools in this era (Hershkovitz & Forkosh-Baruch, 2017; Ito et al., 2009). With the emergence of social networking websites, such as Facebook, MySpace, and Twitter, students and teachers have started to connect outside school (Elhay & Hershkovitz, 2019; Puzio, 2013).

SNSs are seen as important communication and educational tools for school and school-related issues in higher education settings (Greenhow et al., 2014). For example, students can be asked questions outside the classroom via social media, interact with their peers and teachers, and engage in discussions about the course. However, despite the prevalence of the use of SNSs and their possible educational benefits, educators have some concerns about using these websites in their professional practice (Puzio, 2013), especially related to privacy issues (Hershkovitz & Forkosh-Baruch, 2013). Therefore, with the widespread use of technology in education, it is important to understand the ways in which technology affects the interaction between students and teachers (Harper, 2018).

2. Literature review

2.1. Teacher-student relationship

Teacher-student relationships play an important role in students’ academic development and affect the school and classroom environment (Hershkovitz, 2019; Song et al., 2019). Researchers focusing on student-teacher relationships on SNSs point to both positive and negative issues. For example, Callaghan and Bower (2012) reported that the student-teacher interaction in SNSs correlated with students’ achievements and engagement levels. Hershkovitz and Forkosh-Baruch (2013) found that although communication between students and the teacher was limited, the students considered positive student-teacher relationships on SNSs as useful and supported in-class satisfaction. However, some research studies underlined the negative aspects of SNSs. Butler (2010), for instance, referred to inappropriate comments posted on SNSs. Mazer et al. (2007) explored not only the contents of the comments but also how the amount of shared information might affect the perceptions of SNS users. They found that increased number of informal photographs shared by teachers could affect student perceptions negatively.

Teachers can easily manage how much information they want to share about their private lives in their classroom communication; for example, they can create a privacy boundary for their in-class communication (McBride & Wahl, 2005). However, social media differs from traditional communication environments in that it is not an official teaching environment; therefore, teachers tend to share or express themselves freely because they assume that they are not in a formal environment. It is obvious that in-person communication differs from communication over SNSs, in which the boundaries of professional and personal life can be unclear (Carter et al., 2008). In this formal classroom environment, privacy management is easier for both teachers and students.

Maintaining the balance between academic and personal life on SNSs is difficult and can be ambiguous, sometimes causing school authorities and policy makers to ban student-teacher relationships in this type of media (Manca & Ranieri, 2017). For example, the United States of America, Israel, and Australia have implemented policies from time to time to forbid these interactions but, in fact, there is no empirical evidence to support these actions (Hershkovitz & Forkosh-Baruch, 2017). Considering the prevalence of SNSs, adopting a banning strategy is not the optimal solution; rather, in this pervasive digital era, it is better to understand the student-teacher relationship in SNSs, which could be achieved through developing Media and Information Literacy (MIL) (Buckingham, 2007). Teachers should be able to determine how much information to unveil in SNSs in order to preserve their credibility and avoid possible negative perceptions that students might construct. Regulations might have some impacts on students but scholarly studies are insufficient in this area (Veletsianos et al., 2013).
2.2. Self-disclosure and credibility

The definition of self-disclosure according to Mazer et al. (2009) is “any message about the self that a person communicates to another”. Teacher self-disclosure is viewed as a strong personal source of student-faculty communication (Fusani, 1994). Sorensen (1989) stated that there was a positive relationship between student perceptions of affective learning and teacher self-disclosure. Therefore, it can be said that teacher self-disclosure can contribute to student learning (Song et al., 2019). Self-disclosure can establish a supportive learning environment and facilitate various forms of communication between students and teachers (Cayanus & Martin, 2004).

As discussed above, student-teacher communication has extended beyond the classroom, blurring the boundaries. For this reason, Buckingham (2007) stated that utilisation of digital technologies should be approached from a pedagogical perspective. This approach should help both teachers and students manage their communication processes, and in this way, students will gain skills and competencies on how to communicate with their friends and teachers. The amount and relevance of self-disclosure are critical components of communication since there are studies claiming that an increase in teachers’ self-disclosure results in students’ uncivil behaviours (Trad et al., 2012).

Self-disclosure is a kind of friendly communication which positively affects student participation and raises teacher credibility (Cayanus & Martin, 2008). There is a moderate association between teacher credibility and teacher behaviours, such as humour, technology use, and aggressive messages (Finn et al., 2009). When students perceive their teacher as less credible, their motivation decreases, and they show less respect to their teacher. As a result of the combination of these elements, student learning is decreased. Therefore, teachers’ credibility is the key factor in attaining successful student communication.

Various studies have shown that students’ learning is positively affected when they attribute high credibility to their teachers (Frymier & Thompson, 1992; McCroskey et al., 2004); however, SNS communication as a way of establishing friendships between teachers and students may impact on the boundaries of personal and professional life negatively in terms of credibility. For example, Barber and Pearce (2008) argued that the teacher’s presence on Facebook affected teacher credibility adversely, and it was not only their presence but also what was shared that could possibly have an effect on perceptions towards teachers. For instance, if a student is exposed to unwanted photos of the teacher on Facebook, this can affect the teacher’s credibility negatively (Hutchens & Hayes, 2014; Johnson, 2015). Since excessive disclosure can decrease teacher’s credibility, contrary to what Mazer et al. (2009) reported that self-disclosure increases teacher credibility, teachers should pay attention to the type of information they share and the amount of disclosure they have with students (Johnson, 2015).

Communication practices between teachers and students and how they perceive each other’s behaviours on SNSs needs further investigation (Manca & Ranieri, 2015; 2017). Some research reveals that students prefer passive behaviours while interacting with their teachers and avoid active interactions, such as chatting, commenting, and posting (Aydin, 2014). Understanding why learners enact this behaviour would reveal how SNS-based friendships can be utilised for better communication. Thus, it is important to explore teacher-student friendship on SNSs to determine how students perceive their teachers’ use of SNSs and how teachers should use these social interaction tools.

3. Methodology

3.1. Research aim and research questions

The existing research mostly focuses on use of SNSs for academic purposes. In general, studies report the effects of usage or non-usage of SNSs on students’ achievement and the use of SNSs as communication tools for teaching and learning processes (Froment et al., 2017). There is a well-documented doctoral dissertation (Plew, 2011) pertaining to Facebook friendships between teachers and students from the teachers’ perspective. However, there are very few comprehensive studies examining students’ perceptions towards student-teacher relationships on SNSs. Therefore, this study is important for teachers, policy makers, and school authorities in relation to creating new regulations, policies or guidelines on student-teacher relationships on SNSs. With the purpose of analysing the factors that affect student-teacher relationship on SNSs, this study addressed the following research questions:
1) What are the students’ views about the student-teacher interaction in SNSs?
2) What type of posts do students want their teachers to share and not to share?
3) What type of actions do students expect from their teachers on SNSs?
4) What are the factors that affect the student-teacher relationship on SNSs?

3.2. Research design

This study used a mixed-methods approach with an exploratory sequential design (Creswell, 2011). In this context, qualitative data collection and an analysis shaped quantitative data collection tool were utilised; therefore, the interview results emerging from the first phase of the study assisted in developing the instrument of the second phase of the study. In such exploratory research design, researchers often try to understand a situation using a qualitative research group with the aim of developing a quantitative instrument based on the obtained qualitative data. The final aim is to test and generalize the findings of the first phase of the study via a large number of participants. The priority of this study was quantitative, with a greater emphasis being placed on quantitative methods.

3.3. Participants

In the qualitative phase, there were 21 university students attending a large state university in Turkey. The participants in the quantitative phase comprised 1,324 university students from 19 different universities in Turkey. Descriptive data about the participants obtained from the qualitative and the quantitative phases are summarised in Table 1. The participants were selected via convenience sampling method. The immediate academic colleagues of the researchers were the main sources for finding the participants. The participants were undergraduates ranging from freshmen to seniors aged from 18 to 23 years, attending various departments of different faculties (education, law, engineering, sport sciences, communication, and so on).

<table>
<thead>
<tr>
<th>Table 1. Frequency distribution of genders by data source</th>
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<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

3.4. Data collection and analysis

The primary data collection tool was the semi-structured interview developed by the researchers. To ensure the validity of the data collection tool, two experts were consulted and two other researchers from the same academic field reviewed the open-ended questions. According to their feedback, the interview questions were modified and finalised. Examples of the interview questions are: “What do you think about being friends with your teachers on social networks? Can you elaborate on your response?” and “What kind of content should or should not be shared by your teachers on social networks?”.

The qualitative data were analysed with the content analysis method (Strauss & Corbin, 1990). The qualitative data of the study were transcribed, segmented, and coded (Johnson & Christensen, 2004). The researchers organised the codes and interpreted the findings to form the items of the data collection instrument of the second phase (Yildirim & Simsek, 2005). The qualitative data were analysed by two researchers for inter-rater reliability.

The second data collection tool was the questionnaire used to obtain the quantitative data of the study. The questionnaire was developed based on the scale development stages recommended by DeVellis (2003). The first step was to create an item pool based on the interview results and the researchers’ experiences. The questionnaire was determined to be a five-point Likert scale. Then, the questionnaire items were evaluated by field experts in terms of validity and clarity. An exploratory factor analysis (EFA) was applied to group-related items, and five items were removed. Thus, the questionnaire was finalised with 17 items. In order to determine the factor pattern coefficients, the quantitative data were analysed via the principal components analysis (PCA), which “simplifies the complexity in high-dimensional data while retaining trends and patterns” (Lever et al., 2017: 641). The suggestion of Thompson (2004) that

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noteworthy factors should have eigenvalues greater than 1.0, which is also known as the K1 rule, was applied.

4. Results and analysis
4.1. Qualitative results

As summarized in the dataset (http://bit.ly/33kFVcB), the interviews with the students revealed their views and assisted in the development of the items in the questionnaire. The most prominent finding is that according to the students, political and religious views should not be shared by teachers. This finding is also included in the quantitative phase as two separate items, as explained in the next sub-chapter.

Additionally, some students did not want to be friends with their teachers on SNSs because they believed that being friend with a teacher on social media would probably affect the level of respect between them negatively. On the other hand, more than half of the students saw being a friend with their teachers on SNSs as a positive contribution to their daily interaction. In addition, the students thought that SNSs increased communication between students and teachers.

4.2. Quantitative results

EFA was conducted to ensure the construct validity of the instrument using IBM SPSS v. 20. The result shows that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.87, suggesting the absence of multi-collinearity. A KMO greater than .50 is considered acceptable, a value above .80 is commendable (Kaiser, 1974), and values closer to 1 indicate a better correlation between variables (Norusis, 1998). Bartlett’s test for sphericity was performed, and the approximate chi-square was 11058.274, p<.000. These two tests showed that factorial analysis was appropriate for this set of data.

PCA with Varimax rotation was used to reveal the factor loadings. Four factors emerged from the data: The first factor, consisting of four items, was labelled as “perceived utility”, the second factor (seven items) as “perceived barriers”, the third factor (two items) as “perceived unfavourable teacher behaviours”, and the last factor (four items) as “perceived favourable teacher behaviours”. The factorial loadings, mean and standard deviation of the items are presented in dataset (http://bit.ly/2XIBIOy).

Table 2 presents the four noteworthy factors with an Eigenvalue greater than 1, as suggested by Guttman (1954, cited in Thompson, 2004). The satisfactory reliability values of the factors of the scale ranged from 0.72 to 0.91, and that of the whole scale was 0.83. The highest variance (34.69%) belonged to the perceived barriers factor and the lowest variance (7.83%) to the perceived unfavourable teacher behaviours. The percentages of variance explained by the remaining two factors were 15.35% for perceived utility and 9.43% for perceived favourable teacher behaviours. The four factors accounted for 67.30% of the total variance.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach alpha</th>
<th>Eigenvalue</th>
<th>Explained variance (%)</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived utility</td>
<td>0.91</td>
<td>5.89</td>
<td>34.69</td>
<td>34.69</td>
</tr>
<tr>
<td>Perceived barriers</td>
<td>0.83</td>
<td>2.60</td>
<td>15.34</td>
<td>50.05</td>
</tr>
<tr>
<td>Perceived favourable</td>
<td>0.72</td>
<td>1.60</td>
<td>9.43</td>
<td>59.47</td>
</tr>
<tr>
<td>teacher behaviours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived unfavourable teacher</td>
<td>0.80</td>
<td>1.33</td>
<td>7.83</td>
<td>67.30</td>
</tr>
<tr>
<td>behaviours</td>
<td></td>
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5. Discussion

In this era, SNSs have become a part of most people’s daily routine, including university teachers and students. The positive aspects of SNSs, especially in terms of classroom practices for teaching and learning (Aydin, 2012; Gao et al., 2012; Tess, 2013) have been mostly studied; however, research into the communicative and socialisation issues of SNSs focusing on the friendship of the teacher and student are very limited. In this framework, this study focused on a comprehensive examination of the students’ perceptions concerning the student-teacher relationship on SNSs. The students’ responses in relation to the four research questions are presented below. What are the students’ views about student-teacher interaction on SNSs? Based on the qualitative findings, more than half of the students thought positively
about student-teacher friendship on SNSs. Although from a different education level, our finding is parallel to Hershkovitz and Forkosh-Baruch’s (2013) study, which found that secondary school students wanted to befriend their teachers. Additionally, the students indicated that being a friend with their teachers on social media had a positive contribution to their communication with them. The students perceived SNSs as a facilitating factor for the communication between students and teachers. Research studies claim that SNSs could be a contributing tool for improving learning and communication with students (Kleinglass, 2005, cited in Kolek & Saunders, 2008). Similarly, our research findings showed that more than half of the students claimed that being a friend with their course teachers on SNSs increased their communication with them.

The literature mainly reports that for the majority of students, communication via SNSs is appropriate; however, for a minority of students, communication via SNSs was unwanted (Miron & Ravid, 2015). According to Hutchens and Hayes (2014), students prefer to use Facebook for instructional purposes, but they (73%) do not approve of friendship on SNSs mainly due to privacy concerns. This study also revealed some privacy issues about teacher-student relationship, with the most prominent being that some students indicated that teachers should not share contents about their political and religious views. Five of the students believed that being a friend with their teachers would negatively affect the level of respect between them. The finding showing that the students indicated they did not want to be friends with their teachers on SNSs because they thought that being a friend would negatively affect the level of respect can be explained by some kind of behaviours in Turkish culture being considered as disrespectful. This finding indicates that the students may have given their responses based on thinking that their communication with their teachers would be very informal, and therefore perceived them as discourteous. From the teachers’ perspective, Göktas (2015) revealed a similar issue, stating that some active students’ behaviours, such as chatting, posting, and poking “can be considered disrespectful by their teachers in Turkish culture”. Furthermore, some teachers want the student-teacher relationship to be more formal (Akkoyunlu et al., 2015).

What are the factors that affect student-teacher relationship on SNSs? According to the quantitative findings, the following four factors affected student teacher friendship on SNSs: perceived utility, perceived barriers, perceived favourable teacher behaviours, and perceived unfavourable teacher behaviours. The statistical dataset provides detailed information about the factors and the related items (Turan et al., 2019b).

What kind of actions do students expect from their teachers on SNSs? When the factor of perceived favourable teacher behaviours was examined, it was seen that the students liked some kind of interaction with their teachers. For example, they favoured their teachers’ sharing information about their personal life and professional developments. A descriptive study by Göktas (2015) of 416 undergraduate physical education and sport students reported similar results in the item “read my teachers’ education information”, which had the highest mean score among 23 items, and the third and fourth items having higher mean scores were “read my teachers’ status updates” and “watch videos my teachers’ post”. Aydin’s (2014) study with 121 English language teaching undergraduate students revealed almost the same results, with the item “read my teachers’ status updates” having the highest mean score, followed by viewing photos and videos of teachers. This reaction seems appropriate to the nature of SNSs. Students can be curious about their teachers; therefore they want to read basic information about them.

What kind of posts do students want their teachers to share and not to share? When the factor perceived unfavourable teacher behaviours was examined, the students mostly disliked their teachers’ sharing their political and religious views. Previous research studies also reported that students negatively perceived some kind of teacher self-disclosure (Kearney et al., 1991; McBride & Wahl, 2005). This was also the most important finding in the qualitative phase of the study, as stated previously. In her blog concerning social media, Fuglei (2014) gave the most important tip, “don’t say anything on your social media profile that you wouldn’t say in class”. Nemetz (2012) designed a study in which the students rated the appropriateness of Facebook scenarios depicting fictional faculty behaviours. She reported the following behaviours from the least to the most appropriate: “lip ring comment, drinking, violation comment, professor reports reputation of other professors, party information request, racism assignment,
Jesus statement, ...” (Nemetz, 2012: 6). The perceived utility factor included actions about SNSs’ contributions to students’ participation in the course, motivation towards course, communication with their teachers, and their expectations about receiving more feedback concerning their courses. Social media is a tool that can enhance communication, and this effect can be seen in educational environments in particular. As a consequence, students expect and tend to use social media to communicate with their teachers (Hamid et al., 2015). This communication with the students generally refers to announcements, such as scheduling and dates of exams, organization purposes (Froment et al., 2017), and content sharing (Draskovic et al., 2013). Such interaction with their teachers is itself a motivation for students (Draskovic et al., 2013), which positively affects academic motivation (Imlawi et al., 2015) and academic performance (Sarapin & Morris, 2015).

According to students, under the perceived barriers factor, the biggest barrier to interacting with their teachers was that being a friend in SNSs would affect their communication negatively. The intimacy level between teachers and students can be the starting point of the discussion. Song et al. (2016) suggested that student and teacher relationship in online environments was more intimate than face-to-face environments. Therefore, students might think that sharing information might negatively affect their professional communication, and it is possible that this is why the students in the current study indicated that they did not want their teachers to see their posts.

The responses to other items, especially those about bias and prejudice support this inference. A similar discussion from teachers’ perspective was presented by Akkoyunlu et al. (2015). The teachers in their study stated that they thought they could not be fair to their students when they knew about their students’ private lives, and it is noteworthy that this item was the second most loaded item in their study, clearly showing that neither teachers nor students wanted their posts to be seen by the other person. Furthermore, some students indicated that seeing their teachers’ posts might negatively affect their attitude to their teachers. This might be the main reason why the students did not want to send a friend request to course teachers.

6. Conclusions

New media has evolved into a participatory and interactive culture. Social media inevitably reflects values and ideologies. Contemporary media now address different skills and competencies; i.e., multiple literacies “that are required by the whole range of contemporary forms of communication” (Buckingham, 2008: 88). A person who produces a media message should consider how the target audience will perceive and respond to the message. Teachers should avoid possible negative self-disclosure to their students (Miller et al., 2014).

Although further research is required on teachers’ perspectives, meanwhile we suggest that the guidelines concerning student-teacher SNS communication from various studies (Kearney et al., 1991; McBride & Wahl, 2005; Miller et al., 2014) are followed in addition to our main finding that students consider teachers should not share political or religious views with them over SNSs. Teachers should, therefore, have two separate accounts, one for personal life and one for professional issues. In addition, teachers could use only Facebook course groups for interaction with students, which would prevent the latter from seeing what teachers are sharing. On the other hand, several studies have shown (Draskovic et al., 2013) that students expect, to some degree, that teachers share developments in their professional life and events in their personal life. This finding was confirmed in our study. Teachers should, thus, take this into account when communicating with students over SNSs.

The literature review and our study reveal that student-teacher communication over SNS is both positive and negatively viewed and experienced by students. There is, thus, a dichotomy: certain actions must be avoided, but others that facilitate interaction with students are to be encouraged. Communication on SNSs can be carried out according to relevant policies or guidelines determined jointly by students and teachers or the respective institution. Students and teachers should be given information about the privacy settings of SNSs so that they can adjust who can see their posts and with whom they share other information.
6.1. Recommendations for further research
Since this study focused on the students’ perspective, further investigations should be undertaken concerning teachers’ views about student-teacher friendship. Teachers might not favour communication via SNSs because it will surely interrupt and distract their daily routines, such as lecturing, researching, and organising official meetings. Therefore, it is important to elucidate teachers’ perspective about communication over SNSs. Since the social and cultural environment affects communication, to determine how different cultures react to SNSs communication, the same questionnaire can be applied to participants from various cultures.

6.2. Limitations
Although this research had over 1,000 participants, the participants were reached through convenience sampling; the data obtained from 1,324 respondents cannot give a representative result for Turkey. In addition, culture is one of the most important determinants of human relations, and the data in this study was affected by the subculture of university students in Turkey. Lastly, although it was not intended, the majority of the students that volunteered were female, and it is possible that female students’ online attitude differs from that of male students.

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Domesticated voices and false participation: Anatomy of interaction on transmedia podcasting

Voces domesticadas y falsa participación: Anatomía de la interacción en el podcasting transmedia

ABSTRACT
Transmedia podcasting (transpodcast) is an example of a digital medium essentially promoted by a community of independent creators that arises from the technological advancement derived from the arrival of Web 2.0. This medium is considered to offer its users greater possibilities of participation and co-creation by abandoning the traditional communicative models based on unidirectionality. The objective of this work is to determine how audience engagement takes place in this medium, taking into consideration the analysis of its participation spaces. In order to reach this goal, a Mixed Method Research Design was used, integrating two case studies with a total sample of 2,490 units of participation generated by users on the Voox platform, the blogs of the two selected projects, and messages on Twitter. The research was complemented with an ethnographic investigation through observational methods on the presence of the user’s voice in the podcasts of a total of 19 transpodcast projects. Despite the fact that numerous and relevant voices have defended that the new media ecosystem causes the decentralization and democratization of the agenda-setting and empowers ordinary citizens, this study shows a less optimistic and more critical perspective about the possibilities of meaningful citizen participation in online discourse.

KEYWORDS | PALABRAS CLAVE
Audience participation, digital media, podcasting, engagement, interaction, transmedia, interaction analysis, mixed methodology.
1. Introduction

In its first fifteen years, podcasting has been configured as a practice that represents the best of digital media production on the Web. This medium can be characterized as a way to share content made in a personal way, as a niche and immersive medium, as a platform to disseminate information and research openly and, above all, as a challenge to the hegemony of the text and the image as prominent communicative languages in the digital age. The podcast is considered a participatory and collaborative medium (Löwgren & Reimer, 2013) that facilitates access into the communication arena to individuals without media experience, constituting a type of citizen journalism (Gillmor, 2004).

In recent years, numerous authors have analyzed podcasting as a powerful phenomenon within the digital media ecosystem (Massarelli & Perrotta, 2006; Sterne, 2008; Gallego, 2010; Cordeiro, 2010; 2012; Markman, 2011; Millette, 2011; Lindgren, 2014; Aguayo, 2015; Bonini, 2015; McHugh, 2016). One of the main perceptions coming from these studies is that the evolution of the podcast does not seem to be linked to technology. In fact, the technological tools applied to the podcast have evolved very little since the origin of the medium, whose development seems to be connected to the implementation of better user experiences and the creation of higher quality content. Not only are the media characterized by their technological specificities, but also by their textual differences, industrial practices, audience behavior and cultural understanding (Lotz, 2017). In that sense, podcasts are ontologically and culturally different from the rest of the media: they are made by podcasters and not by radio producers, for mobile listeners, and in search of niche content that is consumed on demand (Spinelli & Dann, 2019). These aspects, combined with its differential technological features, its specific financing mechanisms and the development of talent applied to the medium, has helped podcasting to outline its own cultural space (Berry, 2018) that, concomitantly, challenges the logic and effects of the mediation itself (Llinares, 2018). This own cultural space (López-Villafranca, 2019; Wade-Morris et al., 2019) has been promoted in a richer manner from amateur and independent production, which has managed to develop a powerful ethos of authenticity (Sullivan, 2018) with renewed bridging possibilities for its users (Światek, 2018).

Parallel to the creation of amateur communities, the professional podcast has experienced a great evolution in the last five years. The podcast became a mainstream phenomenon in the United States thanks to Serial (García-Marín, 2019), a show launched in 2014 that completely changed the perceptions about this medium (Dredge, 2014; Hancock & McMurtry, 2018). Its success lies in the exploitation of this medium’s specific characteristics (Sellas & Solá, 2019): mobility, narrative fragmentation, and cross-platform integration. The publication of its chapters with an unpredictable periodicity-possible on the grounds of the podcast’s particular content distribution method and the complexity and richness of its storytelling -derived from the possibility of pausing and reproducing the audio as many times as the user wants- led its producers to go beyond the sound language to furnish their creations with elements built in other media languages, generating interactive experiences, impossible to produce on the radio. In fact, the podcast rarely exists as a single sound entity, but forms an intertextual ecosystem (Barrios-O’Neill, 2018) characterized by a legible complexity (Tierney, 2015). At the same time, the podcast is considered a user-centered medium where the listener must actively decide their consumption pattern since, unlike other media, the interaction user-podcast does not exist in a single possible manner. Thus, podcasting, supposedly, opens up new forms of interaction and participation, even reaching performative participation (Wilson, 2018), which involves the physical interaction of the listener with the space depicted in the show.

The podcast’s multiplatform and cross-platform character and its distinct interactive possibilities have resulted in the birth of transpodcast, medium derived from podcasting. Analogous to the notion of transradio (transmedia radio) coined by Martínez-Costa (2015), the concept of transpodcast intends to describe those media projects that, having the podcast as a core medium, extend their storytelling and expand their communicative structure to other media, platforms and media languages, acquiring an evident transmedia nature (Wraith, 2016; García-Marín & Aparici, 2018). Despite all the innovations implemented by podcasting and transpodcast, a central issue in the culture of these media continues without being sufficiently investigated: the presence/participation of the user/listener on the different platforms used by both media. Has transmedia evolution applied to sound content generated greater participatory experiences for users/listeners? To what extent does transpodcast reproduce the old media
models based on one-way communication processes? How is the digital public space for conversations and debates constituted and promoted by the transpodcast producers? In connection with these questions, our research raises the following objectives:

1) Analyze the functions that, within this type of transmedia projects, the different digital platforms perform as spaces for participation and interaction between producers and users and between the users themselves.

2) Map the actions carried out and the contents produced by the users in these participation spaces, in order to determine to what degree the user’s meaningful participation takes place resulting in the content co-creation in this medium.

3) Construct a taxonomy about the different models/levels in which the listener’s participation in the shows is performed.

2. Materials and methods

2.1. Case studies selection

The participation spaces in transpodcast are defined as the different platforms in which users and fans create any type of content and interact with the rest of members of their community. The analysis of these participation platforms was established through a Mixed Method Research Design and executed by analyzing two case studies. The two shows chosen for the analysis had to contain the following eligibility criteria:

a) Non-professional and independent character. The study focused on the amateur community due to its majority status within the medium in Spain and, presumably, opening greater participatory possibilities compared to professional podcasting.

b) Having a wide community of users derived from its high relevance in the podcastphere.

c) Offering the possibility of commenting on chapters hosted in their blogs without previous registration.

d) The two podcasts chosen should focus on different topics and adopt distinct formats.

Considering these variables, the transcasting projects chosen as the two case studies were ‘Vidas en Red’ and Fans fiction. The former, focused on technological issues, is a monologue –published daily– presented by a single podcaster. The latter is an informal chat between two TV series and movie enthusiasts, with monthly frequency.

2.2. Sample and procedures

The two projects selected as case studies are pioneers on podcast production dealing with technology and TV series. These topics are two of the most relevant and prominent in the Spanish independent podcastsphere. In the Spanish amateur context, they are regarded as reference podcasts due to their high number of listeners and monthly downloads. In addition, in the case of Fans Fiction, an entire network of podcasts about TV topics has been generated by adding other shows with alternative content to the central podcast. In addition, their formats (conversational and monologue) are the most representative ones in the Spanish context, and their hosts are popular figures: Converso (Vidas en Red) is a renowned technology specialist, while María Santonja (Fans Fiction) was one of the organizers of the 2017 national independent podcasting event in Alicante, and usually collaborates with major commercial radio stations, such as Cadena SER, as an expert in TV series. In both cases, the podcaster’s popularity is a catalyst for their podcasts’ visibility and relevance. Furthermore, the last element that justifies the representative and referential nature of these projects is the fact that their structure and central features have been copied by several independent podcasts. Both case studies focused on the analysis of the comments on the iVoox podcasting repository, messages on blogs, tweets generated by their communities, and the mode of listener’s participation in both podcasts (sound content):

a) Study of the comments on iVoox. The sample was composed by the users’ contributions published in the last 50 chapters hosted on the account of these podcasts. The study was carried out during three months (from November 2017 to January 2018).

b) Analysis of blog comments. All comments hosted related to the last 50 posts published on the blog for each of the two projects chosen were analyzed. They were studied between November 2017 and
January 2018.

c) Analysis of Twitter. All tweets addressed to the official accounts of the two projects during November 2017 comprised the sample. For data collection, the Tweetreach application was used, which is a specific tool for monitoring activity on social networks.

The messages and tweets were analyzed through “coding and counting”, a quantitative method consisting in “encoding the data and then counting the occurrence of a coded item, together with content analysis” (Torrego & Gutiérrez, 2016). For the coding and classification of the data extracted on these three platforms, a registration sheet (Table 1) was used, including the following predetermined categories: textual (referred to comments related to the specific topic of the show), metatextual (those contents that are related to the project itself, with its authors or with its production process) and extratextual (comments that do not fit in any of the previous two dimensions). These categories were unfolded in 16 subcategories.

The corpus of participatory units analyzed on these three spaces was formed by 2,490 comments and tweets, of which 1,058 (42.49%) were messages on iVoox, 680 comments on blogs (27.30%) and 752 contributions on Twitter (30.20%).

d) Observation of the listener’s voice included in the shows. For its analysis, non-participatory observational methods were used for eleven months, between January 2018 and November 2018. In this case, a decision was made to expand the sample of transpodcast projects in order to include all the shows that received the 2017 Spanish Podcasting Awards. The number of shows studied in this stage was 19. In order to deal with the analysis, four categories, divided into a total of 16 subcategories, were established (Table 2). The four major dimensions to be observed were: a) the way in which listeners are asked to participate, b) their model of presence in the shows, c) the space occupied by the listeners within the shows, and d) the objective of the participatory act.

Table 1. Registration sheet for the quantitative study of comments on iVoox, blogs and Twitter

<table>
<thead>
<tr>
<th>Textual</th>
<th>Metatextual</th>
<th>Extratextual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content extension</td>
<td>Production</td>
<td>Listening situation / circumstance</td>
</tr>
<tr>
<td>Request/query</td>
<td>About the authors</td>
<td>Personal reference</td>
</tr>
<tr>
<td>Emotional expression</td>
<td>Project news</td>
<td>Others (indicate the type)</td>
</tr>
<tr>
<td>Critiques/suggestions</td>
<td>Questions about the project</td>
<td></td>
</tr>
<tr>
<td>Participation in contexts/activities</td>
<td>General suggestions</td>
<td></td>
</tr>
<tr>
<td>Others (indicate the type)</td>
<td>Advertising/promotion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Categories and subcategories analyzed through non-participatory observation of the listeners’ presence in the shows

<table>
<thead>
<tr>
<th>Participation request method</th>
<th>Listener presence</th>
<th>Space occupied by the listener</th>
<th>Participation act's objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placement of the call to request participation within the program (start, end, etc.).</td>
<td>Reference from the podcast host.</td>
<td>Time spent on listener participation.</td>
<td>Possibility of participating (available for all listeners or only for those who accomplish specific requirements, etc.).</td>
</tr>
<tr>
<td>Format of the call to participate (pre-recorded announcement, live speech, etc.).</td>
<td>Reading of the listener comment.</td>
<td>Existence of specific sections and when they are performed.</td>
<td>Role of listeners assigned by the show's managers.</td>
</tr>
<tr>
<td>Types and variety of participation modes.</td>
<td>Pre-recorded transmission.</td>
<td>Fan special show.</td>
<td></td>
</tr>
<tr>
<td>Possible incentives.</td>
<td>Live intervention (phone call model).</td>
<td>Ongoing participation during the entire show</td>
<td></td>
</tr>
<tr>
<td>How is participation promoted?</td>
<td>Presence at the time of recording with the rest of the hosts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How is participation executed?</td>
<td>When and where is participation developed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>What is the participation request for?</td>
</tr>
</tbody>
</table>
The research instruments used (quantitative analysis and non-participant observation) were articulated by complementation, a strategy consisting in the aggregation of results derived from different instruments that address the analysis of the object of study from different perspectives (Callejo & Viedma, 2005). In order to code and analyze the data produced from the non-participant observation, the Maxqda software was used, which is a specialized tool to assist in qualitative research and mixed methods.

3. Results

3.1. Participation on iVoox

Regarding the Vidas en red podcast, a total of 618 comments were analyzed, of which the majority (58.41%) were messages that extend the content of the show (Table 3). These comments can be identified as a type of content relevant as a complement to the podcast’s narrative. The users personal experience with the technological devices analyzed by the podcaster in his shows is the issue most dealt with by the community flourished around this program. Expressions of emotion or empathy about the show’s content (18.60%) were the second content type most generated by users, while 15.85% were linked to critical messages about the content that the program offers. The most common criticisms focus on the abuse of off-topic chapters, which is a practice that many podcast users generally disapprove.

In the case of Fans Fiction, a smaller number of comments was produced (440); of which, unlike Vidas en red, the main content (47.04%) is connected to expressions of emotion or empathy towards the podcasters’ discourse. This project receives a lower percentage of comments included under the label “narrative extension” (only 40.68%) and a lower average of critical messages (6.81%) than Vidas en red.

3.2. Comments on blogs

Participation in this platform tends to be lower compared to that observed on iVoox. While the latter displays a greater amount of messages that exceeded a thousand interventions, in the case of blogs the number of comments was 680 (30% lower). This difference is especially meaningful in the case of Vidas en red, whose community was able to generate 618 comments on the last 50 chapters uploaded on iVoox and only 39 on the last 50 posts of its blog. Almost half of the posts (44%) of this transpodcast project did not receive any comments. The more technological profile of this community can cause its members to be more accustomed to content production from the iVoox app and using social networks (instead of blogs) in
parallel to the execution of another activity. Usually the comments posted on platforms such as websites or blogs are generated from computers, in a domestic environment or, at least, in a situation where the only activity being carried out is precisely the writing of such comment.

Considering Vidas en red, the texts produced by its followers are, mostly, extensions of the content produced in the podcast (43.58%), expressions of emotion/empathy (35.89%) and, to a lesser extent, queries and requests to the podcaster (12.82%). In this case, the critical content appears in fourth place, with 8% of the comments produced.

This low percentage of critical content obtained in the study applied to Vidas en red podcast is also observed when analyzing Fans Fiction, whose community barely produces this textual category in the numerous comments posted on its website. Its followers tend to produce more significant content (narrative extension) in this space than in the iVoox service, since 68% of registered interventions serve to extend the podcast’s storytelling. In addition, 31% of comments are linked to emotional expressions. The remaining categories are barely represented.

3.3. Twitter

The data obtained show the relevance of promotional messages (those that serve to advertise the general activity of the program, invitation of special collaborators, publication of new chapters, recording of special episodes, etc.) as content generated by the communities of the two podcasts analyzed. Although with nuances and with different figures and results, on Twitter there is a greater presence of this type of promotional content compared to the use of this category in comments hosted on podcast platforms and blogs.

### Table 3. Statistical study of the comments on iVoox and blogs, and participation on Twitter communities of the two selected transpodcasts

<table>
<thead>
<tr>
<th>Comments on iVoox</th>
<th>Content extension</th>
<th>Emotion</th>
<th>Critiques</th>
<th>Request</th>
<th>Production</th>
<th>Situation</th>
<th>Others</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vidas en red</td>
<td>361</td>
<td>115</td>
<td>98</td>
<td>14.226</td>
<td>10</td>
<td>1</td>
<td>19</td>
<td>618</td>
</tr>
<tr>
<td>Fans Fiction</td>
<td>179</td>
<td>207</td>
<td>30.681</td>
<td>1.59%</td>
<td>7</td>
<td>7</td>
<td>1</td>
<td>440</td>
</tr>
<tr>
<td>Total</td>
<td>540</td>
<td>322</td>
<td>128</td>
<td>1.98%</td>
<td>17</td>
<td>2</td>
<td>28</td>
<td>1058</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments on blogs</th>
<th>Content extension</th>
<th>Emotion</th>
<th>Critiques</th>
<th>Request</th>
<th>Production</th>
<th>Authors</th>
<th>General suggestion</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vidas en red</td>
<td>17</td>
<td>14</td>
<td>35.89%</td>
<td>3</td>
<td>5</td>
<td>12.82%</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>Fans Fiction</td>
<td>437</td>
<td>196</td>
<td>31%</td>
<td>2</td>
<td>2</td>
<td>0.31%</td>
<td>2</td>
<td>641</td>
</tr>
<tr>
<td>Total</td>
<td>454</td>
<td>210</td>
<td>30.88%</td>
<td>5</td>
<td>7</td>
<td>0.73%</td>
<td>2</td>
<td>680</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participation on Twitter</th>
<th>Content extension</th>
<th>Emotion</th>
<th>Promot.</th>
<th>Request</th>
<th>Off-topic</th>
<th>Others</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vidas en red</td>
<td>268</td>
<td>150</td>
<td>95</td>
<td>29.490</td>
<td>89</td>
<td>15.05%</td>
<td>591</td>
</tr>
<tr>
<td>Fans Fiction</td>
<td>14.28%</td>
<td>21</td>
<td>95</td>
<td>0</td>
<td>95</td>
<td>5</td>
<td>161</td>
</tr>
<tr>
<td>Total</td>
<td>291</td>
<td>171</td>
<td>24.46%</td>
<td>29.36%</td>
<td>31</td>
<td>4.12%</td>
<td>752</td>
</tr>
</tbody>
</table>

The community of Vidas en red was much more active in the same period (November 2017) than the Fans Fiction community. The former managed to gather almost 600 comments created by its followers, a high number compared to the much more modest amount of 161 tweets that was generated by Fans Fiction users. This difference in tweet production can be explained by three relevant reasons.

On the one hand, the Fans fiction Twitter community is more limited quantitatively when compared to the number of followers accumulated by the Vidas en red account. On the other hand, the latter has enthusiasts with a more technological profile and more accustomed to creating content on social networks.
It should be noted that Vidas en red followers produced a lower volume of comments on the project blog in comparison to Fans fiction followers, which suggests that this community-Vidas en red- prefers to participate in a more synchronous way (when listening to the podcast), in contrast to the participation on blogs, regarded as more asynchronous. Finally, Vidas en red does not have a specific Twitter account, so the followers of the project must contact the personal account of its creator and single host (@Converso72), unlike Fans fiction, which when presented by several podcasters, has an official account with the name of the program, of a more corporate nature.

This difference is considered to be essential, since the official Fans fiction account can be perceived by its own community as less close and more impersonal compared to the perception of closeness that Vidas en red followers can experience. These differences reflect how the logic of connection and affinity built in these communities seems to be best achieved through the adoption of accounts that community members perceive as more personal.

Another element derived from the analysis of the use of Twitter is the greater generation of debates and discussions compared to the situation present in iVoox and blogs. This aspect is especially visible in the case of Vidas en red, where certain queries by the creator of the podcast generated conversations within the community for several days.

3.4. Listener participation on the shows

By applying the observational methods previously mentioned, the following five levels/models of participation within transmedia podcasts were found:

- **Level 0.** In this model, the communication mode is completely vertical, broadcast-style, identical to that of the radio. A clear differentiation is established between senders and receivers. There is no participation or co-creation by the user. The listener has no relevance in the show and there are no sections for their voice to be heard. Followers are not incorporated into the programs at any time.

- **Level 1.** The communication mode continues to be clearly one-way and hierarchical, although the hosts make some brief and superficial mentions of listeners who have contacted the program by any of the methods provided by the project. On certain occasions, conversations that arise from the participation in online platforms jump to the core media object, the podcast, introduced by the hosts. It is, however, a very subtle way of promoting the inclusion of the user’s voice, since the references to these conversations usually occur very superficially, without detailed descriptions about the development of the initial interaction.

- **Level 2.** It consists of an evolution of the previous model: hosts introduce the opinions of their followers through the reading of comments coming from the different platforms provided by the project for that purpose. These comments are often read in a specific section of the program (of very short duration), usually in the final part of the show. The model continues to be absolutely hierarchical.

- **Level 3.** It is configured as a model similar to the previous one, with a main difference: the introduction of the user’s voice after sending an audio message. The communicative model remains vertical, as there is still a clear imbalance between the time dedicated to the follower’s voice and the subsequent comment of the podcaster regarding their contribution. The fact that users who participate with their audio messages are also podcast creators significantly facilitates their participation in other podcasts, either because they are able to produce materials with a higher technical quality or because this type of users are relevant or popular figures in the podcast community due to their creative work. For this reason, we observe the existence of a bias situated in the production and relevance within the community itself: users who contribute relevant materials to the podcastphere have more possibilities of being invited to co-create podcasts by others.

- **Level 4.** This model is linked to the creation of specific and exclusive chapters for the user’s participation. These shows are designed as collaborative spaces completely produced with audio messages by listeners, through user comments read by podcasters and later commented by
them, or from a combination of messages of both types. In any case, although the presence of the user is introduced, the model does not cease to have a hierarchical structure: there is no dialogue between listener and podcaster since the latter has no possibility of replying to the comments of the hosts, so the relationship between both is not totally bidirectional. The presence of the user is limited to a single intervention and, in addition, the approach to managing participation is not open: podcasters stand as gatekeepers by selecting the participants and deciding which interventions will be included in the programs. On the other hand, these special shows are often organized as a solution for creating content in times when the podcaster has limited availability and/or little activity related to the topic of the show (holidays or summer period, for instance). They are configured as a strategy to exploit the free labour of fans in those periods of difficulties to generate new content.

4. Discussion and conclusions

The research data show the differentiated use that listeners of different transpodcast projects make of iVoox comments and Twitter posts. While the Vidas en red community create more meaningful messages that can be considered as narrative extensions of this podcast’s storytelling, the content produced by the Fans fiction community tends to be more superficial, connected to the intention of advertising the show or showing personal feelings about the topics covered by its hosts. These differences in the use of the participation spaces lead us to consider that participation in the digital media is not performed in a homogenous way, even within the same medium. Each project has specific characteristics (related to their own listeners, the topics the podcasts cover, the features of the hosts, etc.) that generate different conditions for participation. As a consequence, it does not seem appropriate to regard participation as an aspect related to the medium itself, but an element connected to the specific ecosystem created by each project. Because of that, it is possible to assert that participatory media do not exist, what do exist are participatory ecosystems.

On the other hand, one of the main findings of our research is the very limited relevance of the user in the central transpodcast content, the podcast show. Despite the relevance of a significant number of interventions on iVoox, blogs and Twitter, this content is hardly included in the programs as part of their storytelling. In addition, the user voice’s access to the shows is at least as restricted as on analog media. The transpodcast interaction model generally maintains the one-way logic characteristic of the traditional media. According to our research, all the models regarding the users’ participation in podcasts present an unidirectional and hierarchical logic. The listener’s voice is completely domesticated on the grounds that those participating in the shows are clearly managed by presenters, and what sounds like a conversation is actually a staged interaction organized by the editors to fit a pre-established framework (Pinseler, 2015). In order to reach a genuinely horizontal communication process and a true participatory ecosystem in transpodcast, the user/fan should be invited to be part of the podcast as a co-presenter. The participant would have a protagonist role and a continuous presence throughout the duration of the podcast and could enter into discussion with the usual hosts, so the model would be clearly more horizontal and less hierarchical than those previously analyzed. These programs would offer the sensation of breaking the barrier between those who emit and those who traditionally listen, generating greater freshness by introducing a different voice than usual. In their investigations on the participation in radio shows, Higgins and Moss (1982), Orians (1991), and Pinseler (2008) defend the lack of empowerment of the listener on a medium that creates the illusion of being bidirectional communication, without really being bidirectional (Shingler & Wieringa, 1998). Our research concludes that exactly the same unidirectional dynamic is followed by transpodcast producers.

From the analysis of transpodcast user interaction, it is possible to raise issues related to the real communicational empowerment capacity of users in digital media. After the arrival of the Web 2.0 in 2004, many academics began to consider the possibilities of digital communication as an essential channel for the relevant participation of subjects in the public debate based on their coordinated and collaborative action in virtual structures open and lacking hierarchy (Jenkins, 2008; Shirky, 2010). After some initial years where the optimistic visions about the digital universe were hegemonic, the studies and contributions...
of, among others. Prior (2007), Sunstein (2009), Pariser (2011), Turow (2011), Webster (2014), Han (2017), and Lanier (2018) offer a more critical perspective about the democratizing possibilities of the Internet. They define the digital spaces as a conjunction of closed structures that exploit and manipulate the user’s social identities from the exploitation of a network of platforms whose business model is based on the commodification of user data (Srnicek, 2018). These perceptions about the Internet reject the former notions about the ordinary citizen’s empowerment on digital environments.

Understanding how the grammar of interaction between senders and receivers is established is essential to construct processes that break the unidirectional and predominantly passive model that governed the media ecosystem during the twentieth century. Just as each medium defines its own content production language (based on years of evolution, practice and essay) significant participation in each medium (and each media project) also has its own language, which must be discovered through useful research in order to promote and nurture new relationship models between the different actors of communication so as to create truly horizontal and participatory processes.

Future research on the profile and role of audiences and their interaction with digital media should be carried out to determine whether the digital media ecosystem of the 21st century gives audiences a greater capacity to influence on the public debate; or if its voice, despite being shown, continues to have a subordinate role in the public sphere. That is, whether or not the expressive discourse (Allen, 2015) that the user produces on social networks and digital media has real possibilities of becoming influential discourse for transformative purposes.

Funding Agency

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Problematic Internet uses and depression in adolescents: A meta-analysis

Usos problemáticos de Internet y depresión en adolescentes: Meta-análisis

ABSTRACT
Widespread use of the Internet in 21st century society is not risk-free. This paper studies the comorbidity of some problematic uses of Internet with depression in order to assess their correlation. With that aim, a meta-analysis of 19 samples obtained from 13 different studies (n=33,458) was carried out. The subjects of these studies are adolescents between the ages of 12 and 18 years (μ = 15.68) from different cultures and continents (Europe, Euro-Asia, America and Asia). The effect size obtained from the use of a random-effects model (r = 0.3, p<0.000) is significant, moderate and positive, thus confirming the relation between pathologic uses of the Internet and depression. Moreover, meta-regression test results showed that 9% of the variance (R² = 0.09) is associated with the male gender, while age and culture are not significant variables. The variability rate of the studies is high (I² = 87.085%), as a consequence of heterogeneity rather than publication bias, as Egger’s regression test shows (1-tailed p-value=0.25; 2-tailed p-value=0.50, and σ = 1.57). Therefore, the need for specific interventions in secondary education dealing with this issue is evident to ensure that it does not extend into adult life.

RESUMEN
El uso extendido de Internet en la sociedad del siglo XXI no está exento de riesgos. El presente trabajo estudia la comorbilidad entre los usos problemáticos de Internet y la depresión con la finalidad de determinar la existencia de relación entre ambas. Para ello se ha llevado a cabo un meta-análisis, que cuenta con 19 muestras recogidas en 13 investigaciones (n=33,748), con adolescentes de entre 12 y 18 años (μ = 15.68) de diferentes culturas y continentes (Europa, Euro-Asia, América y Asia). El tamaño del efecto obtenido a partir de un modelo de efectos aleatorios (r = 0.3, p<0.000) es significativo, positivo y moderado confirmando la existencia de relación entre usos patológicos de Internet y depresión. Por otra parte, la meta-regresión mostró que el 9% (R² = 0.09) de la varianza es explicada por el sexo masculino, mientras que la edad y la cultura no son variables significativas. La variabilidad de los estudios es elevada (I² = 87.085%) siendo fruto de la heterogeneidad y no del sesgo de publicación, tal y como indicó la prueba de regresión de Egger (p-value 1 tailed = 0.25; p-value 2 tailed = 0.50 y σ = 1.57). Se advierte la necesidad de comenzar a generar proyectos de intervención en Educación Secundaria que traten esta problemática con el objetivo de que no se extienda a la vida adulta.

KEYWORDS | PALABRAS CLAVE
Meta-analysis, adolescence, Internet, pathological use, depression, comorbidity, correlation, moderating effect. Meta-análisis, adolescencia, Internet, uso patológico, depresión, comorbilidad, correlación, efecto moderador.
I. Introduction

In recent years, a spread of Internet use in different cultures has been observed. In the case of Europe, research conducted in several countries shows continuous growth in the frequency of use of new technologies. A clear example is the study by Tsitsika et al. (2014) of European adolescents, which found that 70% of their sample regularly used social networks and that 40% used them for an average of two hours a day. In the case of the United Kingdom (UK), 83% of adolescents aged 12 to 15 years have cellphones and spend 21 hours per week on them (Ofcom, 2017).

In the United States (USA), the Pew Research Center (2015) states that approximately 24% of adolescents are almost constantly connected to social networks. However, this increase does not only occur in Europe and the Americas, Asian teenagers also spend more time on the Internet for different purposes. The case of South Korea is paradigmatic. According to surveys performed in that country, 29.2% of South Korean adolescents are potentially addicted users, a larger proportion than observed for the older population (Israelashvili & Romano, 2016).

According to Jun (2016), this problem is observed in adolescents and young people in industrialized countries. Even so, Zhang et al. (2013) report that Internet addiction (IA) is not unique to first-world countries but is also present in developing countries. That is, the pervasiveness of the Internet has led to pathological uses, which in turn has promoted possible pandemics. The meta-analysis conducted by Cheng and Li (2014) shows that 6% of the adult population suffers from IA.

As Király et al. indicate (2015), the Internet is a portal through which numerous online activities are accessed: social networks, video games, video downloads, etc. Regarding social networks such as Facebook and Instagram, Oberst et al. (2016) state that these platforms allow adolescents to create profiles that reflect their desired self-representation, thus making these platforms very attractive spaces. According to King et al. (2013), the increase in new technological spaces implies changes in our behavior. In the words of Lu et al. (2018), the excessive Internet use can lead to health problems.

The nature of adolescence should be considered in light of potential excessive Internet use, as indicated by Underwood and Ehrenreich (2017). At this stage, human beings are especially susceptible to suffering the negative effects of social networks. In particular, adolescents may face situations that lead to feelings of exclusion or victimization (Underwood & Ehrenreich, 2017).

IA is defined by Young (1998) as an excessive concern with the activities carried out on this platform that creates discomfort in the daily lives of users at the personal, social or professional level. As El-Asam et al. (2019) state, in recent years, several terms have come into use, such as excessive Internet use, problematic Internet use (PIU) and Internet addiction disorder (IAD). Other authors, such as Müller et al. (2016), use the term ”Internet addiction” (IA), which they define as the excessive and uncontrolled use of online applications accessible through the Internet (social networks, online games, pornography sites, etc.).

Although these terms are frequently used, only Internet gaming disorder (IGD) is a recognized disorder. In fact, IGD is included in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, American Psychiatric Association, 2013). Analyses carried out in different countries and cultures show that the persistent use of the Internet (for social networking, online gaming or other activities related to surfing the web) increases the risk of developing addictive behaviors (Müller et al., 2016; Tsitsika et al., 2014).

There are numerous studies that relate the addictive use of the Internet to various health problems that affect the individual and his or her way of relating to the world. The relationship between IA and depression or depressive symptoms is especially alarming. Kaess et al. (2014), in their sample of European adolescents with an average age of 15, found that the pathological use of the Internet is related to different mental problems, including suicidal ideation and depression.

Gámez-Guadix et al. (2014) verified the correlation between depressive disorder and the components of PIU in a population of Spanish adolescents aged 13 to 17. Banjanin et al. (2015) claim that the level of IA is correlated with depressive symptoms in adolescent Serbs aged between 12 and 18. Even so, the relationship between IA or pathological use is not only an endemic problem in Europe. Adolescents from Asia, and North and South America also suffer from these psychological illnesses.
According to several studies, the relationship between addiction and depression is mixed. In this sense, we find several authors who show that addiction affects depressive symptoms (Chou & Edge, 2012; Bickhan et al., 2015). The reverse also occurs: depressive symptoms predict addiction (Bonetti et al., 2010; Kim et al., 2015).

In the first case, the idealization of personal and professional qualities—that is, hiding one’s own defects—could affect one’s mood (Chou & Edge, 2012). Likewise, the lack of family rules regarding the use of new technologies seems to lead to the onset of depressive symptoms (Bickhan et al., 2015). In this sense, it is noteworthy to mention the research of Mehdizadeh (2010), according to which, Facebook users with higher rates of narcissism and lower self-esteem had greater online activity; that is, they were more active.

In the second case, people with depression used their mobile devices to reduce negative feelings (Kim et al., 2015). Likewise, solitary adolescents could have greater difficulty relating face to face, which would increase their interest in relating online (Bonetti et al., 2007). Thus, it is understood that there is no consensus regarding which factor constitutes the dependent variable and which the independent variable is.

Access to the Internet could become a health problem for young people. McLaughlin and King (2015), among others, argue that adolescence continues to be an evolutionary stage of great vulnerability in terms of low self-esteem and the onset of depressive and anxiety disorders. Underwood and Ehrenreich (2017) report that social networks can lead to situations of exclusion and victimization. Therefore, Woods and Scott (2016) support the need to understand the relationship between pathologies and social networks.

Given the evidence of the pathological use of new technologies and the psychological problems that these entail, it should be noted that there are protective factors for their prevention. Authors such as Wu et al. (2015) note that it is essential to guide adolescents in the proper use of the Internet and to rely on tools offered by both the school and the family.

2. Methodology

2.1. Research question

In recent years there has been increasing interest in how adolescents use new technologies and how it is beginning to impact their health. That is, the comorbidity between problematic-addictive use of the Internet and depression in adolescents.

2.2. Criteria for inclusion and exclusion

A series of inclusion criteria are stipulated to develop the search:

- Age of the sample. The study population corresponds to adolescents with a mean age between 12 and 18 (including up to 18.9 years to represent high school and professional education students).
- Methodological nature of the articles. Studies should be experimental and quantitative.
- Date of publication. A range was established from 2013 to 2019.
- Intraobserver reliability. It was decided to select only journals of recognized prestige positioned in the 1st quartile (Q1) in the Scimago Journal & Country Rank.
- The exclusion criteria stipulated are as follows:
  - Biomedical nature. Studies that evaluated addiction and depression using instruments other than psychometric tests were discarded.
  - Adolescent population with special educational needs (SEN) as a main feature. However, it was stipulated that research in which students with SEN were a standard measure according to the normal curve would be accepted.
  - Research studies without clear and accurate quantitative data. Scientific studies that did not present numerical data or that did not clearly state the statistics in question were excluded. Similarly, those for which the CMA software detected any statistical error were also left out of the sample.
2.3. Search strategy

The search strategy followed the requirements of Botella and Sánchez (2015). Searches of three databases -Psycoinfo, Scopus and Science Direct – were performed. Two Boolean searches were carried out with different keywords (see Figure 1). The first search was performed using the Boolean search actions “Social network AND adolescence AND use”. All of the articles obtained were manually screened by reading their title and abstract (Figure 1).

Next, other types of keywords were introduced for the second search, such as “depressive AND (Internet addiction OR addictive level) AND (social network OR Internet)”. The reference lists of the different articles were reviewed, but none met the inclusion criteria. In total, the meta-analysis comprised 13 studies, with k=9 samples from Europe, Asia and the Americas. The search lasted 4 months (October, November and December 2018 and January 2019).

2.4. Coding procedure

The study followed the guidelines provided by the Cochrane Manual of Systematic Reviews in Higgins and Green (2011), which stipulates clear objectives as well as terms related to the criteria for the selection of eligible studies. The studies were coded manually because most of them did not refer explicitly to
addiction related to, or excessive use of new technologies and depression. First, it was necessary to code terms in the same category: “addiction”, “excessive use”, “Internet addiction”, “average and high use”, “problematic Internet use”, “negative consequence of mobile device use (CERM)” and “problematic Facebook use” were coded as problematic use.

As explained by El-Asam et al. (2019), in recent years, various terms have been used, such as “excessive Internet use”, “problematic Internet use (PIU)” or “Internet addiction disorder (IAD)”. On the other hand, only studies that addressed depression were selected; thus, studies were excluded if they contained terms such as “suicidal ideation,” “loss of interest,” “preoccupation,” “shyness,” “loneliness” and “alexithymia,” among others, although they could be symptoms of depressive disorder.

The effect size was calculated from data and expressed as Pearson correlations, odds ratio and sample sizes with p values. These data were entered into the statistical software CMA and returned an effect size of $r=0.3$, which according to Cohen (1998) establishes a significant positive and moderate correlation between the variables.

2.5. Instruments

For the instruments used to measure both problematic Internet use and depression, see Table 1.

<table>
<thead>
<tr>
<th>Author</th>
<th>Problematic use instrument</th>
<th>Depression instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>El-Asam et al.</td>
<td>Problematic Internet Use (PIU)</td>
<td>Patient Health Questionnaire 9 (PHQ)</td>
</tr>
<tr>
<td>Woods &amp; Scott</td>
<td>Social Integration and Emotional Connection subscale of the Social Media Use Integration Scale</td>
<td>Hospital Anxiety and Depression Scale</td>
</tr>
<tr>
<td>Walburg et al.</td>
<td>Internet Addiction Test (AIT)</td>
<td>Center for Epidemiologic Studies Depression Scale (CES-D)</td>
</tr>
<tr>
<td>Sami et al.</td>
<td>Internet Addiction Test (AIT)</td>
<td>Center for Epidemiologic Studies Depression Scale (CES-D)</td>
</tr>
<tr>
<td>Corder-Carras et al.</td>
<td>Video Game Addiction Test (VAT)</td>
<td>Depressive Mood List</td>
</tr>
<tr>
<td>Banjanin et al.</td>
<td>Young Internet Addiction Test, designed by the authors</td>
<td>Center for Epidemiologic Studies of Depression Scale for Children (CES-DC)</td>
</tr>
<tr>
<td>Kiracburun et al.</td>
<td>Ten-item Internet gaming disorder test (IGDT-10)</td>
<td>UCLA Loneliness Scale-Short form (ULS-4)</td>
</tr>
<tr>
<td>Jun</td>
<td>KCYPS</td>
<td>Korean Manual of Symptom Checklist</td>
</tr>
<tr>
<td>Chang et al.</td>
<td>Chen Internet Addiction Scale (CIAS)</td>
<td>Center for Epidemiologic Studies Depression Scale (CES-D)</td>
</tr>
<tr>
<td>Lin and others</td>
<td>Chen Internet Addiction Scale (CIAS)</td>
<td>Kö’s Depression Inventory</td>
</tr>
<tr>
<td>Zhang et al.</td>
<td>Beard’s Diagnostic Questionnaire for Internet Addiction</td>
<td>Self-Rating Depression Scale (SDS)</td>
</tr>
<tr>
<td>Gámez-Guadix et al.</td>
<td>Generalized Problematic Internet Use Scale 2</td>
<td>Brief Symptom Inventory</td>
</tr>
<tr>
<td>Oberst et al.</td>
<td>Questionnaire of experiences related to mobile phone use (CERM)</td>
<td>Self-report Hospital Anxiety and Depression Scale (HADS)</td>
</tr>
</tbody>
</table>

3. Results and analysis

3.1. Sample description

The literature searches for studies related to pathological use and depressive symptoms in recent years (2013-2019) yielded interesting results. The 19 samples ($K = 19$) in the 13 selected studies comprised a total of 33,748 individuals. The smallest sample was 20 individuals, and the largest was 9,733 individuals. Regarding the cultures examined in the research, 46.15% of the studies included European populations (France, Serbia, UK, Holland, Spain). The European population represented 42.81% of the total sample. A total of 30.76% of the studies were conducted in Asia (China and North Korea), accounting for 50.18% of the total sample. A total of 15.31% of the studies were carried out in Eurasian countries (Israel and Turkey), representing 2.60% of the total sample. Regarding the Americas (represented by Spanish-speaking countries), 7.69% of the studies were conducted in South America and represented 4.38% of the sample. The presence of various countries allowed an examination of differences among cultures. However, it
should be noted that no studies conducted in Africa, North America or Oceania were included. It would have been interesting to have a greater representation of Indo-European and Asian countries because the latter are only represented by China and South Korea, and Southeast Asia and the Middle East were ignored. Regarding sex, it is worth indicating that two studies did not provide data related to this variable. Of the total sample, 38.15% were men and 41.02% were women. Three studies did not provide a mean age but instead present a range of years, while the rest reported the mean age of their participants. In sum, the mean age of the sample was 14.75 years.

### 3.2. Statistical analysis

This study aimed to research the relationship between the variables “problematic Internet use” and “depression” using the CMA software. Based on the sample of correlation coefficients, a decision was made to transform these values to Fisher’s $Z$ scores (Martin-Andrés & Luna-del-Castillo, 2004). Figure 2 (forest plot graph) shows the sample size and 95% confidence interval (0.263, 0.346) for the studies that reported both variables. The size effect was moderate ($d = 0.30$) according to Cohen (1988) and was significant ($p=0.000$). Although 95% of the data were within the confidence interval, we must highlight that Banjanin et al. (2015), Walburg et al. (2016), Chang et al. (2014) and Colder-Carras et al. (2017) had limits below the mean confidence interval and that El-Asam et al. (2019), Woods and Scott (2016), Sami et al. (2018) and Kircaburun et al. (2019) presented values above the upper mean limit. This finding implies that the confidence interval was wide, which implies greater variability in the data of these articles and suggests a strong likelihood of the presence of extreme data that increased the standard deviation. On the other hand, it is necessary to note that the $p$ value must be less than 0.05 to accept that the correlations are significant. In this regard, the “a” value of Chang et al. (2014) was nonsignificant ($p=0.082$) as it was greater than $p=0.005$, unlike the rest of the sample. The weight of each study was assumed through the random or random-effects model. This decision-making process is explained below.

Per Cochrane in Higgins and Green (2011), the heterogeneity of the sample was studied. The $Q$ statistic of Der-Simonian and Laird (1986) ($Q=139.368, df=8, p<0.000$) showed that there was variability in the studies; therefore, the hypothesis of homogeneity was rejected. For its part, the $I^2$ statistic, which describes the percentage of variability resulting from heterogeneity and not from chance, had a high value (87.085%), indicating that there was a high degree of heterogeneity in the studies. According to Higgins et al. (2003), these findings indicate that the variability of this meta-analysis was high. For this reason, the random model or random-effects model was applied (Martin-Andrés & Luna-del-Castillo, 2004). However, following the indications of Botella and Sánchez (2015), Egger’s regression intercept was applied to verify the nonexistence of publication bias. This allows an estimation of the asymmetry of the funnel plot data, which determines the publication bias. In this study, we observed that there was no

<table>
<thead>
<tr>
<th>Author</th>
<th>Country</th>
<th>Year</th>
<th>Population</th>
<th>Sex % males</th>
<th>Sex % women</th>
<th>Mean age</th>
</tr>
</thead>
<tbody>
<tr>
<td>El-Asam et al.</td>
<td>UK</td>
<td>2019</td>
<td>1,814</td>
<td>53</td>
<td>47</td>
<td>12.6</td>
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<tr>
<td>Woods &amp; Scott</td>
<td>UK</td>
<td>2016</td>
<td>467</td>
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<td>14</td>
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<tr>
<td>Walburg et al.</td>
<td>France</td>
<td>2016</td>
<td>286</td>
<td>40.2</td>
<td>59.8</td>
<td>16.5</td>
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<tr>
<td>Sami et al.</td>
<td>Israel</td>
<td>2016</td>
<td>631</td>
<td>43.5</td>
<td>56.6</td>
<td>14.95</td>
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<td>Colder-Carras et al.</td>
<td>The Netherlands</td>
<td>2017</td>
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<td>51.17</td>
<td>14.5</td>
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<td>Banjanin et al.</td>
<td>Serbia</td>
<td>2015</td>
<td>336</td>
<td>34.52</td>
<td>65.48</td>
<td>18</td>
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<tr>
<td>Kircaburun et al.</td>
<td>Turkey</td>
<td>2019</td>
<td>242</td>
<td>93</td>
<td>7</td>
<td>18.78</td>
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<tr>
<td>Jun (x3)</td>
<td>South Korea</td>
<td>2016</td>
<td>1877</td>
<td>49.77</td>
<td>50.23</td>
<td>15.98</td>
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<tr>
<td>Chang et al. (x4)</td>
<td>Taiwan</td>
<td>2014</td>
<td>2,315</td>
<td>52</td>
<td>48</td>
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<tr>
<td>Lin et al.</td>
<td>Taiwan</td>
<td>2018</td>
<td>2,170</td>
<td>-</td>
<td>-</td>
<td>15.83</td>
</tr>
<tr>
<td>Zhang et al.</td>
<td>China</td>
<td>2013</td>
<td>20</td>
<td>90</td>
<td>10</td>
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<td>Gámez-Guadix et al. (x2)</td>
<td>Spain</td>
<td>2013</td>
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<td>Oberst et al.</td>
<td>Latin America</td>
<td>2017</td>
<td>1,468</td>
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<td>16.59</td>
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</table>
significance in either tail (1-tailed p-value = 0.25, 2-tailed p-value = 0.50), which implies the absence of bias (Eggers et al., 1997). In addition, the value of the standard error was small (1.57); therefore, it was quite close to the regression line, which reaffirms the lack of publication bias (Jin et al., 2014; Martin-Andrés & Luna-del-Castillo, 2004).

On the other hand, the funnel plot (Figure 3) reflected the variability that had been previously found, reaffirming that the source of this variability is the diverse nature of the studies (Sterne et al., 2011), as indicated by Egger’s test. As the cone progresses, it implies that the standard error increases; therefore, it is possible to allow some studies that are below but always within the structure. We must note that 3 studies clearly depart from the figure. These studies present more extreme data, although it is noteworthy that during the transformation from a normal curve to the Fisher curve, values greater than 0.5 undergo some deformation and become even more distant from the mean.
The studies that move away from the figure on the right are El-Asam et al. (2019) and Wood and Scott (2016), which worked with an Anglo-Saxon sample (UK) and had confidence intervals greater than the mean (see Figure 2). On the left side, we find Chang et al. (2014) “a”, which presents a value for the lower limit of the confidence interval that is significantly lower than the mean (Figure 2).

### 3.3. Moderating variables and meta-regression analysis

Moderating variables were established to study the variability of the investigations (Botella & Sánchez, 2015). Three such variables were determined: sex, mean age and culture (Europe, Eurasia, Americas and Asia), since it was considered necessary to determine whether these were variables that affected the variability of the results. Once the meta-regression was performed (see Table 3), five models were generated: 1) simple, 2) female sex, 3) male sex, 4) age, and 5) culture. The first model, in which no moderating variable was introduced, did not explain any percentage of the variance, unlike the rest of the models. Models 2 and 3 (sex) explained 9% of the variance ($R^2 = 0.09$), but only model 3 (male sex) had high significance ($p<0.05$). This finding implies that sex was a moderating variable but was only significant in the case of men; therefore, there were differences between sex in terms of PIU and depression. Model 4 (age) explained 4% of the variance, a value that was not significant ($p=0.383$); in comparison, model 5 (culture) explained 14% of the variance, although that value was not significant either ($p=0.1761$) (Martin-Andrés & Luna-del-Castillo, 2004). These findings indicate that the variability of the data presented originated from differences in sex, and not age or culture.

<table>
<thead>
<tr>
<th>Table 3. Meta-regression of model 3 and model comparison test with a random effect (MM). Distribution Z and Z of Fisher</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meta-regression M.3</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Covariance</th>
<th>Coefficient</th>
<th>Standard error</th>
<th>95% lower</th>
<th>95% upper</th>
<th>Z value</th>
<th>2-tailed p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection</td>
<td>0.3497</td>
<td>0.0315</td>
<td>0.2880</td>
<td>0.4114</td>
<td>11.11</td>
<td>0.0000</td>
</tr>
<tr>
<td>Man</td>
<td>-0.0000</td>
<td>0.0000</td>
<td>-0.0001</td>
<td>-0.0000</td>
<td>-1.97</td>
<td>0.0491</td>
</tr>
</tbody>
</table>

| **Comparison of models** |

<table>
<thead>
<tr>
<th>Model</th>
<th>TauSq</th>
<th>$R^2$</th>
<th>Q</th>
<th>df</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>0.0079</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Model 2</td>
<td>0.0071</td>
<td>0.09</td>
<td>3.28</td>
<td>1</td>
<td>0.07</td>
</tr>
<tr>
<td>Model 3</td>
<td>0.0072</td>
<td>0.09</td>
<td>3.87</td>
<td>1</td>
<td>0.04</td>
</tr>
<tr>
<td>Model 4</td>
<td>0.0076</td>
<td>0.04</td>
<td>0.76</td>
<td>1</td>
<td>0.383</td>
</tr>
<tr>
<td>Model 5</td>
<td>0.0068</td>
<td>0.14</td>
<td>4.94</td>
<td>3</td>
<td>0.1761</td>
</tr>
</tbody>
</table>

### 3.4. Extreme values

The study, which initially consisted of 21 samples and 15 studies, was reduced by two factors. In addition, the studies of Lu et al. (2018) and Wartberg et al. (2016) presented extreme Fisher’s Z values (0.016 and 0.019, respectively), which were very far from the values of the other studies. However, it is necessary to keep these three studies in mind in the discussion.

### 4. Discussion and conclusions

There was a consensus among most of the studies (Banjanin et al., 2015; Colder et al., 2017; El-Asam et al., 2019; Gámez-Guadix et al., 2013; Kircaburun et al., 2019; Lin et al., 2018; Sami et al., 2018; Walburg et al., 2016; Lu et al., 2018; Wartberg et al., 2016; Woods et al., 2016; Zhang et al., 2013), indicating that there was a significant and positive correlation between PIU and depression in adolescents. This is consistent with the results presented in Figure 2, which shows a moderate effect size ($r=30$) according to Cohen (1988). However, Banjanin et al. (2015) reaffirmed that multiple regressions showed that the time spent on social networks was unrelated to IA and to depressive symptoms. Therefore, the number of hours should not be equated with Internet use as harmful to health. The influence of sex as a moderating variable was discussed in some of the studies that make up the sample. Consistent with the results obtained, El-Asam et al. (2019) showed that 26.2% of the variance in the general score on the “Problematic Internet Use Questionnaire” (PIUQ) was significantly predictive of depression ($p <0.001$).
and male sex (p<0.001). Walburg et al. (2016), meanwhile, found that adolescents (male sex, r=0.37, p<0.001) who engage in problematic use of Facebook were significantly more vulnerable to depression than other adolescents (female sex, r=0, 10, p>0.05). Lu et al. (2018), in their multiple logistic regression analysis, revealed that male sex, religious beliefs and the most severe depressive symptoms were associated with IA. The present study is in line with the findings of these first authors; the meta-regression showed that men were more likely to present both pathologies (R2=0.09, p<0.05). Other researchers, such as Banjamin et al. (2015), Wartberg et al. (2016) and Oberts et al. (2017), showed no differences between sexes.

The longitudinal studies of Jun (2016) and Chang et al. (2014) allow an analysis of how depression increases as problematic use grows. Jun (2016), in a longitudinal three-tailed study with a multiage population, found that mobile addiction and depression had a bidirectional relationship. Each measure of addiction to the cellphone at T1 and T2 positively influenced depressive symptoms at T2 and T3, and depressive symptoms at T1 and T2 affected cellphone addiction at T2 and T3, respectively. Chang et al. (2014) showed the longitudinal influence of IA on depression (among other mental health problems) and demonstrated that depression is a variable that predicts the initiation and persistence of IA in youth. Colder et al. (2017) compared the population with PIU with the population at risk of suffering from depressive symptoms, observing how depression grows as the problematic use increases. Lin et al. (2018) also compared two populations, one with IA and another without Internet access, and found clear differences. The diagnosis of IA was positively and significantly correlated with various variables, including alexithymia, impulsivity, disapproval of third parties regarding the use of the Internet, etc. On the other hand, IA was negatively correlated with variables such as self-esteem, subjective well-being, and social support. These findings indicate that psychological distress is related to IA, while well-being reduces the risk of IA; in other words, individual psychological variables are determining factors in the appearance of IA.

The results of the meta-regression showed that age was not a significant moderating variable (see Table 3); that is, IA is not an evolutionary problem. However, time does seem to play a fundamental role. Problematic use of the Internet and depressive symptoms appear to have a feedback loop, so that one problem promotes the other. This shows the urgent need to intervene via education. Because age and culture were not moderating variables, there is a risk of IA and depression being maintained in adulthood. We should not forget that Cheng and Li (2014) demonstrated that 6% of the world’s adult population suffers from IA, and 15-20% suffer from depression (Sotelo-Alonso et al., 2012). Considering the positive correlation between both pathologies, it is necessary to begin providing intervention programs in secondary education to avoid future public health problems. On the other hand, Gámez-Guadix et al. (2013) show that being a victim of cyberbullying increases the incidence of depression and problematic Internet use.

In conclusion, there is evidence of a relationship between PIU and depression in adolescents, with sex as the moderating variable that significantly influences depression. There are other variables that should be studied and analyzed and that show comorbidity with pathological Internet use, such as behavioral problems, hyperactivity, emotional problems, and physical health, according to El-Asam et al. (2019). Likewise, there is a significant positive correlation between IGD and emotional traumas, social anxiety or self-esteem (Kircaburun et al., 2019) and Sami et al. (2018) note that IA has a direct effect on sleep disorders. In any case, age is not a moderating variable, and research showing a correlation between IA and depression in adulthood presents an alarming situation. It is necessary to intervene in secondary education to prevent these pathologies from continuing into adult life.

It is necessary to state that there are certain limitations to this study, the first being the inclusion of a limited sample from specific areas; most notably, there was a lack of subjects from Africa, Oceania, North America and Southeast Asia. Furthermore, most studies did not present data differentiated by sex, nor did they address PIU and depressive symptoms as the main topic. As a result, it is necessary to continue studying other variables that may be related to problematic Internet use, such as anxiety, stress, sleep problems, low self-esteem, and to develop intervention projects for institutes.

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