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Scientific Journal of Media Education, 41, XXI
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Black holes of communication

Scientific communication and meta-research

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Contents are moderated by means of peer review, in accordance with the publication standards established in the APA (American Psychological Association) manual. Compliance with these requirements facilitates indexation in the main databases of international journals in this field, which increases the dissemination of the papers published and therefore raises the profile of the authors and their centres.

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Editorial

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The MOOC Revolution: A new form of education from the technological paradigm?

La revolución MOOCs, ¿una nueva educación desde el paradigma tecnológico?

Dr. J. Ignacio Aguaded-Gómez
Editor of Comunicar»

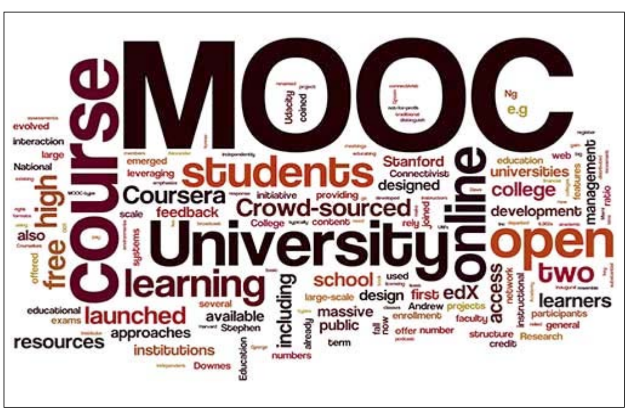
During this last year, we have witnessed a huge tidal wave in the university world. Many people have been talking about MOOCs (Massive On-line Open Courses) as a potential revolution that has arrived from North America. MOOCs have the primary aim of changing the fixed dynamics of rigid university training models and the traditional organizational structures of universities. Those who are still unfamiliar with the term «MOOC», often enquire about this subject with a mixture of discretion and curiosity – receiving a plethora of replies that end up being of little help.

With doubt, though, higher education is metamorphosing into a global activity: the spreading of this technology is not only unstoppable, but also omnipotent and omnipresent during the entire process. Moreover, the so-called «technophobes» are becoming less and less hesitant as they adopt more defensive tactics, e.g. by claiming that there is a «false onsite presence». Indeed, this is their baton to defend traditional education.

However, these Massive Open Courses which have intentionally been designated the Anglo-Saxon acronym «MOOC» actually have very little in common. This is despite their apparent «free status» and their being called «massive» (massive referring to multitudes of globally connected people who are simultaneously studying online courses and who are dynamically interacting with each other).

Without doubt, there is a revolutionary process underway in conceiving the «here» and «now» of teaching, namely its «ubiquity» and «temporality – both concepts of which have now been completely reformulated. At the same time, though, teacher-student interactions, especially the relationships among students who collaboratively develop their own learning, are also linked to the seeking of accreditation and the certification of academic courses (i.e. where there is more or less a visible business opportunity for these projects).

For Lewin, however, MOOCs pose a challenge for the near future, which is exciting, impressive, and completely unpredictable. As Aguaded, Sevillano and Vasquez have recently pointed out (Scopeo Bulletin, June 2013), following the initial «boom» (which in Spain began with seemingly ambitious projects financially supported by big businesses, financial entities and several universities), the reflections, questioning, and critique of the models arose as result of their didactic characteristics, namely their pedagogical design, the interactions that were created, and the roles of the professors and students. In other words, it referred to the model and the educational philosophy that underpinned these training activities.



On the other hand, there are technological questions that are also significant such as the process of monetization, the authenticity of participants, and the certification of courses. In Spain, the increase in the implementation of these projects, especially those that are more geared towards business initiatives than innovative academic commitment, have aided the observation of academic courses during the initial phase of implementation. Indeed, the impression one got was that they appeared to be poor-quality videos

Editorial

of «real professors with limited perspective on an issue». Typically, these were professors who would write a series of self-evaluation questions, or who would distribute certificates without receiving official confirmation about the authenticity of the person who did the tasks, or whose only interest was financial gain.

For this reason, it is imperative to ask oneself the question: which model are we using? At least, this should be done from the point of view of fora such as these, or an educational and communications journal such as «Communicar», which, in this 20th anniversary edition, as with the other volumes, permanently upholds the critical and intelligent usage of technologies in the teaching-learning process, i.e. as a «means» and not as an «end» to improving quality.

Can the MOOC revolution thus respond to a traditional-conductist model, i.e. where knowledge is transmitted unidirectionally and massively – without taking into consideration learning contexts? Can this be achieved, moreover, by using a horizontal model with people learning interactively, that is, where the teacher is reduced to standardized multimedia packages, or where there is no solid foundation for evaluation? Furthermore, if these factors were to be translated haphazardly within the framework of a conductist system without obtaining a certificate and with using prescribed economic rates¬, would institutional altruism truly exist? Or, is this simply a new university model to be implemented? Put simply, would this be a business model that would generate a new emerging degree mill system under the title of 'free teaching'?

As Sevillano, Vázquez and Aguaded have already pointed out, the philosophical-pedagogical model that underpins the MOOC proposal does not necessarily have to be conductist-commercial. We would certainly consider this model as an opportunity to take advantage of the infinite possibilities that technology offers us today, that is, to generate «ubiquitous» and «emerging» learning that is of a high standard. Thus, from the perspective of PLEs, LMS and Youtube, the management and development of MOOCs with poorly developed pedagogical designs and little collaboration, would be impertinent.

The two main characteristics that differentiate MOOCs from other traditional e-learning training models are that they are «freely available» and are offered on a «massive» scale. In order for this movement to continue progressing, however, it is essential to re-conceptualize MOOCs and to avoid current fads in this field. By so doing, we will create a more sustainable and didactic model. MOOCs could therefore become an exceptional learning experience. However, today they are inadequate as an educational experience – seeing that they still lack some vital components. To this end, Vázquez has made an important contribution by filling these gaps and providing sustainable evaluation and a verifiable/certifiable learning model that consists of optimum interactions with instructors and facilitators, planned collaborative work that is genuinely interactive, and the effective development of transferable skills… Nonetheless, there is still a risk of converting this type of training into another business, namely to «McDonaldise» or commodify MOOCs, and to clothe them with a biased form of training and culture, which is typically westernized. The MOOC movement has thus yet to discover the cultural and linguistic diversity of various socio-cultural contexts. This can only be done by steering away from initial training standardization of an imperialist nature.

Finally, «sustainable» MOOCs should aim to promote pedagogical models based on multiculturalism, the diversity of contexts, multilingualism, the synthesis of local and global cultures (glocal), and commercial processes. However, this should be done without undue ambition or excessive commercial gain – behind which we often find big companies and consortia. The Google model is, despite its weaknesses, an interesting option to explore.

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Special topic issue

Black holes of communication

Scientific communication and meta-research

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Introduction

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Black holes of communication

Scientific communication and meta-research

Guest-Edited Special Issue:

Dr. Elea Giménez-Toledo, CSIC (Madrid) (Spain)
Dr. Evaristo Jiménez-Contreras, University of Granada (Spain)

It is a broadly accepted fact that reflection on the disciplines is almost a «locus communis» of the processes of constitution and affirmation of these same disciplines, especially in the field of the social sciences. It reflects a call to consciousness of the limits, methods and the very people that integrate a discipline and, as the discipline's first cry, it becomes from that moment on a constant that accompanies and depicts the evolution of these disciplines.

Knowledge of the internal dynamics, size, demography, topics and methodology of a discipline means there is a community that is aware of itself as a clearly differentiated disciplinary field capable of fixing limits in terms of the original specialism, and which also carries out research that is sufficiently relevant to be studied firstly by its own members and then eventually by others; in other words, it has to attain critical mass. Secondly, that there is an interest in observing the behavior of the discipline from different perspectives – Communication, Bibliometry or Sociology, to give just three examples- which with their different viewpoints and methodologies aid the understanding of how the discipline has evolved, how it relates to other disciplines, how it uses the new scientific communication tools and what its distinctive features are.

This edition of «Comunicar» explores this perspective and indicates the keys to research on Communication. The title of this edition, «The black holes of Communication», is to be interpreted as a call for internal reflection on the discipline and an invitation to identify those aspects of scientific communication, research or evaluation that still need to be developed or improved. This latest edition looks at some of these aspects although there are undoubtedly many more; and it is important to recognize the number of original contributions submitted to the journal and to thank those reviewers whose work is never sufficiently acknowledged who have to reject many manuscripts, not for lack of quality or interest but for shortage of space.

The theme of this edition originated at a roundtable meeting entitled «Communicative meta-investigation in Spain: bibliometric and methodological analyses applied to Communication studies», coordinated by Miguel Vicente (University of Valladolid) at the Congress of the Spanish Association of Communication Research in 2011. The organizers and speakers could clearly see how far these issues were the subject of analysis and, above all, how they attracted the interest of Communication researchers. These issues dealt with the profile of scientific production in Communication, the patterns of scientific collaboration and citation, the international scope of the research, the methodologies used in research, the role of journals in scientific communication and the opinion of experts on Spanish scientific journals.

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Introduction

The aim of the studies on science and its disciplines is not merely descriptive, although this type of work is neither negligible nor unnecessary. To know what type of scientific collaboration is occurring between researchers, how and what type of documents are cited in a discipline, how these patterns change over time, the evolution of the impact of the main journals on the databases, both new and original, the analysis of the emergence of new themes or technologies are just some of the results of these studies and they transcend the simple diagnostic; they enable us to observe the discipline critically, compare or relate it to others and identify the intrinsic characteristics of its research. The dynamics of research and the interaction between research and social networks in the field have also come under study. We have new knowledge on the links between Communication and related disciplines such as Education, and on the emergence of new concepts and/or topics of investigation. There are also data to enable us to know whether the response to the requirements of scientific policy is adequate, the level of research in one country when compared to others or the importance of other channels of communication.

In the field of scientific evaluation, this is particularly important given that the knowledge of the discipline ought to allow for the establishment of strong assessment criteria; the scientific community will then have data and evidence to defend a model that is appropriate for their discipline. And scientific policy managers can also use these analyses as a source of useful information for knowing whether investment in the area –in human and financial resources- is yielding the expected results, if the discipline is competitive at international level or if it responds to problems that need to be resolved. This is a particularly important point, even though it often gets obscured. As society benefits directly or indirectly from the results of research, so the aims of that investigation are attained. And as the perception that society has of science and scientists becomes more favorable, so it will lead to greater financial support for research.

This is the general framework of the first three articles of this edition. The works by Fernández-Quijada and Masip, De Filippo and Escribà and Cortiñas offer a detailed vision of the state of research on Communication in Spain in terms of production, scientific collaboration, international projection and visibility. All the variables show a positive evolution, as these authors describe, and this is true for all the Social Sciences. There is a certain reactive evolution –when faced with the evaluation processes- but also some weak points that the scientific community must deal with and which will be hard to overcome without a firm and realistic policy of support for investigation and the internationalization of scientific activity. At the same time, these works clearly reveal the importance of the scientific journal as a key element in the evaluation of research and the influence that certain sources of information have on publication policy and the job of investigators. By adopting a critical stance regarding these habits, it is worth asking whether Open Access, the academic search engines and abusive practices of certain publishing groups (see «The Cost of Knowledge» initiative) are starting to have an impact on the oligopoly of Web of Knowledge and Scopus, arousing the interest of authors and reviewers in alternative communication channels and in more open indicator tools than those already mentioned, topics which are tackled in some of the texts in this edition.

The fourth article, written by Delgado & Repiso, studies the Google Scholar Metrics open work tool as an alternative to the mediation of scientific activity and its impact, relating it to WoS and Scopus. Undoubtedly, this article is indicative of a sign of opening and renewal in impact measurement and the types of publications generated in research, and these can and should be evaluated. The article by Torres, Cabezas and Jiménez on Altmetrics also opens the way for another type of indicator that differs from the more traditional bibliometrics, though it is clear that the new metrics proposed have emerged, as in the case just mentioned, from the new possibilities offered by the Net and are still an unconsolidated alternative in Communication.

Casanueva and Caro propose an analysis of the social network which operates, de facto, among tribunal members who judge doctoral theses, emphasizing the value of these interactions above those less frequent or non-existent exchanges in scientific publications. They put forward an interesting perspective on a dimension of scientific activity rarely taken into account.

Another set of articles presents approaches by topic, which include a work by Vázquez on the arrival of new dissemination formats for investigation, specifically the videoarticle. Ana Milojevć, Jelena Kleut and Danka Ninković contribute a study of the emergence of the concept of interactivity as a research theme; and Marián Navarro and Marta Martín write about the now classic subject of women and advertising, approached from the perspective of various media whose very technical features seem to determine how much attention is paid to this aspect of communication.

Another article which is novel for its proposal in terms of this perspective of studies of a topical nature and for the study object is that presented by Mañana and Sierra who analyze the relation between Communication and Education by the exchange of citations between their respective journals. It aims to measure the degree of closeness or remoteness of the relation of a discipline to others that are theoretically affiliated. The method used shows how bibliometric indicators measure more than just the impact factor, and that they have some very interesting applications which are relatively unknown and underexplored.

Topic-based analyses are necessarily partial, and in this edition on black holes there is sure to be one black hole that remains in the dark in terms of which topics are most written about and which methodologies are the most applied in the field of Communication, and whether or not we can perceive a «hardening» of the same. This in itself could be the subject of an entire edition.

Regardless of the specialism, the methodological resources of each researcher or even the degree of their success, we all develop our activity within the same «ecosystem» in which we investigate, get finance (or we try to), we produce, we cite and are cited, we collaborate with other researchers and participate in editing journals, we review for and our work is reviewed by journals and agencies. We share this ecosystem with other investigators and it should be of common concern to know how our disciplines function and develop, which will make us more aware of our potential and limitations, and enable us to improve scientifically.

We trust that all readers of «Comunicar» will find this selection of articles on just one part of this ecosystem to be revealing, and that this edition will be of use, be constructive and a pleasure to read.

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● David Fernández-Quijada and Pere Masip
Barcelona (Spain)

Three Decades of Spanish Communication Research: Towards Legal Age

Tres décadas de investigación española en comunicación: hacia la mayoría de edad

ABSTRACT
This paper analyses the evolution of Spanish communication research published as scientific articles between 1980 and 2010. It quantifies the volume of this production with two different samples: the first sample includes national journals and offers original and unprecedented data; the second one includes international journals, defined as those indexed by the Web of Science. As a whole, more than 6,000 articles were analysed. Additionally, the collaboration patterns in authorship and internationality were also studied. On the one hand, collaboration was measured through indicators of multiple authorship and the evolution of co-authorship indexes. On the other hand, internationality was measured through the share of Spanish authors in international journals, the weight of international collaborations and the language used in national journals. Data obtained illustrate a growth and maturity process of communication as a scientific discipline: at the end of the period analysed, a tension between growing collaboration and internationalization and traditional publication patterns was found. Through the period studied, the birth of new faculties with communication studies and the growing number of journals have feed the own growth of the number of articles. However, other elements such as scientific assessment have also played a role in the internationalization of authors. As a whole, this article offers a first image of the evolution of communication as an academic discipline in Spain.

RESUMEN
Este artículo analiza la evolución de la investigación española en comunicación publicada en forma de artículos científicos entre 1980 y 2010. Cuantifica este volumen de producción con dos muestras de revistas, una del ámbito nacional que aporta datos originales e inéditos hasta ahora y otra internacional a partir de Web of Science. En total, se analizan más de 6.000 artículos, estudiando las pautas de colaboración en la autoría y las de internacionalidad. Para las primeras, mediante el peso de la autoría múltiple y la evolución de los índices de coautoría. Para las segundas, mediante el peso de los autores españoles en las revistas internacionales, el volumen de colaboraciones internacionales y el idioma empleado en las revistas españolas. Los datos obtenidos muestran un proceso de crecimiento y madurez de la comunicación como disciplina científica que al final del período analizado se debate entre las tendencias crecientes a la colaboración y la internacionalización y los patrones más tradicionales de comunicación científica. A lo largo del período, el crecimiento de las facultades de comunicación y del número de revistas ha retroalimentado el propio incremento en el número de artículos. No obstante, otros elementos como la evaluación científica también han impulsado la internacionalización de los autores. Así, el artículo ofrece una primera imagen de la evolución de la disciplina en España.

KEYWORDS / PALABRAS CLAVE
Quantitative analysis, scientific communication, scholarly context, research, journals.
Análisis cuantitativo, comunicación científica, contexto universitario, investigación, revistas.

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1. Introduction

Communication as a scientific discipline is quite young. In Spain, for example, it has only been four decades since the first communication faculties were opened. Therefore, we lack solid longitudinal studies on its evolution, a situation exacerbated by the limitations of official statistics. At present, therefore, the construction of the history of this discipline has been based on theoretical essays (Martínez-Nicolás, 2006, 2008).

The aim of this paper is to close this gap in our knowledge of the discipline itself, by analysing the evolution of Spanish academic articles on communication. Based on this objective, four research questions are posed:

• RQ1): What is the volume of output of scientific articles by Spanish researchers in communication? To answer this question, we quantified the number of publications that included authors attached to Spanish institutions nationally and internationally since the first academic article was published. Although the results of scientific research are published and disseminated in various forms, journals have become key elements in communication and are valued as such by the various university assessment bodies. In addition, international longitudinal data is available through databases such as Web of Science (WoS), the most widely used in bibliometric studies and which includes the category «Communication» in its Social Sciences Citation Index (SSCI). Another part of the production in communication can be found in the «Film, Radio, Television» category of the Arts & Humanities Citation Index (AHCI).

• RQ2): How and to what extent does the degree of collaboration between authors vary in Spanish communication research? This question is intended to measure the level of collaboration between the Spanish authors to establish the proportion of co-authorship in the total output and how it has varied over time. The reason for this is that previous bibliometric research shows that multiple authorship tends to increase the impact of research and thus becomes synonymous with maturity (Franceschet & Constantini, 2010; Katz & Hicks, 1997; Persson, Glänzel & Danell, 2004; The Royal Society, 2011). In the case of Spain, we know that in a recent period (2007-10) there was a significant growth in collaboration in the core of leading journals in the discipline (Fernández-Quijada, 2011a); however we do not know if this applies to other journals nor whether this extends throughout the period studied here.

• RQ3): How and to what extent is Spanish research in communication internationalised? Bibliometric studies associate internationalisation with a greater impact of the research (Elsevier, 2011; Katz & Hicks, 1997), hence the international nature of the research is considered to be an asset. Specifically in communication, internationalisation has also been applied to the study of the journals. In this regard, Lauf (2005) analysed the journals in the field and drew a division between nationally and internationally-orientated journals based on two factors: an explicit statement of internationality and a high impact factor. In the specific case of Spanish journals, Fernández-Quijada (2011b) found that the internationality was limited in terms of attracting foreign authors and the publication of texts in other languages, although it was reflected in the use of bibliographic references. In any case, the trend towards the internationalisation of research illustrates the tensions between the local and the global and raises questions regarding the role of national journals (Schönbach & Lauf, 2006). From the findings of the first three research questions, a final question arises with two variants:

• RQ4a): What factors account for the variation in the output of scientific articles by Spanish researchers in communication? RQ4b): What factors account for the variation in co-authorship and the internationalisation of Spanish research in communication? Science as a social system is determined by a number of internal and external factors which influence the productive behaviour of the authors. Based on this premise and the existing literature, this research analysed factors that could explain the growth in and internationalisation of communication research. Önder, Sevkli, Altinok and Tavukçuoğlu (2008) found that the increasing internationalisation of Turkish research was due to the model of academic promotion, increased funding for research and an explicit goal of internationalisation understood in the Western (i.e. Anglo-Saxon) sense. In the Spanish case, the increase in productivity is explained by the growing international academic networks in which the academics are involved, the availability of additional human and financial resources and a new culture of assessment (Jiménez, Moya & Delgado, 2003).

2. Material and method

The longitudinal intention of this study is shown by the chosen period of the analysis, from 1980 to 2010. 1980 was chosen as the starting year because in that year the first issue of «Anàlisi» was published; this is the first communication journal published in Spain, which is still active today. The analysis finishes in

2010 in order to trace the development over three whole decades, a period that corresponds to the establishment of the studies in this discipline in Spain: whereas in 1980 there were only three universities offering communication studies, in that decade its rapid expansion in multiple universities began, and by 2010 communication courses could be taken in 50 centres across the country. The creation of educational structures requires the recruitment of teachers, who by law in Spain have to carry out both teaching and research work. The academic promotion of this staff is also largely dependent on their research work and, within this, on publication in academic journals. Hence also the importance of the chosen subject-matter of the study.

For journals published in Spain, we used those that appeared in DICE, the most extensive national bibliographic database. Additionally, DICE is used by various university evaluation bodies to determine the formal quality of national journals. On this basis, on 1 January 2013, there were a total of 45 journals indexed in the subject areas of Journalism and Audiovisual Communication and Advertising, the two areas making up the communication discipline. For this research, «Ad comunica» and «Revista de comunicación y salud» were discarded, since they were first published in 2011, after the period studied. The study therefore used 43 publications[1]. These journals published 9,240 articles during the period analysed, of which 5,783 were signed by at least one author attached to a Spanish institution. Foreign authors signed 1,907 articles, while in 1,624 cases there was no or insufficient indication of authorship to be assigned to a specific country. This lack of data is concentrated proportionally at the beginning of the period analysed, so the findings for this period are limited. Electronic and printed editions were assimilated as a single publication even though each had their own ISSN. Issues of journals relating to months between two years were assigned to the first of the years. From the general structure of articles, we selected only those that could be considered minimally scientific, excluding texts that did not fit with this premise, such as interviews, manifestos or scripts, as well as reviews and editorials or presentations of special issues or sections. Having made the selection of articles, we proceeded to extract them from the original texts in a database created ad hoc, using descriptive variables relating to the year of publication, the issue of the journal, title, language, number of authors, institutional affiliation and country of origin.

The selection of articles from international journals was carried out based on those included in the «Communication» categories of the SSCI and «Film, Radio, Television» of AHCI. In total, 296 articles included at least one author affiliated to a Spanish institution. From this list, the Spanish journals which formed part of these indexes during this period («Círculo de Lingüística aplicada a la Comunicación», «Comunicar», «Comunicación y Sociedad», «Estudios sobre el Mensaje Periodístico», «Historia y Comunicación Social» and «L'Atalante») were excluded, as these are already included in the sample of national journals, and have a publication pattern which is more defined by nationality than by membership of WoS. Thus, the type of authorship, the number of authors per article, their institutional affiliation, the number of references per article and the journals cited show a high degree of commonality with other Spanish journals, differentiated from the patterns shown by the WoS Anglosaxon journals (Fernández-Quijada, Masip & Ber-

In fact, the increase in the number of publications and the acceleration of this growth in recent years itself would seem to indicate that the discipline has not yet reached maturity. However, other signs such as the increased co-authorship index or the various aspects of the incipient internationalisation do point to a qualitative change in line with the internationally accepted standards of maturity of scientific disciplines. This conflicting evidence may indicate a time of change within the discipline, with a division between authors who are committed to collaboration and internationalisation and those who still follow traditional patterns of publication.

gillos, 2013). Moreover, historically they have shared the same context as agents of the discipline in Spain. In this case, the articles were recovered automatically using the Web of Science export facility, and the database was normalised using the same parameters as the national articles database.

To analyse the internationality of scientific production, three different indicators were applied. The first indicator examines the evolution of the papers published in international journals. A second indicator measures the co-authorship of Spanish researchers with authors from institutions in other countries, in relation to articles published in both national and international journals. The third indicator relates to the language used in national journals. The study by González, Valderrama and Aleixandre (2012) presents an analysis similar to the one proposed in this paper, applied in this case to the Spanish research in science and technology. It uses the same type of indicators as employed here, such as participation in scientific publications included in major international databases and the analysis of papers signed in collaboration with other countries.

3. Analysis and findings

The findings are presented in large groups that relate to the first three research questions: firstly, the volume of production and authorship, secondly, the information relating to collaboration, and lastly, internationalisation.

3.1. Production

The volume of Spanish production in communication published in national journals underwent a progressive increase between 1980 and 2010 (Figure 1). In the early years the numbers are very low, both due to it being a period of few publications and because journals did not specify the institutional affiliation of the authors. Later, there is a gradual increase, while significant jumps occur in specific years such as 1998, 2000, 2005 or the last three years. The last five years are particularly significant given that after 2005 there is a constant increase, which even accelerates from 2008. For example, in just four years, from 2004 to 2008, production almost doubled. And in 2010, the last year analysed, the figures are equivalent to one tenth of the total accumulated production over the three decades studied.

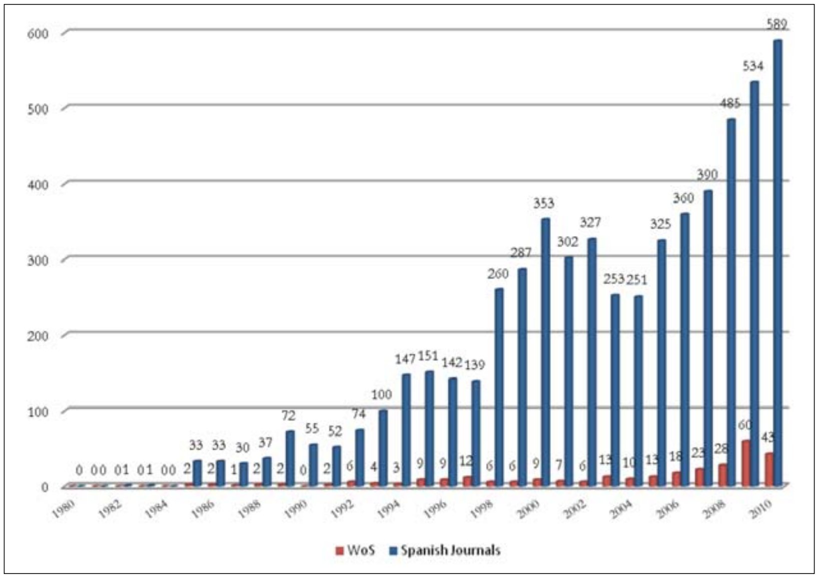

Figure 1. Number of articles by Spanish authors in communication journals (1980-2010).

Internationally, during the period analysed, Spanish researchers published a total of 296 articles in the journals indexed in SSCI and AHCI. Of these, 274 are within the «Communication» section of the SSCI and 23 in the «Film, Radio, Television» section of AHCI (one article appears in both categories). The first Spanish article in these databases does not appear until 1985. From that time there is a permanent Spanish presence (except in 1990), although the figures are merely token. This trend changes drastically in the last five years (2006-2010), in which almost 60% of the Spanish production is concentrated and culminates an upward trend which had already begun in the first years of the 21st century.

Although the addition of new publications in the «Communication» category could explain this increase, the analysis of the figures allows us to rule out that effect. The increase in the Spanish production accelerates above the average from 2005, intensifying its development and its international importance.

3.2. Authorship

One aspect of authorship that also shows its evolution is the co-authorship index, i.e. the average number of authors who sign each article. Over the period analysed, the co-authorship index also increases for the articles published in Spanish journals, from 1.00 in the early years to 1.46 in 2010, reaching its highest point. The anomaly of 1985, with an index of 1.27 which is only exceeded from 2008, is due to the limited availability of data, given that this figure is based on a single journal. The fluctuations of the period seem to be overcome by 2006, the year in which growth becomes constant.

Among the sample of international journals, the co-authorship index reaches 2.76 and by 2010 rises to 3.23, more than double that of Spanish journals. Over the years analysed no significant differences were observed, except for 2001 and 2003, which showed co-authorship rates well above average. This anomaly is explained by the low level of production that coincides with work signed by multiple authors. In those years there were papers attributed to 26, 23 and 17 researchers. In general, the increase in the volume of articles in recent years helps to stabilise the data and makes it more reliable, not being dependent on fluctuations due to specific articles with high levels of co-authorship.

In articles published in Spanish journals, single authorship is the predominant form (Figure 2). Over the last five years, however, there is a slight change in the patterns of type of authorship in Spain for over 30 years, with collective authorship amounting to almost a third of all articles.

In contrast, joint authorship is predominant in the international journals during most of the period of analysis and grows steadily from the last few years of the last century, although the increase is particularly marked after 2000 (Figure 3). Over these three decades, it amounts to 63% of total authorship. Despite the high international co-authorship, it is worth noting the different behaviour of the authors according to the areas of publication. Among international journals, all the articles published in the journals in the «Film, Radio, Television» section of AHCI are signed by a single author, with the exception of a paper published in a journal that was also included in the «Communication» category of the SSCI.

3.3. Internationalisation

International collaboration in national journals is a phenomenon of the last few years of the period analysed. After a first example in 1985, the next case of this is in 1994, and then in 1998, after which it is always present and increases to 12 collaborations in 2010, just a year after the maximum of 11 in 2009. Over the three decades, 66 collaborations between Spanish and foreign authors are identified, only 1.1% of the total articles attributed to Spanish authors.

International collaboration is common among Spanish authors who publish in WoS journals: it accounts for over 45% of the joint contributions. In absolute terms, international collaborations are limited and fluctuate until 2005. After that date, there is a clear upward trend, especially evident in the last two years. Despite these figures, a more detailed analysis enables us to detect that in relative terms the incidence of international collaboration declines in importance. Whereas for years the limited Spanish presence in major communication journals was in conjunction with foreign researchers, especially Anglo-Saxons, from the beginning of 2000 they have increased autonomy, and the percentage number of articles of Spanish researchers in collaboration with Spanish colleagues increases.

Logically, some countries are favoured over others in this international collabo-

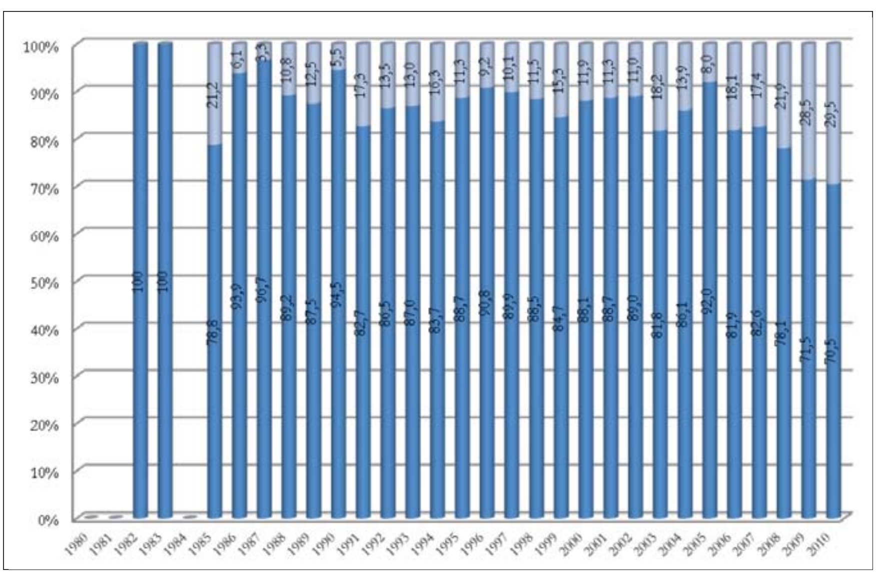

Figure 2. Development in the type of authorship in Spanish journals (%).

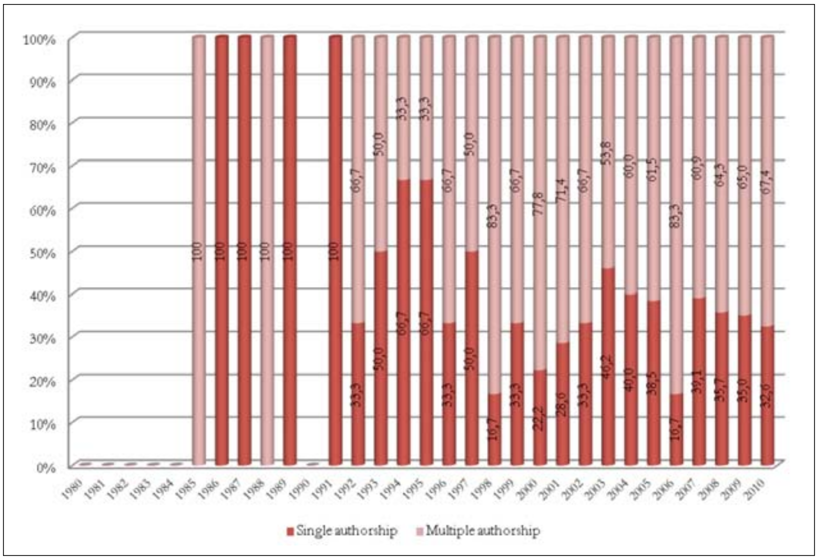

Figure 3. Changes in the type of authorship in international journals (%).

ration, with a total of 20 countries involved in the case of articles published in national journals. In this regard, the data show a clear preference for cooperation with Latin American countries, which account for two thirds of the co-authorships. The list is led by Brazil, Mexico, Peru and Argentina. In fifth place are the first countries outside this geopolitical region, the US and the UK. Overall, Europe accounts for only one-sixth of total contributions whereas if the Anglo-Saxon countries are grouped, the figure is one fifth.

International collaboration in WoS journals is spread over 39 countries, although most of the research work is signed by US and UK researchers; the two countries together represent over 40% of international cooperation. Some distance away are the Netherlands, Italy and Ireland, which have ten, seven and five papers signed with Spanish researchers respectively. The prevalence of joint work with the US, UK and the Netherlands can be considered logical given that these countries are the leaders in global output in communication. The close relationship with Ireland and Italy must be attributed to other factors, such as the specific participation in international projects in which researchers from those countries take part.

Contrary to the situation for national journals, collaboration with Latin American countries is limited. Over the 30 years analysed, only 13 joint projects were published with 14 different authors, which involved researchers from seven countries: Brazil, Argentina, Chile, Peru, Mexico, Bolivia and Venezuela. This represents 9.5% of the total international collaboration.

The last internationalisation factor considered was language. Many Spanish journals allow authors to submit their texts in various Romance languages and almost all of them also accept English. The data, however, show a predominance of Spanish, the language used in 92.1% of the articles published by Spanish authors. The other official languages of Spain account for another 6.7%, almost entirely attributable to Catalan. Thus the group of official languages of Spain is used in 98.8% of the articles published by Spanish authors in the country's journals. Of the remainder, 1% relates to English, 0.1% to each of Portuguese and French and, lastly, Italian does not even amount to a tenth. The year with the greatest use of foreign languages was 2002, when it represented 2.4% of the total.

4. Discussion and conclusions

This article analyses the changes in Spanish research in communication throughout its three decades of consolidation as a university discipline. The longitudinal nature of the study enables us to detect significant changes over the period which confirm the rapid path towards the coming of age as a scientific discipline.

In relation to the first question posed, we observe that the volume of published articles constantly increases, especially significantly after the turn of century. Although this increase is observed both in articles published in international journals and in Spanish journals, the patterns are slightly different. In the case of production in Spanish journals, the increase has taken place especially since 1998, and coincides with the proliferation of new journals. In terms of production in international journals, the increase is equally evident and, although somewhat later, has led to Spain being positioned among the leading European countries. In 2009, Spain had become the fourth European country in volume of output (Masip, 2010, 2011a, 2011b), only behind the United Kingdom, the Netherlands and Germany, moving up four positions from the period 1994-2004 (Masip, 2005). This jump is in line with other areas of Spanish science (González, Valderrama & Aleixandre, 2012; Jiménez, Faba & Moya, 2001), although the reasons, as discussed below, vary.

The second research question was aimed at identifying the forms of authorship and collaboration followed by Spanish researchers. In this case, the patterns observed are diametrically different depending on the nature of the journals in which they are published. Thus, while in Spanish journals individual authorship predominates, averaging 83% over the 30 years of analysis, when Spanish researchers publish in international journals they tend to do so with other colleagues, multiple authorship reaching 63.2%. This indicator is reinforced by the co-authorship index figures, which in the case of Spanish journals is 1.24, much lower than the figure of 2.76 for international journals.

The third research question focused on the internationalisation of Spanish research. Of the three indicators analysed, different patterns again emerged, confirming previous research (Fernández-Quijada, Masip & Bergillos, 2013). In Spanish journals, there is a token internationalisation, 66 articles in collaboration with foreign researchers in three decades. Although in recent years this form of cooperation has increased slightly (more than 50% were in the last five years), the numbers are still very small. The absolute dominance of Spanish as the usual language in national journals also explains the limited international collaboration with Latin American researchers.

These data contrast with those offered by researchers who publish in WoS journals. Collaboration is the norm and international collaboration, almost as widespread as the collaboration between Spanish researchers, accounts for 45% of the joint contributions. There are also differences regarding with whom they publish. Cooperation with Anglo-Saxon countries is usual, whereas with Latin America cooperation is little more than symbolic.

The fourth question, with its two variants, opens the door to future research of an explanatory nature that allows a deeper causal analysis to be carried out. The data presented in this article merit greater discussion which would go beyond the scope of this paper. However, we offer some pointers as to possible lines of work.

Firstly, there is a clear correlation between the increase in research published in scientific articles and the increase in the number of researchers. The first communication faculties opened in the early 1970s. The Complutense University of Madrid, the University of Navarra and the Autonomous University of Barcelona took up the baton from the former «Escuelas oficiales», which had previously undertaken the training of journalists, advertising and audiovisual professionals. Since then, the number of schools offering communication studies has grown steadily (Figure 4). According to data collected in the «Libro Blanco de los Títulos de Grado de Comunicación» (White Paper on Degrees in Communication) (ANECA, 2005), in 2003, the year in which the report was issued, there were 40 faculties of communication, which have proliferated especially since the nineties. At present, according to the registry of qualifications of the Ministry of Education, Culture and Sport, as many as 50 Spanish universities offer at least one degree in the field of communication science.

To meet the growing demand, a substantial community of teachers has grown up, who carry out important teaching but also research activity. Although there are no reliable recent official data, the figures provided in the «Libro Blanco de los Títulos de Grado de Comunicación» enable us to state that the number of lecturers is well over 2,000. Although undoubtedly the increased critical mass affects the increase in output, it should be noted that the group that has had the

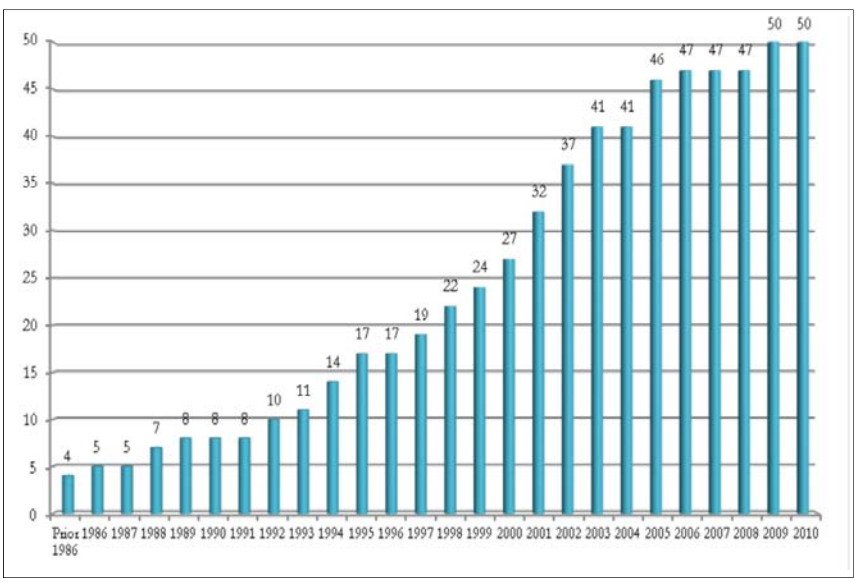

Figure 4. Universities that offer at least one degree in communication.

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greatest growth in recent years is that of associate professor, which corresponds to the profile of a part-time teacher who, in principle, has no obligation to carry out research.

Another relevant factor is the presence of the scientific journals in which the articles are published. Throughout the period new publications start up and die. From the original «Anàlisi» in 1980, 43 journals were started up and five were discontinued. However, irregularity in the frequency of appearance is fairly common, with gaps of up to 12 years in some cases. It is for this reason that we have chosen to count the active journals, meaning those which published at least one article in any given year. This number allows us to have a permanent vision over the period of the journals available to publish the research in communication (Figure 5). In the early years, the availability of journals is very limited. It is not until the 1990s that a more or less constant growth starts, with some peaks and troughs, to reach its peak in 2010, the last year of the series, in which the number increased from 29 to 38 journals.

There has been a remarkable development in scientific publishing during the period analysed. In this sense, the first contribution of this paper is to quantify the production in scientific journals for the short history of communication as a scientific discipline. Progress has also been made qualitatively, developing a proper sense of a scientific journal that did not exist at the beginning of the period, in which academic and professional journal were used as synonyms (Caffarel, Domínguez & Romano, 1989).

Furthermore, this significant increase in the volume of publications has led some writers to label it disparagingly as publicacionitis, which we can equate to the English «publish or perish», in an academic environment that rewards volume above excellence (Perceval & Fornieles, 2008; Sabés & Perceval, 2009). In fact, the increase in the number of publications and the acceleration of this growth in recent years itself would seem to indicate that the discipline has not yet reached maturity. However, other signs such as the increased co-authorship index or the various aspects of the incipient internationalisation do point to a qualitative change in line with the internationally accepted standards of maturity of scientific disciplines. This conflicting evidence may indicate a time of change within the discipline, with a division between authors who are committed to collaboration and internationalisation and those who still follow traditional patterns of publication.

Based on the examples provided by the literature on the subject and data previously noted, it seems clear that there is a feedback between the emergence of new faculties of communication (and the expansion of the courses offered within them), with its critical mass of researchers, and their output. We can also point tentatively to the incentives for financial promotion (six-year periods of research), academic promotion (accreditation) and prestige and recognition as causes of the increased output.

While the impact of financial incentives on this increase in production has been noted in other disciplines (Jiménez, Moya & Delgado, 2003), this «CNEAI effect» does not seem to occur in communication, at least in the early years of its start-up (1989), as no significant increase in production is observed in subsequent years. However, the significant growth in production and the internationalisation of Spanish research in communication does coincide in time with the start-up of the national assessment agency, ANECA. The agency was created in 2002 and lays down more precise evaluation criteria, that favour publication in scientific journals above that in monographs, a very common type of publication in the discipline.

The publication and internalisation of these criteria and the resulting need to standardise scientific production to that conventionally accepted by the assessment institutions would have swung the type of production to articles, in what has

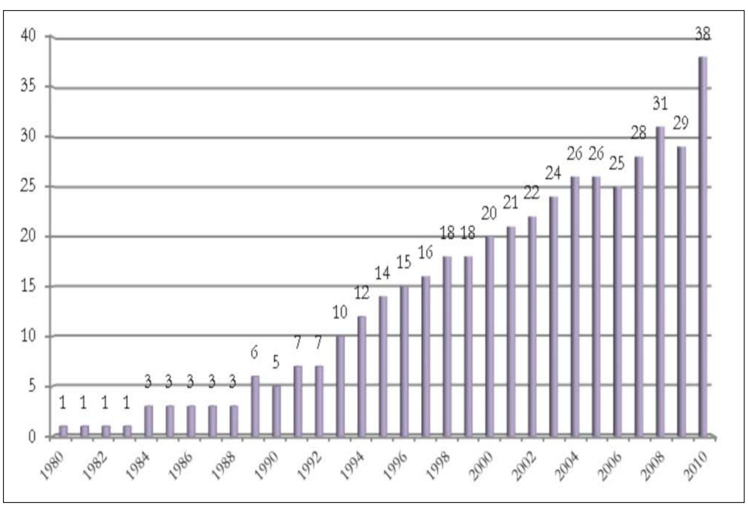

Figure 5. Active national communication journals.

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been called «ANECA effect» (Soriano, 2008). Accepting this premise, we believe that the data show that this effect would occur in two stages: firstly, an increase in the volume published in national journals, and the consequent emergence of new publications in which to publish, and secondly, a growth in the volume of publication in international journals, another criterion usually considered for quality and applied in teacher assessments.

With regard to other disciplines, this internationalisation is still limited, although Spain is well-positioned in the European context. Maintaining this position will require positioning in projects at a European level, of which there are currently very few, and internationalising the results of national projects, which, although they have increased in recent years, have to date only seemed to be reflected in national publications.

Notes

[1] Some issues could not be located in electronic or printed format and were excluded from the sample. Specifically, numbers 7 of «Revista de Ciencias de la Información», 35 of «Revista Latina de Comunicación Social» (2000), 0-3 of «Revista Universitaria de Publicidad y Relaciones Públicas» (1990-93) and 47 of «Telos» (1996) were not included. The extra issues published without the sequential numbering have also not been included. The number of articles analysed per journal may be viewed in the attached document.

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Spanish Scientific Output in Communication Sciences in WOS. The Scientific Journals in SSCI (2007-12)

La producción científica española en Comunicación en WOS. Las revistas indexadas en SSCI (2007-12)

ABSTRACT
Although the field of Communication Sciences has been slower to organize in Spain than in other European countries and the United States, in recent years it has shown a clear tendency to growth. One way to trace this process is by analyzing scientific production, and this paper focuses on this aspect. Using bibliometric methods, we analyze scientific journals and papers indexed in Thomson Reuter's international database, the Social Science Citation Index (SSCI) for Communication. While the focus of the study is Spanish scientific output, the results are related to international activities in this field. The three Spanish journals included in SSCI in recent years: «Comunicar», «Comunicación y Sociedad» and «Estudios sobre el Mensaje Periodístico» were studied in detail. The results show that Spain plays an important role in Communcation journal publishing (4th in the world) and as a producer of scientific papers (6th in the world), with a remarkable evolution, in quantitative terms, especially in the last five years. The inclusion of these three Spanish journals in the international database has been an important contribution to the country's visibility in this field, but there is still a need to promote international collaboration to achieve greater impact and openness in the scientific community.

RESUMEN
Aunque el campo de las Ciencias de la Comunicación en España ha tenido una organización más tardía que en otros países de Europa y Estados Unidos, en los últimos años ha evidenciado un claro proceso de crecimiento. Una forma de rastrear este proceso es a través del análisis de la producción científica, por lo que este trabajo se centra en este aspecto. Utilizando métodos bibliométricos se estudian las revistas y los documentos publicados en la base de datos internacional Social Science Citation Index (SSCI) de Thomson Reuters en la disciplina Communication. Si bien el foco es el estudio de la producción española, los resultados se ponen en relación con la actividad internacional en este campo. En cada caso se analizan con mayor detalle las tres revistas españolas incluidas en SSCI en los últimos años: «Comunicar», «Comunicación y Sociedad» y «Estudios sobre el Mensaje Periodístico». Los resultados obtenidos muestran un importante papel de España como editor de revistas sobre Comunicación (4° del mundo) y como productor de artículos (6° del mundo) con una notable evolución –en términos cuantitativos– en los últimos cinco años. La inclusión de las tres revistas españolas en la base de datos internacional ha sido una importante contribución a la visibilidad del país en esta disciplina, aunque aún es necesario promover la colaboración internacional para lograr un mayor impacto y apertura a la comunidad científica.

KEYWORDS / PALABRAS CLAVE
Bibliometric studies, Spanish journals, Web of Science, SSCI, impact, scientific production, visibility.
Bibliometría, revistas españolas, Web of Science, SSCI, impacto, producción científica, visibilidad.

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1. Introduction

It is possible to find Communication literature in Spain dating from the end of the XIX century through to the first works that deal with the study of the press, public opinion and cartoon humor. However, the consolidation of Communication as an academic field has been slower in Spain than in Europe and the United States (Jones, 1998).

Despite the subsequent strengthening of this discipline in Spain, a major evolution has taken place through different stages of emergence, consolidation and development (Martínez-Nicolás, 2009). Within each of these stages, a critical grouping of institutions, professionals and researchers has been built up, facilitating the institutionalization of the field. Not only has this process been possible thanks to the changes in the Communications systems and in their internal logics, it has been also possible due to the significant role that Communications increasingly plays in the development of our social systems (Moragas, 1997). The creation of academic and professional journals, which have served as a meeting point for the debates on methodology as well as diffusion channels for the results obtained, has played a role in this field's evolution and development.

From the appearance of the first publications on Communication to now, more than 40 national titles with different degrees of periodicity and continuity can be tracked. The existence of multiple publications reflects a will to consolidate a field in continuous growth. This trend is also evident through the increasing emphasis on improving the quality of publications, which have to adapt themselves to the strict criteria applied by evaluation agencies. Achieving the incorporation of Spanish journals into different databases constituted one of the main challenges, as this involved the recognition of the quality of such publications and their subsequent opening to the international community.

Many efforts have been carried out to improve the quality of Communication journals. Among these are the work carried out by publishers, who have prompted important changes to adapt themselves to the international rules for scientific publishing. Similarly, the work carried out by professionals linked to the field of evaluation, who have designed and applied quality indicators to Spanish publications so that they are valid within the existing evaluation systems, should also be acknowledged (Giménez, 2011).

The incorporation of Spanish journals into international databases has also contributed to identify the publications with greater quality within the field. Authors such as Fernández-Quijada (2010) have used these criteria to identify the major publications in the field within resources such as DICE, Latindex and In-RECS, constituting one of the criteria for positive evaluation within evaluation Studies by Social Science and Humanities journals such as the REHS project by CSIC (Giménez & Alcaín, 2006). These criteria are also used in other initiatives such as MIAR (led by the University of Barcelona) or the In-RECS platform (led by the University of Granada).

In the last few years, this tendency to include Communication journals within international databases has impacted on the overall area of Social Sciences. In the case of the Social Science Citation Index database, there has been a noticeable increase in the presence of Spanish journals: between 1997 and 2007, there were around 2 to 8 journals indexed, increasing up to 16 in 2008 and reaching 55 in 2011. In recent years, three Communication journals have been indexed: «Comunicar»; «Comunicación y Sociedad» and «Estudios sobre el Mensaje Periodístico».

This article describes and analyzes the main features of the production carried out by these three publications, contextualizing our analysis within the overall Spanish production in relation to the international community. This study intends to complement the results obtained by different authors, who have examined the field by analyzing its origins, contents and themes (Cáceres & Cafarel, 1993; Jones, 2005; Martínez-Nicolás, 2009; Peres, 2010).

To this end, the field of Communication is analyzed from a bibliometric perspective, applying different indicators that provide quantitative information. Other similar studies in this field have analyzed articles published in Spanish journals (Martínez-Nicolás, 2011); the different co-authorship typologies (Fernández-Quijada, 2011); the theses produced on a specific topic (Repiso & al, 2011) or the particular features of Spanish journals (de Pablos & al, 2012). While there are some earlier studies which apply bibliometric techniques in their analysis, for instance, of the characteristics of production in the most relevant ISI journals (Castillo & al., 2012), or those of which carry out the study of a specific journal in detail (Roca, 2012), the recent inclusion of these three Spanish journals in the JCR means that no studies have been carried out on them thus far.

2. Materials and methodology

The source of information for this study has been the Web of Science database by Thomson Reuters. Despite the well-known limitations this database has with regard to thematic and linguistic variety, as well as to the underrepresentation of journals from non-Anglophone countries (Gómez & Bordons, 1996), it nevertheless constitutes one of the most recognized international multidisciplinary resources. Furthermore, it allows for a precise selection of journals related to a specific discipline, while it also adds information about the documents' impact, as well as to the institutional affiliation of the articles' author.

The SSCI and A&HCI databases have been used for selecting documents on Communication. These databases contain documents belonging to Social Science and Humanities journals starting from 1956 and 1975 respectively. By using the Journal Citation Report's category index (JCR), it was possible to retrieve information about all the journals under the «Communication» category since 1997 (first on-line edition). Data has been obtained on:

• Communication journals: number of journals per year; number of articles per journal; citations received; Impact Factor; and country of publication. All basic bibliographical information has also been included regarding Spanish journals

• Communication documents: the scientific production in SSCI and A&HCI has been retrieved by carrying out a search using WoS search categories (wc=Communication). The indicators obtained include: number of documents per database; evolution of production; production by country, institution, journal and discipline (for documents in journals classified under multiple categories).

Table 1. Bibliometric Properties of Journals in the Communication Category

YEAR	Nº Journals	Total Articles	Average art./journ.	Total citation	Average citation/art.	Max IF	Average IF
1997	36	807	22,42	7242	8.97	0.986	0.422
1998	38	906	23,84	8401	9.27	1.407	0.512
1999	43	1000	23,26	9394	9.39	1.395	0.487
2000	43	978	22,74	9663	9.88	1.800	0.527
2001	43	973	22,63	10244	10.53	1.725	0.490
2002	42	955	22,74	11561	12.11	1.250	0.546
2003	44	1110	25,23	13573	12.23	1.612	0.617
2004	40	1054	26,35	13861	13.15	1.526	0.731
2005	42	1157	27,55	15146	13.09	1.509	0.738
2006	44	1309	29,75	17764	13.57	1.612	0.742
2007	45	1440	32,00	21250	14.76	2.030	0.847
2008	45	1441	32,02	27019	18.75	2.226	0.958
2009	55	1787	32,49	35530	19.88	3.639	0.947
2010	67	2087	31,15	39340	18.85	2.029	0.881
2011	72	2449	34,01	44043	17.98	2.710	0.914

Out of the total number of documents on Communication, Spanish production was identified (cu=SPAIN), obtaining the same indicators as for world production and adding the following: proportion of Spanish and world documents as well as number of signing authors per year.

A deeper analysis has been carried out for the three Spanish journals included in the JCR database: «Comunicar»; «Comunicación y Sociedad» and «Estudios sobre el Mensaje Periodístico».

3. Analysis and results

3.1. Communication Journals in JCR

From 1997 to 2011 (last available edition), the number of JCR journals included under the discipline

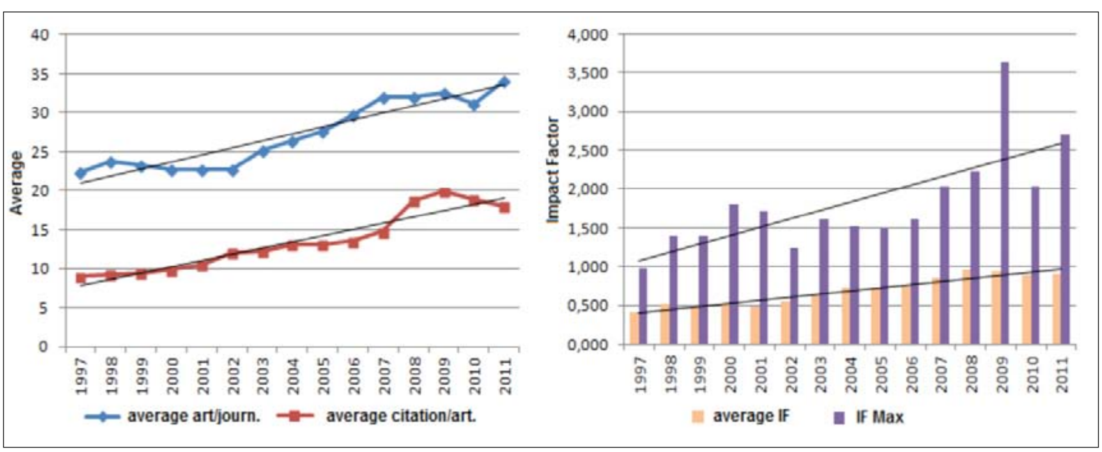

Figure 1. Evolution of the Number of Articles, Citations and Impact Factors in Communication Journals.

Table 2. Bibliometric Properties of Spanish Journals In the Communication Category in JCR			
Journal	Comunicar	Estudios Sobre el Mensaje Periodístico	Comunicación y Sociedad
Publication year	1993	1994	1988
ISSN	1134-3478	1134-1629	0214-0039
Numbers /year	2	2	2 (3 since 2010)
Language	Multilingual	Spanish	Spanish
Editorial	Grupo Comunicar	Univ. Complutense de Madrid	Univ. de Navarra
WoS category	Communication/Education and Research Education	Communication	Communication
Indexed in WoS since	2007	2008	2008
IF 2011	0.470	0.145	0.205
Quartile 2011	3	4	4
Position 2011	51/72	69/72	65/72
IF 2010	0.455	0.203	0.152
Quartile 2010	4	4	4
Position 2010	52/67	64/67	67/67
IF 2009	0.022	--	--
Quartile 2009	4	--	--
Position 2009	55/55	--	--

of «Communication» has increased. The number of articles per journal has also increased, as well as the number of citations per article. This increase has had an important repercussion on the Impact Factor, which has subsequently multiplied by 3 (table 1).

In figure 1, it can be seen how the tendency to increase the average number of articles per journal was similar to the increase in the number of citations received per document. While the IF average had a gradual increase during this period, the maximum Impact Factors grew greatly, indicating that the journals leading the discipline have been gaining more and more in terms of visibility. In addition to these findings, there has also been an increase in the amount of citations received with regard to the rest of journals under this category.

Considering the location of editors, most of them are from English-speaking countries, while only 4% are Spanish: «Comunicar», «Estudios sobre el Mensaje Periodístico», and «Comunicación y Sociedad». However, since 2008, the number of journals has increased dramatically and it is during this period that the three Spanish journals have been included in the JCR database.

3.1.1. Spanish Communication Journals

When analyzing the characteristics of the three Spanish journals, it can be noted that they were created between the end of the 1980s and the beginning of the 1990s (all of them being published twice a year). Since 2010, «Comunicación y Sociedad» has been published on a quarterly basis. Two of these journals belong to universities while the other belongs to an association of journalists and teaching staff from Andalucía. Only the journal «Comunicar» is presented as a multilingual publication, as it includes documents in Spanish and English. Since 2010, a bilingual edition of the journal has been in circulation (Spanish/English), while the other two journals have been publishing their articles primarily in Spanish. Their date of entry in WoS has been similar for these three journals, with «Comunicar» achieving a greater Impact Factor in the last year (2011), and which places it within the third quartile of its discipline (table 2).

3.2. Communication Documents in the Web of Science

The number of documents indexed in SSCI database up to 2012 was, 86,473, with 7% also included in A&HCI. The increase in the number of publications since 1956 has seen a 400% rise. If world pro-

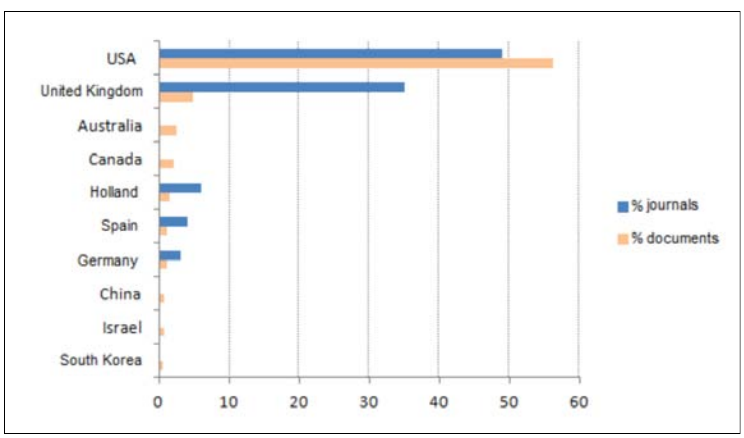

Figure 2. Relation Between the Number of Journals and Documents Published by Country.

duction is examined, we can also see that there was a slight increase through to the mid 1970s. Since then, there has been a steady growth, with a major increase from 2006 onwards.

Communication documents were carried out by 136 countries, with a major focus on the United States, which had more than half of the publications. This is then followed by the United Kingdom, Australia and Canada. In figure 2, the top-10 countries regarding production are presented, showing the relevance of their production in relation to the overall world production. In addition to the percentage of journals published in each country. The countries with the largest number of journals published in this field are also the most productive, although the percentages vary. The USA produces a greater percentage of documents than the number of journals it publishes, while in the United Kingdom the number of documents is very low in relation to the number of journals. Spain and Germany publish a slightly lower number of documents than could be expected -if the same distribution between the percentage of production and the number of journals was applied.

When identifying the most productive institutions, USA universities lead the field, with Wisconsin, Illinois and Michigan as just some examples.

Throughout the whole period, some differences are evident within the field and in order to analyze them in detail, three different stages have been considered. The first stage goes from 1956 to the end of the 1970s, during which there were almost 22,000 articles published with the production focus on the USA (41%), followed by Canada, Hungary and the United Kingdom with less than 1%. Production was distributed among 22 journals and there were Communication publications classified under other 11 different disciplines, among which related to Photographic Technology; Telecommunications; Political Science and Social Sciences.

The second stage covers until 1995, and during this period, almost 23,000 documents were produced, with an even stronger presence by the USA (72%). However, countries such as the United Kingdom (3%) and Canada (2%) increased their respective percentages. Production was distributed among 49 journals, with 6 of them representing half of the total production. It must be noted that some publications were classified under 21 additional disciplines such as in the field of Educational Research and Finance, while it also significant to highlight the number of documents included in journals of Library and Information Sciences, which were very few in the previous stage.

During the third stage until 2010, the production growth has been significant with over 39,000 articles. The USA continues to have a predominant role (56%), although countries, such as the United Kingdom, Australia, Canada and Holland, have increased their participation with percentages that go from 3% to 8%. Spain is now part of this group with a 2% of the world production, due to the impact in recent years in which three journals were indexed in JCR. During this stage, the number of journals has increased considerably with 5 of them representing 20% of overall publications. Along with Communication, there are 28 other disciplines in which related articles are published, such as Finance, Library and Information Sciences, Social Sciences and Sociology.

3.2.1. Spanish Documents on Communication in the Web of Science

Out of the total number of documents published in Communication journals included in the Web of Science, we have identified those items whose authors have a Spanish affiliation. 912 documents were identified between 1966 and 2012. The percentage to overall world production has increased, representing in the last five years 80% of the whole production throughout the years. The number of authors per document also grew, with an average of 2.36 authors per document. In average there are 1 or 2 authors per documents but there is 1 document with 126 authors. These figures are shown in 73% of documents (table 3).

Spanish production was carried out in collaboration with countries such as the USA (8% of documents); the United Kingdom (3%); Holland (2%); Germany (1.4%); Italy (1.4%) and France (1%). Among the Communication journals also classified under other disciplines, the following disciplines can be highlighted: Educational Research; Applied

Table 3. Evolution of the Number of Spanish Documents in the Communication Category

Period	N. doc. Spain	% doc. Spain /World	N. Authors	Authors /doc.
1956-1960	0	0.00	0	0.00
1961-1965	0	0.00	0	0.00
1966-1970	2	0.03	3	1.50
1971-1975	0	0.00	0	0.00
1976-1980	1	0.01	1	1.00
1981-1985	7	0.10	10	1.43
1986-1990	10	0.16	15	1.50
1991-1995	21	0.29	43	2.05
1996-2000	51	0.55	123	2.41
2001-2005	77	0.84	394	5.12
2006-2012	743	3.44	1360	2.08
Total	912	5.42	1949	2.37

Comunicar, 41, XXI, 2013

Table 4. Comparison of Production by the Three Spanish Journals in the Category of Communication

Year	Comunicar		Comunicación y Sociedad		Estudio del Mensaje Periodístico	
	N. doc.	% doc.	N. doc.	% doc.	N. doc.	% doc.
2007	90	21.5	--		--	
2008	74	17.7	29	18.59	54	30.17
2009	75	17.9	40	25.64	29	16.20
2010	66	15.8	45	28.85	39	21.79
2011	69	16.5	26	16.67	57	31.84
2012	44	10.5	16	10.26	Without data	
Total documents	418	100.0	156	100.00	179	100.00
Citable documents	215	51.4	97	62.18	127	71.00
Citations	71		20		8	
Citations/Citable documents	0.32		0.20		0.06	
Cited documents	44	20.5	15	16	6	5
Higly cited papers (N. citations)	6		4		3	
Self-citations	23	32	8	40	4	50
H-Index	3		2		1	
N. authors	491		201		253	
Authors/doc.	1.31		1.43		1.41	

Psychology and Linguistics. During this period, Spanish production has been distributed among 63 journals; those being the three Spanish journals in JCR where just over 50% of the documents are concentrated. The main productive institutions include the following universities: Complutense de Madrid, Navarra, Autónoma de Barcelona, Jaume I, Pompeu Fabra and País Vasco.

«Comunicar» is the journal that concentrates a larger number of documents and is the one that shows the higher number of citations per document (only citable documents have been considered: articles and reviews). These values are very low in the three Spanish journals, as there is a high percentage of non-cited documents. In Table 4, it is noted that citations have been received from the journals themselves in percentages that go from 30% to 50%.

Regarding the impact study, the institutions from which the citations were received have been analyzed for each journal. In «Comunicar», the 71 citations obtained up to 2013 came from 54 institutions, 18 of them being foreign (mainly from Portugal, Colombia and Chile). Figure 3 shows the main institutions sending citations (with 2 citations for this journal), among which the Universidad de Sevilla; Universidad del País Vasco; the Universidad Nacional de Educación a Distancia (UNED); the Universidad Autónoma de Barcelona and the Universidad del Algarve can be highlighted. «Comunicación y Sociedad» received 20 citations from 14 different institutions, 2 of them being foreign (from Switzerland and from China respectively). Among the principal citing Spanish universities, the most important are the Universidad Complutense de Madrid and the Universidad Pompeu Fabra. «Estudios sobre el Mensaje Periodístico» had 8 citations from 9 different institutions, such as the Universidad del País Vasco and the Universidad Complutense de Madrid.

When analyzing the most productive institutions, «Comunicar» presents the larger number of centers, among which the Universidad Complutense de Madrid; the Universidad Autónoma de Barcelona; the Universidad de Málaga and the Universidad de Sevilla stand out. The «Comunicación y Sociedad» journal shows a significant presence of authors from the Universidad de Navarra and from the Universidad Complutense de Madrid. The «Estudio sobre el Mensaje Periodístico» journal shows a major presence of authors from the Universidad Complutense de Madrid.

With regard to the presence of authors from foreign institutions, «Comunicar» is characterized by the presence of authors from the USA, Mexico, Chile and Portugal, with the universities of the Algarve, Minho, Sao Paulo and Buenos Aires the most relevant. «Comunicación y Sociedad» presents authors from 10 different countries among which those from Chile are the most relevant (mainly from the Universidad Católica). «Estudios sobre el Mensaje Periodístico» includes authors from 5 different countries, with the Chilean authors having a larger number of articles published.

4. Debate and conclusions

The data presented here shows that the field of Communication has been through a process of expansion in recent years.

In an international context, the increasing volume of journals goes hand in hand with the increase in the number of institutions and professionals that carry out their academic and scientific work in this field. Furthermore, the increase in the number of articles being published reflects the growing interest in distributing research outcomes on the topics related. The fact that the number of citations were multiplied by two in a 15 year period, also shows an increase in the consumption of materials produced, as well as their increasing visibility on the international stage.

The USA and the UK have a predominant presence, while Spain is the fourth country regarding the number of indexed journals in SSCI (behind Holland). Currently, the three Spanish journals included in the

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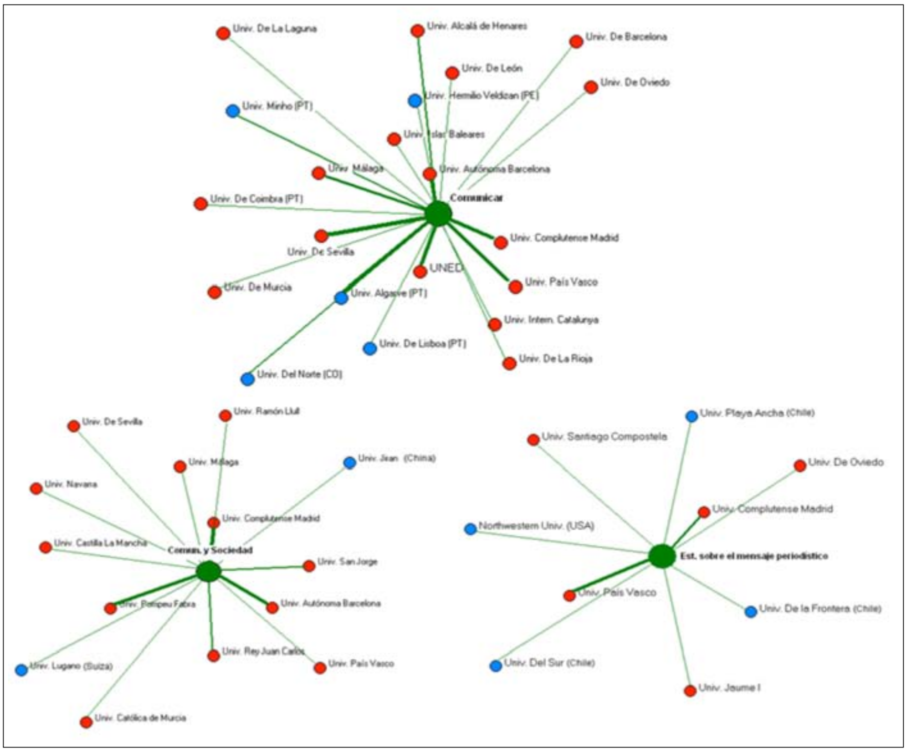

Figure 3. Institutions Citing Documents in Spanish Journals.

Web of Science represent 4% of the Communication journals contained within this database. Although it constitutes a low percentage, if compared to the number of current existing titles in the country, it represents an acknowledgement of the efforts made to make national journals more visible. It is important to mention that the inclusion of these titles has gone hand in hand with the incorporation of many Social Sciences and Humanities journals on the JCR database, signifying a major increase since 2008 (FECYT, 2011).

It is undeniable that the evaluation policies of researchers and institutions introduced in Spain in recent years (ANECA, CNEAI), have influenced greatly in the promotion of the publication of journals internationally, as well as to the indexing of journals at national level. This has generated many criticisms regarding the excessive tendency to quantify results, while also warning about cases of possible malpractices, such as inflated co-authorship rates and fragmented publications (Brochard & Brun, 2007). Another undesired result is that titles included in the WoS are overwhelmed with new articles and must subsequently increase their rejection rates, while other journals have difficulties to complete their editions (Giménez & Alcaín, 2006).

However, a positive aspect of the above mentioned evaluation policies is that they have served as starting points for different projects, which will allow us to analyze, evaluate and test quality criteria that could constitute publishing referents for national journals. Thanks to such initiatives, a larger number of Spanish journals are increasingly improving their international visibility.

With regard to the field of Communication, the inclusion of the three Spanish journals in the SSCI database constitutes a quality indicator, which coincides with the evaluation carried out by other databases. For instance, the largest database includes 342 titles belonging to this discipline, 30 of those being Spanish. Out of the three national journals, «Comunicación y Sociedad» leads the ranking, positioning itself in 50th place at international level, which was calculated by its index made up of secondary diffusion (the measurement of the journal's presence within different thematic repertories). «Comunicar» follows closely, occupying second place at national level and 54th at international level. «Estudios sobre el Mensaje Periodístico» appears within the top-8 Spanish journals and constitutes number 179 worldwide. Within the In-RECS platform, which in 2010 offered information on 24 Spanish journals, the three Spanish journals included in SSCI appear within the first quartile according to their impact.

When the international scientific production on Communication is analyzed, publications can be found from the mid 1950s. This is logical if we considered that the first studies in this field can be found at the beginning of the XX century when North American studies on propaganda were published during the First World War. These studies would give way later to different study programmes in mass communication (Delia, 1987). At the same time, other authors have mentioned studies on inter-personal communication since 1930 (Roger, 1994). Not only has the USA been a pioneer in Communication research, but it has also maintained its supremacy throughout more than 5 decades, with its universities leading world production.

Although it may be logical for the USA to be the largest producer, given it is the biggest publisher of journals in the field, it must also be noted that the data shows its percentage of documents is even higher than its percentage of journals. In contrast, countries such as the United Kingdom, Holland, Spain and Germany, which represent some of the biggest publishers of journals, show inferior percentages of publications than expected.

There are still some goals left to achieve, such as: to reach a higher international production in order to maintain a level playing field with other European countries with similar academic developments; to continue the improvement of the rankings and the recognition of other prestigious national journals; to accommodate the increasing rate of local production; and, finally, to gain visibility and facilitate the integration within the international community through the collaboration of national and international authors, as well as through the publication of documents in foreign journals.

If production is analyzed with regard to the context in which it develops, three stages can be clearly identified. In each of them, the theoretical approaches and the objects of study have varied due to the different social and economic interests, as well as to the adoption of new theories, concepts and methodologies coming from other disciplines. An increasing interdisciplinary dimension is also noted through the fact that the journals classified under the JCR database within the Communication category are also included under other disciplines. This inter-disciplinary aspect is one of the main characteristics of this field, as Communication Sciences feed on knowledge that comes from disciplines such as Sociology, Linguistics or Psychology (Peres-Neto, 2010). This issue has constituted an interesting point for multiple authors interested in studying the way in which this field's scope can be defined with accuracy (Berger & Chaffe, 1988; Craig, 2003; Leydesdorff & Probst, 2009).

In Spain, the evolution of this field is significant, given that since the mid-1990s and particularly since 2006, the number of documents grew profoundly. In this case, the three stages mentioned above coincide with the historical and social contexts of the country.

Following the temporal classification proposed by Martínez-Nicolás (2009), we can place the emergence period for this field between the mid 1960s and the beginning of the 1980s, when the academic, social and economic conditions began to be favourable for research activities to become an autonomous field that was approached with scientific methodology.

From the 1980s to the mid-1990s, it is possible to speak about a consolidation period, defined as a period of «explosion» during which there is a major growth within faculties linked to the field of Communication. This made it possible that the Spanish research community on Communication multiplied by four over the course of two decades.

The last stage, defined as development stage, can be said to begin in the mid 1990s and is characterized by the development of a new communication environment, which includes all areas of human knowledge. It also constitutes the end of massive audiences and the period of reinforcement of the social networks.

Although the growing presence of Spanish research on Communication is evident, half of the documents compiled within the SSCI database are published in Spanish journals and, more specifically, within the three Spanish journals indexed. This allows for the visibility of local production and issues, but it does not imply, in itself, an opening to the international arena.

In fact, collaboration with foreign centers is extremely low. Out of the three Spanish journals included in SSCI, «Comunicar» can be considered «the most international» mainly as a result of the number of signing countries and institutions as well as the presence of articles written in languages other than Spanish. Although language could be a motivating factor for the Latin American audience, the fact is that there are very few signing institutions from this region. Martínez-Nicolás and Saperas (2011) have identified a similar situation. They analyze for different Spanish journals and suggest that there is a training relationship with the Latin American researchers, as many of them have been postgraduate students in Spanish programmes, although there is not a major professional opening for academics from this region.

Another piece of data related to collaboration is the co-authorship rate, which continues to be very small, as individual articles or articles signed by two authors are predominant as shown by some previous studies (Castillo & Carretón, 2010). «Comunicar» is the journal that shows a higher number of authors. However, when we considered the number of authors per document, figures are much more inferior for the three Spanish journals under study than for the Spanish total. In other words; when Spanish authors write for international journals on Communication, they have a higher rate of collaboration.

This data could explain the lack of document citations in Spanish journals, as there seems to be a direct relationship between the number of authors per article and the amount of citations received (Lewison, 1991; Bridgstock, 1991). Other authors have identified that the origin of the signing authors has an effect on the document's impact. If collaboration is carried out among institutions from the same country, fewer citations are received (Goldfinch & al., 2003). In this sense, some people affirm that international collaboration facilitates the visibility of documents, as they have a bigger readership and are published in journals with a greater impact (Van-Raan, 1998; Gómez & al., 1999). In addition, each author distributes his or her works through different channels, increasing in this way their possibilities of diffusion (Katz & Martin, 1997).

This data would lead us to think that the lack of collaboration among Spanish authors is having a negative influence on their impact. While it is true that the articles analyzed in these journals are very recent and have a very short citation window, the percentage of documents not cited in the case of the three Spanish journals under study has so far been very high.

It is also significant to identify that the pioneering institutions in Communication studies are the most productive, and coincide with the conclusions provided by In-RECS. These results reflect the activity of national groups that work in this field, although it also indicates that, very often, journals feed on original articles by authors who belong to the same institution that publishes them, not having a major significance within other institutions.

All this makes it evident that the field of Communication has experienced a major growth at international level and more particularly in Spain. Despite its late incorporation, it has been demonstrated that it is not just an exceptional happening. The publication of multiple journals has contributed to this process. Their inclusion within international databases signifies the acknowledgement of their quality. However, studies based on consultations made to the publishers in the field show that, according to these experts' opinion, the future of scientific journals on Communication implies a greater internationalization, the achievement of a higher rate of inclusion within the impact indexes and the adoption of measures of greater transparency in the evaluation of documents (Baladrón & Correyero, 2012).

We may conclude that there are still some goals left to achieve, such as: to reach a higher international production in order to maintain a level playing field with other European countries with similar academic developments; to continue the improvement of the rankings and the recognition of other prestigious national journals; to accommodate the increasing rate of local production; and, finally, to gain visibility and facilitate the integration within the international community through the collaboration of national and international authors, as well as through the publication of documents in foreign journals.

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Internationalization and Co-authorship in Major Communication Journals in Spain

La internacionalización y las coautorías en las principales revistas científicas de Comunicación en España

ABSTRACT
This work has conducted an analysis of Spanish Communication journals in terms of their level of internationalization and the collaborative models used by their authors, by assessing 1,182 articles published between 2007 and 2011 in the seven top-rated Communication journals according to a set of six quality indicators. The ultimate goal has been to perform a data processing in order to detect the degree of inclination of international authors to publish their works in Spanish journals in the years covered by this study. Secondly, the study draws a profile of co-authorship patterns focused on geographical and institutional alliances. The results show there is no clear and convincing signs of evolution towards a desired level of internationality. Concerning co-authorship, although the results indicate a willingness on the part of authors to chart a path of wider geographical and institutional collaboration, unique authorship continues to be the preferred form of publication. Finally, the work shows that investigative alliances are confined to Spain and when they go international collaborations are almost exclusively with Latin American authors.

RESUMEN
En este estudio se ha llevado a cabo un análisis de las revistas científicas de Comunicación españolas en términos de su grado de internacionalización y de los modelos colaborativos utilizados por sus autores. Para ello se han analizado un total de 1.182 artículos publicados entre 2007 y 2011 por las siete revistas españolas mejor valoradas en términos de calidad. El objetivo principal ha sido realizar un tratamiento de los datos con el fin de observar si en los años comprendidos en el estudio se ha producido un incremento del interés de autores internacionales por publicar en las revistas españolas. En segundo lugar, se ha dibujado un perfil de los patrones que rigen las coautorías en términos geográficos y de alianzas institucionales. Los resultados no han permitido apreciar síntomas de evolución hacia los grados de internacionalidad deseados. Por lo que se refiere a las coautorías, aunque se percibe una voluntad por parte de los autores de trazar un camino de mayor colaboración institucional y geográfica, se observa que sigue predominando la autoría única y que las alianzas se concentran dentro del territorio español y se opta casi exclusivamente por Latinoamérica cuando se trata de llevar a cabo colaboraciones internacionales.

KEYWORDS / PALABRAS CLAVE
Communication, research, journals, authorship, internationalization, scientific communication.
Comunicación, investigación, revistas, coautorías, internacionalización, comunicación científica.

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1. Introduction: State of the art

Until about 30 years ago, the publication of articles in academic journals represented only part of communication research production in Spain. Although researchers in the experimental sciences and engineering were used to disseminating their discoveries in reputable international publications, social scientists traditionally published in books and in more generalist journals (Hicks, 2004). This situation has been changing in recent years to the point where there has been an evident shift towards paradigms similar to those of the experimental sciences. This was confirmed by King (1987) who pointed to the use of bibliometrics and other quantitative methods by public administrations to justify public spending on the sciences.

This paradigm shift should not be viewed as a negative development: first, publication depending on successful peer review is a guarantee of quality (Delgado, Ruiz-Pérez & Jiménez-Contreras, 2006); and second, authors' reputations benefit from the recognition received from expert reviewers. However, this new paradigm, which seems to be firmly established, does have some weak points:

• There is a growing tendency for authors to select journals according to perceived benefits for their personal curricula vitae (Giménez & Alcain, 2006).

• Authors focus their publication efforts on a handful of journals associated with the most important databases in terms of international recognition and dissemination – essentially the Social Sciences Citation Index (SSCI) and SciVerse Scopus, both primarily in English and, although this has had a positive effect on the international visibility of Spanish science (Jiménez, Moya & Delgado, 2003), it also leads to a high proportion of publications by relatively few institutions, in accordance with the Pareto principle (1935).

• Because they are few in number, databases are inevitably generalist, making it difficult to find specific articles on a particular theme (Larivière, 2006).

• The language factor tends to skew real production in favour of English-speaking countries (Andersen, 2000).

In response to this situation, non-English-speaking countries like Spain have developed their own teaching and research evaluation systems, like the benchmark used for the quality of Spanish publications by the National Agency for Quality Assessment and Accreditation (ANECA). Spanish journals have also invested efforts to improve their visibility and quality and so enhance their international presence. There have been a number of undeniable successes in communication, with inclusion in the SSCI in 2007 of «Comunicar» and of «Estudios del Mensaje Periodístico» and «Comunicación y Sociedad» in 2009.

This changing context underlines the need to study the current situation with regard to social science publications. A number of authors and research groups have already begun to invest research efforts in communication publications, with research to date focusing on quantitative evaluation of aspects such as gender, the ratio of researchers per article, the methodologies used (Castillo & Carretón, 2010), the language used and authorship and citations (Fernández-Quijada, 2010; 2011). Other studies have focused on the quality criteria used by the different databases, the situation of Spanish communication journals (Giménez & Alcain, 2006), the consequences of the «ANECA[1] effect» (Soriano, 2008) in Spain (Masip, 2011) and the topics and methodological shortcomings of articles published between 1998 and 2007 (Martínez-Nicolás & Saperas, 2011).

From this body of research the following dual tendency has been identified: 1) Spanish journals are attempting to stimulate greater interest from foreign authors by internationalizing their publications (Giménez & Alcain, 2006); 2) growing numbers of Spanish authors are publishing their work in higher impact international journals (Masip, 2011). In fact, positive developments are particularly evident from 2008, when Spanish communication journals were first included in international databases.

This article analyses the degree of internationalization and patterns of cooperation between authors of Spanish communication journals. The aim was to characterize communication journals published in Spain by conducting a detailed study of their content so as to evaluate them for evidence of greater internationalization (specifying countries) and to identify authorship profiles and cooperation patterns.

One objective was to determine whether individual work predominated over group research and to analyse the nature and origins of co-authorship. The goal was to map international and national co-authorship and so identify trends in links between the main institutions –universities in particular– publishing articles on communication in Spain.

The study focused on the main Spanish publications on communication; to ensure an exhaustive and representative analysis, the period chosen for review was the last five years for which complete data is held (2007 to 2011). This study does not propose or verify any particular analysis system or bibliometric criteria, already firmly established in the library and information science disciplines. The aim was to simply provide a general overview of the current situation regarding the internationalization and co-authorship profiles of the analysed journals. This research therefore had three specific objectives:

- To measure the degree of internationalization of Spanish communication journals and evolution over the period 2007 to 2011.
- To describe authorship cooperation patterns between universities and countries.
- To draw up a broad authorship profile (gender, nationality and university or affiliated institution) for Spanish communication journals.

2. Material and methods

The basis for this study were 50 journals taken from the communication section of the DICE[2] database –used by ANECA as a quality benchmark for Spanish publications– together with the journal «El Profesional de la Información»[3]. The journals was classified using a set of criteria labelled 0 to 6, as

Included journals (i.e. meeting 5 or more criteria)		Criter Met	C0	C1		C2	C3		C4	C5	C6
			Years	ISI (SSCI)	Quartile	Scopus	Quartile	Latindex	ISOC-CSIC	IN-RECS Source journal	External Review
1	Comunicar	**7**	1994-	x	Q3	x	Q3	**33**	x	x	x
2	Comunicación y Sociedad	**7**	1988-	x	Q4	x	Q3	**33**	x	x	x
3	Estudios Sobre el Mensaje Periodístico	**7**	1994-	x	Q4	x	Q4	**33**	x	x	x
4	El Profesional de la Información	**7**	1998-	x	Q3	x	Q3	**33**	x	x	x
5	Revista Latina de Comunicación Social	**6**	1998-			x	Q4	36	x	x	x
6	Anàlisi	**5**	1980-					31	x	x	x
7	Zer	**5**	1996-					31	x	x	x

Excluded journals (i.e. meeting fewer than 5 criteria)		Criter Met	C0	C1		C2		C3	C4	C5	C6
			Years	ISI (SSCI)	Quartile	Scopus	Quartile	Latindex	ISOC-CSIC	IN-RECS source journal	External review
1	Comunicación y Hombre	**4**	2005-					31	x		x
2	Mediatika	**4**	1997-					30	x		x
3	Quaderns de Filología	**4**	2002-					29	x		x
4	Mediaciones Sociales	**4**	2007-					35	x		x
5	Comunicación [digital]	**4**	2007-					31	x		x
6	Historia y Comunicación Social	**4**	1996-					32	x		x
7	Historia y Comunicación Social [digital]	**4**	1996-					34	x		x
8	Comunicació	**4**	2010-					32	x		x
9	Periodística	**4**	1989-					27	x		x
10	Cuadernos de Información y Comunicación	**4**	1995-					**33**	x		x
11	Telos	**4**	1985-					28		x	x
12	Doxa Comunicación	**4**	2003-					**33**	x		x
13	Pensar la Publicidad	**4**	2007-					**33**	x		x
14	Pensar la Publicidad [digital]	**4**	2007-					35	x		x
15	CIC [digital]	**4**	1995-					35	x		x
16	Vivat Academia	**3**	1998-					34			x
17	Icono 14	**3**	2003-					34			x
18	Revista de SEECI	**3**	1998-					**33**			x
19	Trípodos	**3**	1996-						x		x
20	Questiones Publicitarias	**3**	2007-					32			x
21	Area Abierta	**3**	2001-					**33**			x
22	Ambitos	**3**	1998-					29	x		
23	Información y Comunicación	**3**	2003-					27	x		
24	Logo	**1**	2001-								

Excluded journals (i.e. not active during entire study period)		Criter Met	C0	C1		C2		C3	C4	C5	C6
			Years	ISI (SSCI)	Quartile	Scopus	Quartile	Latindex	ISOC-CSIC	IN-RECS source journal	External review
1	Comunicación	**3**	2002-2007					27	x		x
2	Derecom	**3**	2010-					**33**	x		x
3	aDResearch ESIC	**3**	2010-					32	x		x
4	Questiones Publicitarias	**3**	1993-2006					30	x		x
5	Textual y Visual Media	**2**	2008-					32			x
6	Miguel Hernández Communication Journal	**2**	2010-					32			x
7	Revista Mediterránea de Comunicación	**2**	2010-					36			x
8	Fonseca. Journal of Communication	**2**	2010-					34			x
9	Revista de Comunicación y Salud	**2**	2011-					**33**			x
10	Sesión No Numerada	**2**	2011-					32			x
11	adComunica	**2**	2011-					30			x
12	Revista Internacional de Relaciones Públicas	**2**	2011-					34			x
13	EU-topías	**2**	2011-					26	x		
14	Conexione	**1**	2009-					29			
15	Revista Española de Comunicación en Salud	**1**	2010-					29			
16	Fotocinema	**1**	2010-					32			x
17	Comunicación y Estudios Universitarios	**1**	1990-2001					21			
18	Revista de Ciencias de la Información	**0**	1984-1995								
19	Revista Universitaria de Publicidad y Relaciones Públicas	**0**	1990-2000								

Figure1. Spanish academic communication publications.

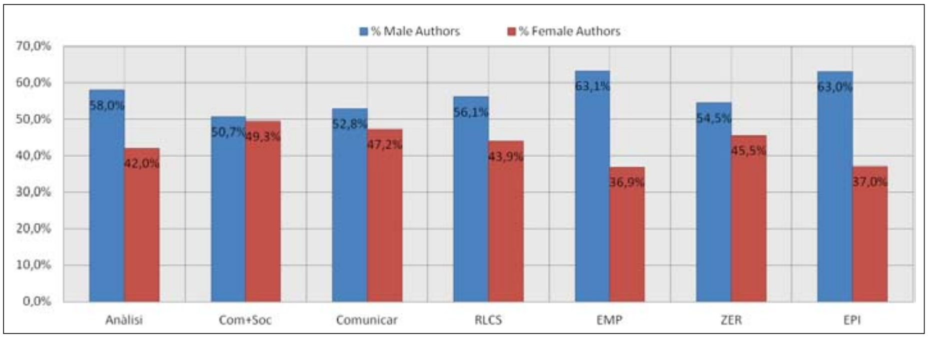

Figura 2. Porcentajes de autorías masculinas y femeninas para cada revista[6] (2007-11).

follows: criterion 0 referred to publications active during the entire study period (2007 to 2011); criterion 1 and criterion 2 referred to inclusion in the SSCI and Scopus databases, respectively, along with quartile information; criterion 3 referred to inclusion in the Latindex database; criterion 4 referred to inclusion in the ISOC-CSIC[4]; criterion 5 referred to journals –called «source journals'– rated as particularly important in the communication field according to INRECS[5]; and finally, criterion 6 referred to publications with an external review system. The journals were organized in a table according to these criteria (figure 1).

Of the 51 journals, 19 were excluded as failing to meet criterion 0. The remaining publications, ranked according to the number of criteria met, were grouped into two blocks: 24 publications that satisfied fewer than five criteria, and seven journals meeting five, six or seven criteria that were taken as the study sample, namely, «Comunicar», «Anàlisi», «Comunicación y Sociedad» (Com+Soc), «Estudios sobre el Mensaje Periodístico» (EMP), «El Profesional de la Información» (EPI), «Zer» and «Revista Latina de Comunicación Social» (RLCS).

Only research articles from the seven journals were included in the study; excluded were book reviews, personal reflections, author comments and texts not considered to be research articles by the journals that published them. This left us with a final sample consisting of 1,182 articles.

We next defined the study variables. Given that the unit of analysis was the academic article, a set of variables was established for each unit that depended on the number of authors. Thus, for the corpus of M=1,182 articles, and for any given article with j authors, defined were M=3+3j variables. The first three variables were t (year of publication), r (journal where article was published) and n (number of authors); and the second three were, for each author i, iG (gender), iO (geographical origin) and iP (institution), with i ranging from 1 to j. Therefore, a chain of $M = t, r, n, (iG, iO, iP)_{i=1}^{i=j}$ values as follows corresponded to each article:

For the corpus of M=1,182 articles, obtained was a total of 9,762 values, processed to extract the maximum amount of information. Counting was done independently and always based on the initial data; in other words, data that was already processed were never used to ensure that reliability could be confirmed by cross-checking against previous counts. Finally, the study data were filtered, aggregated and represented using statistical methods implemented using Microsoft's statistical package and the Ucinet 6[6] program (following Bogartti, Everett & Freeman, 2002).

3. Analysis and results

3.1. Gender

Regarding the variable G (gender), of the total of 2,072 authors, 1,209 were men (58.3%) and 863 were women (41.7%). No clear trend was evident over the study period and male authors predominated slightly each year and for all seven publications (figure 2).

3.2. Number of authors

The variable n, referring to the number of authors, had a value of 2,072, obtained by adding up the total number of authors for each article for the 1,182 texts in the sample.

Dividing the 2,072 authors by the 1,182 articles yielded a mean value of 1.753 authors per research article over the study period, ranging between 1.657 in 2007 and 1.923 in 2011 (figure 3). The increase in authors per article occurred in two distinct phases: 2007 to 2009, when the upward trend was gradual; and 2010 and 2011, when the upward trend was more pronounced. The highest author-article ratio, corresponding to «EPI», was 2.225, a value which remained steady throughout the study period.

The second highest ratio, 1.671, corresponded to «Comunicar», which has a policy of restricting the

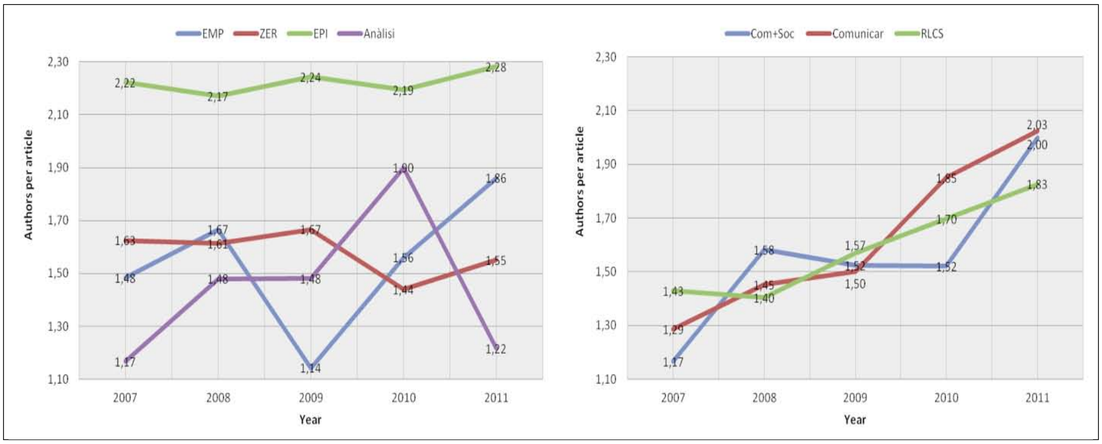

Figure 3. Author-article ratios for the seven journals 2007 to 2011.

number of authors per article to three; «Comunicar», nonetheless, saw a steady increase in this value from 2007, with the threshold of two authors per article crossed in 2011. Similar upward trends were evident for «Com+Soc» and «RLCS». For the remaining publications, average values were lower and trends were mixed. The lowest author-article ratio for the study period (1.423) was recorded for «Anàlisi».

Authorship in numerical terms was broken down in terms of 663 single –and 519 dual- and triple– and multiple-authored (defined as more than three) articles (figure 4). Single authorship predominated in six of the seven journals; «EPI» was the only journal in which co-authored articles predominated (50.6%, versus 35.4% for single authored articles).

Dual- and triple-authored articles predominated over multiple-authored articles for all the journals. It should be noted that some of these journals have a policy of restricting the number of authors per article, e.g., as mentioned earlier, Comunicar; where an exception was made on just a single occasion (figure 4).

3.3. Geographical origins

Single-authored articles numbered 663; 556 of these authors were from Spain (83.8%) and the remaining 107 authors were from elsewhere, mainly Latin America and Europe, represented by 63 (9.5%) and 25 (3.8%) single authors, respectively. Argentina and Mexico, with 15 authors each, predominated among the Latin American countries, followed by Chile (9), Cuba (7), Colombia (4), Brazil (4) and miscellaneous (9). As for the European countries, the range of nationalities was broader, as follows: United Kingdom (5), Portugal (4), Belgium (4), Italy (2), the Netherlands (2) and finally Sweden, Switzerland, the Czech Republic, Denmark, France, Croatia and Germany (1 each). The remaining authors were from the USA/Canada (10), Asia (4), Africa (4) and Oceania (1).

As for dual, triple and multiple authorship, distributions were fairly similar to those for single authors. Of the 519 articles attributed to more than one author, 432 were Spanish (83.2%), 33 were Latin American (6.6%) and 23 were Spanish-Latin American (4.4%). Articles written, therefore, by two authors or more who were Spanish, Latin American or both accounted for 92.3% of the total (figure 5).

Of the 33 co-authored articles written exclusively by Latin American authors, most came from Chile (11) and Mexico (10), followed by Argentina (6), Brazil (4) and Colombia (2). Of the 23 Spanish-Latin American co-authored articles, the most frequent partnerships were between Spanish and Mexican (6) and Spanish

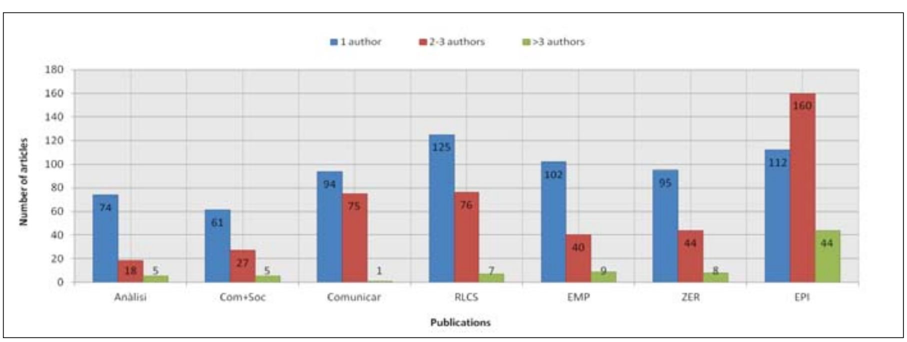

Figure 4. Average authorship per article for the seven journals 2007 to 2011.

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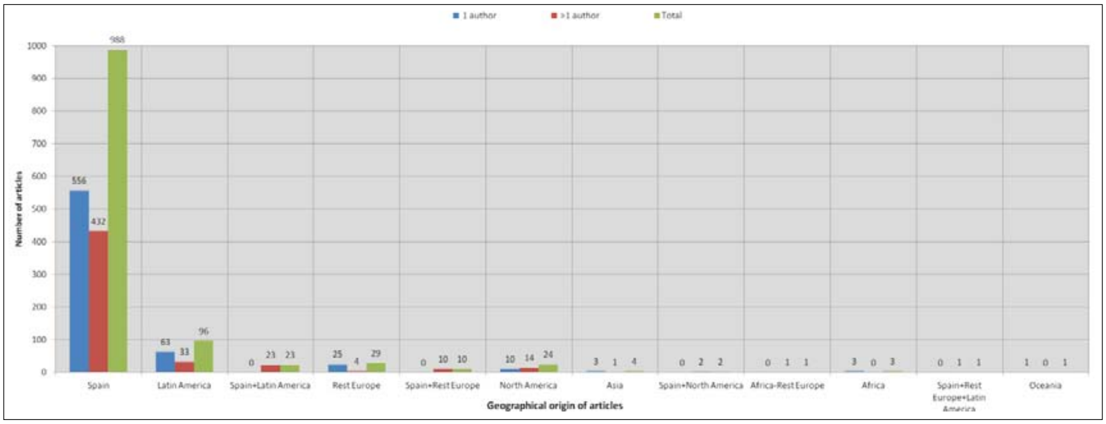

Figure 5. Geographical origins of 1,182 articles published in the seven journals 2007 to 2011.

and Argentinian (5) authors.

Overall, the following conclusions can be drawn from the above analysis of the 1,182 articles in the sample: (1) Spain accounted for 83.6% (988); (2) Latin America accounted for 8.1% (96); (3) English-speaking countries accounted for 2.7% (31); (4) France, Germany and Italy combined, despite being countries at the heart of the European Union with a lengthy communication research tradition, accounted for 0.4% (5); and (5) Spanish authors (alone or with other authors) participated in 86.7% (1,024).

3.4. Originating institutions

Of the 663 single-authored articles, 580 (87.5%) came from universities[7] and the remaining 83 were submitted by private companies, research or information centres, public administrations and secondary education centres. As for the 519 co-authored articles, 384 (74%) were produced by inter-university teams, 130 (25%) were submitted by university-non-university authors and 5 (1%) were submitted by non-university authors.

A total of 213 universities located in 39 different countries were cited as author affiliations. Spain was the main source, with 74 universities, followed by 89 Latin American universities – mainly located in Mexico (25), Chile (17), Argentina (15) and Colombia (12). A further 30 universities were located in the rest of Europe, 13 in North America, 4 in Asia, 2 in Africa and 1 in Oceania.

The universities contributing most articles were the Complutense University of Madrid (UCM) with 52 articles, followed closely by the Autonomous University of Barcelona (UAB), with 51 articles (figure 6).

Pompeu Fabra University (UPF) led the group in co-authorship (33 articles), just ahead of the UCM (32 articles). The UAB co-authored a mere 12 articles, accounting for just 19% of its total production of 63 articles (figure 6). There was a marked tendency for production to be concentrated in a small number of Spanish universities – essentially the ten featured in figure 6. In fact, 44.1% of the 964 publications originating in universities were produced by these ten universities (approximately 96 per university), with the remaining 425 articles distributed among the other 203 universities (a mere 2 per university).

3.5. Cooperation between institutions

Figure 7 shows the intensity of cooperation between universities in the five years covered by this research by mapping authorship links between universities (arrows) and indicating the number of articles co-authored by these universities. For the sake of clarity, figure 7 shows only co-authorships for two or more authors.

The most numerous co-authorships (6) were those resulting from alliances between the UPF and the University of Barcelona (UB), the UPF and Ramon Llull University (URL) and the UCM and King Juan Carlos University (URJC). Other important alliances (5) were those between the UPF and Rovira i Virgili University (URV) and between the UCM and Carlos III University in Madrid (UC3).

Two key productive clusters are evident, one based in Catalonia and the other centred on Madrid. Each operates very differently: Catalan universities cooperate extensively with each other (22 articles) but are poorly connected to the rest of Spain (4 articles), whereas universities in the Madrid region have authored 13 original articles with universities in other regions of Spain as well as 11 papers with local universities.9 Madrid's universities are, consequently, better connected with the rest of Spain, particularly with universities on the periphery.

One unexpected finding was made. The Catalan cluster (UPF-UB-UAB-URV) did not co-author any papers with the Madrid cluster (UC3-UCM-URJC). Or to put it more bluntly, there is little cooperation between the main geographical research clusters in communication. Articles co-written by Madrid-based and Catalan-based authors were rare among the 1,182 articles analysed.

The University of Navarra (UNAV) –as indicated by its central position in figure 7– seemed to perform a linking function between Catalonia and Madrid, with 4 and 2 articles co-authored by universities in these clusters, respectively. UNAV also maintained links with the rest of Spain, with 6 co-authorships, 3 with the University of Granada (UGR) and 3 with the San Jorge University in Zaragoza (USJ).

From the above analysis, it can be deduced that the universities most given to building bridges with other institutions during the study period were UPF, UC3, UCM and UNAV.

4. Discussion and conclusions

Spanish communication journals are numerous, yet few meet the most demanding Spanish and international quality criteria. This raises the question of whether the number of journals is excessive, especially given that expert opinion reflects little or no recognition for most of these publications (Giménez and Alcain, 2006).

Furthermore, the large number of quality indices and consequent classifications leads to confusion when attempting to evaluate the journals. Initiatives to unify criteria would therefore be valuable, not only in clarifying the map of Spanish communication journals, but also in improving the dissemination of, and possibilities for locating, research by other authors in the field.

4.1. Co-authorship

An analysis of the 2,072 authors for the period 2007 to 2011 revealed an upward trend in the number of authors co-writing articles, with an average of 1.7 authors per article over the period, but rising to 1.9 in 2011. «EPI» was the sole exception to this trend, with a fairly constant 2.2 authors per article. This trend towards more authors signing articles intensified from 2010, yet the average remains below that for communication journals better positioned in the SSCI database, for instance, the «Journal of Communication», with 2.41 authors per article (Castillo, Rubio & Almansa, 2012). The upward trend for Spanish journals –very marked for «Comunicar», «Com+Soc» and «RLCS»– seems to indicate a firm commitment to achieving international standards of excellence.

The data admit another important interpretation: there is evidence of a slow, steady and perhaps irreversible shift towards team research over individual research. This new scenario, influenced as it is by international standards and the demands of peer review, requires authors to apply more and better working methodologies and to obtain more human and financial resources. Our research highlights how individuals find it difficult to comply with such strict requirements; therefore, a key approach to achieving the desired results and quality is for such laborious tasks to be performed by –frequently interdisciplinary– teams.

The new data brought to light by our research indicate, nonetheless, that some serious methodological shortcomings of communication journals are now being overcome. Although Martínez-Nicolás and Saperas (2011), in their excellent study covering the period 1998 to 2007, reported that many published

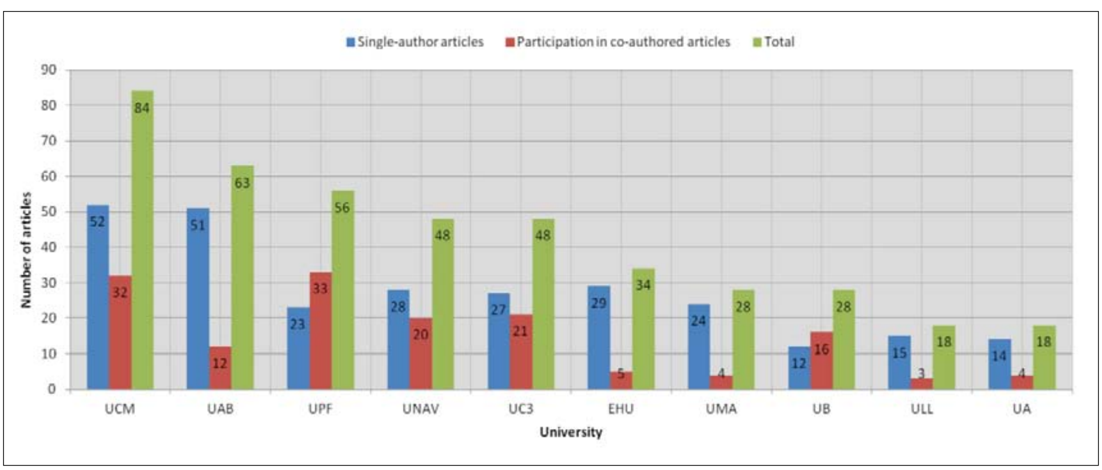

Figure 6. The ten universities contributing most articles to the seven journals 2007 to 2011.

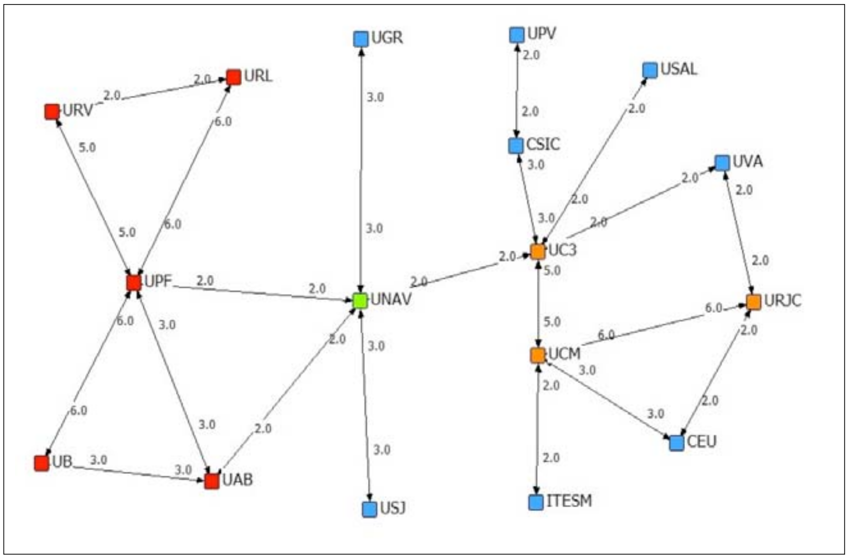

Figure 7. Nodal map of the main university co-authorship links for the seven journals 2007 to 2011.

papers lacked a methodology of any kind, in the new context of stricter controls one can expect such articles to become increasingly rare.

4.2. Internationalization

The Spanish communication journals analysed had a poor international presence, with only 16% of their articles submitted from countries other than Spain, and with more than half of these international papers originating in Latin America (8.7%). Were it not for the contributions from Latin America, in fact, it would hardly be possible to refer to these journals as internationalized.

It is highly significant that English-speaking countries did not even account for 3% of the total, and that even fewer articles (0.4%) were written by researchers based in European countries with a long communication tradition (France, Germany and Italy). In terms of language, 92.3% of the articles came from Spanish-speaking countries and just 7.7% originated in non-Spanish-speaking countries. These data reveal a worrying lack of interest in publishing in Spanish journals by non-Spanish-speaking researchers. Correcting this trend is a key challenge to be faced in the future if Spanish journals are to both grow and acquire an international reputation.

4.3. Institutional and territorial links

Contributions made by universities represented 92.6% of the articles included in this study. This is entirely consistent with international standards; Castillo and coworkers (2012) reported that articles by authors affiliated with universities represented the overwhelming majority of publications in the highest-impact communication journals. However, in terms of cooperation patterns, the vast majority (81.2%) of co-authored articles were written by authors from the same university, leaving only 18.8% written by authors from different universities. These results would point to the still considerable gap between Spanish and top-ranked SSCI communication journals; for the top five international journals, for example, the average number of articles co-written by authors from different universities was 58.7%.

Observations regarding links between universities reveal two main cooperation clusters. The Catalan cluster has strong links with universities in the same region but hardly any links with other universities in Spain, whereas the Madrid cluster cooperates both locally but also with other universities in Spain. There is so little connectedness between these two main clusters that it could be said that they simply ignore each other's existence. This poses obvious risks, such as the possibility of a worrying duplication of efforts, a situation further compounded by the current context of scarce public resources.

4.4. Authorship profile

The information gathered during the research enabled authorship for articles to the Spanish communication journals analysed to be profiled as follows: (1) the author is male; (2) he is based at a Spanish university; (3) he generally publishes as a single author; (4) when he co-authors, he does so with authors from the same university; (5) if he co-authors with authors from another university, he does so with authors from a Spanish university; (6) if he co-authors with authors from another country, this country is located in Latin America.

Internationalizing this profile is a complex task that is still in its initial stages. Nonetheless, the growing international presence of a small group of journals since 2008 may be cause for some optimism.

It is also encouraging to see researchers committed to working in teams. Our research has identified a clear positive trend towards authorship numbers exceeding the critical value of two per article. However, further efforts need to be invested in cooperation beyond the local level and in strengthening the currently under-exploited Catalonia-Madrid axis. Although much remains to be done to catch up with the top-ranked international journals, the goal is clear, the lines have already been drawn and the initial steps have been taken.

Universidad Complutense de Madrid (Madrid)	UCM	Universidad Autónoma de Barcelona (Catatonia)	UAB
Universidad Pompeu Fabra (Catalonia)	UPF	Universidad del País Vasco (Basque Country)	EHU
Universidad de Málaga (Andalusia)	UMA	Universidad de Barcelona (Catalonia)	UB
Universidad de La Laguna (Canary Islands)	ULL	Universidad de Alicante (Valencia)	UA
Universidad Ramon Llull (Catalonia)	URL	Universidad Rovira i Virgili (Catalonia)	URV
Universidad de Granada (Andalusia)	UGR	Universidad San Jorge de Zaragoza (Aragon)	USJ
Universidad de Navarra (Navarra)	UNAV	Universidad Carlos III (Madrid)	UC3
Consejo Superior de Investigaciones Científicas (Madrid)	CSIC	Universidad de Salamanca (Castile-León)	USAL
Universidad Politécnica de Valencia (Valencia)	UPV	Universidad de Valladolid (Castile-León)	UVA
Fundación Universitaria San Pablo CEU (Madrid, Catalonia, Valencia)*	CEU	Instituto Tecnológico de Monterrey (México)	ITESM
Universidad Rey Juan Carlos (Madrid)	URJC		

Notes

[1] According to Jaume Soriano, the «ANECA effect» refers to how academics have modified how they present their research results and how young researchers map their careers according to study goals that fit with criteria defined by agencies such as ANECA.

[2] Difusión y Calidad Editorial de las Revistas Españolas de Humanidades y Ciencias Sociales y Jurídicas (Dissemination and Quality of Spanish Humanities, Social Sciences and Legal Journals).

[3] Our inclusion of «El Profesional de la Información» (EPI) is based on the fact that, although historically it focused on documentation and library science, it now defines itself as an international «documentation, library science and communication journal» and has shown a growing interest in also publishing communication research in recent years.

[4] Database of social and human science articles published in Spanish journals mainatained by CSIC (Spain's national research council).

[5] Bibliometric index of the EC3 research group based at the UGR. It provides statistical data based on citation counts aimed at identifying the importance, influence and impact of Spanish social science journals.

[6] Ucinet6 for Windows version 6.452, 1992-2012: Analytic Technologies.

[7] Universities and research institutes referred to in the article are listed as follows (see table). Although this university has three campuses, it was counted as a single university. Articles contributed to the seven journals originated in the Madrid (2) and Valencia (1).

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The Impact of Scientific Journals of Communication: Comparing Google Scholar Metrics, Web of Science and Scopus

El impacto de las revistas de comunicación: comparando Google Scholar Metrics, Web of Science y Scopus

ABSTRACT
Google Scholar Metrics' launch in April 2012, a new bibliometric tool for the evaluation of scientific journals by means of citation counting, has ended with the duopoly exerted by the Web of Science and Scopus databases. This paper aims at comparing the coverage of these three databases and the similarity their journal rankings may have. We selected a sample of journals from the field of Communication Studies indexed in the three databases. Data was recollected on 17-20 November, 2012. 277 journals were identified to which we calculated their h-index and ranked them according to such indicator. Then, we analyzed the correlation between the rankings generated. Google Scholar Metrics dobles the coverage of the other databases, reducing the bias toward English language both; web of Science and Scopus have. Google Scholar Metrics shows higher h-index values (an average 47% higher than Scopus and 40% higher than Web of Science), allowing to better rank journals. We conclude that Google Scholar Metrics is a tool capable of identifying the main journals in Communication Studies offering results as reliable and valid as the ones Web of Science and Scopus show.

RESUMEN
La aparición de Google Scholar Metrics en abril de 2012 como nuevo sistema de evaluación bibliométrica de revistas científicas a partir del recuento de las citas bibliográficas que éstas han recibido en Google Scholar rompe el duopolio ejercido hasta el momento por las bases de datos Web of Science y Scopus. El objetivo de este trabajo es comparar la cobertura que poseen estas tres bases de datos y la similitud que puedan presentar los rankings elaborados a partir de ellas. Se ha elegido como muestra las revistas de comunicación indizadas en las tres bases de datos. Las búsquedas bibliográficas se efectuaron entre el 17 y el 20 de noviembre de 2012. Se calcula el índice h de las 277 revistas identificadas y se averigua la correlación existente entre los rankings generados. Google Scholar Metrics duplica la cobertura, reduce el sesgo anglosajón que poseen Web of Science y Scopus. Google Scholar Metrics proporciona índices h más elevados (un promedio de un 47% superior a Scopus y un 40% a Web of Science) con lo que permite discriminar mejor las posiciones de las revistas en el ranking. En conclusión, Google Scholar Metrics es una herramienta capaz de identificar las principales revistas de comunicación ofreciendo resultados tan solventes, fiables y válidos como los generados por Web of Science y Scopus.

KEYWORDS / PALABRAS CLAVE
Communication, Google Scholar, Scopus, Web of Science, citations analysis, bibliometrics, h index, ranking.
Comunicación, Google Scholar, Scopus, Web of Science, citas, indicadores bibliométricos, índice h, ranking.

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1. Introduction

The launch of Google Scholar Metrics (GSM) in April 2012 was at first greeted with jubilation, given the novelty of its appearance as an original and singular tool for the evaluation of the impact of scientific journals. In addition, it brought healthy competition into the scientific information market, dominated until then by Thomson Reuters' Web of Science (WOS) and Elsevier's Scopus. This led to various analyses that have subjected the new product to critical assessment trials.(Delgado López-Cózar & Cabezas, 2012a; Delgado López-Cózar & Robinson, 2012; Jacsó, 2012). Amongst the numerous criticisms received, most notable were those directed at the unusual presentation of journal rankings by language, and not by scientific discipline, and the limitation of search results using key words from journal titles to only 20 documents. Aware of these criticisms, Google launched a new version in November 2012. Here Google opted for offering general rankings by language, but also by thematic area and discipline, although limiting this option only to journals in English, excluding the other nine languages in which Google offers lists of journals (Chinese, Portuguese, German, Spanish, French, Korean, Japanese, Dutch and Italian). Given the continued limit of only 20 documents in the results display, one of the main functions of journal rankings is made impossible: the comparison of the impact of journals belonging to a particular discipline or scientific speciality (Hodge & Lacasse, 2011).

Communication journals have been placed within the thematic area of Humanities, Literature and Arts, in two disciplines: Communication and Film. In each of these, only the 20 journals with the highest h index are shown. In order to overcome these two limitations, and using various search procedures, the first objective of this paper is to provide a ranking for all those communication journals indexed in GSM. There have been a number of papers on the impact of communication journals by citation analysis, though they have fundamentally centered on aspects such as establishing the scant coverage of the Thomson-Reuters databases (Stephen, 2008), the validity of the impact indices as an evaluation indicator (Houser, 2006), the national or international orientation of the journals (Lauf, 2005), patterns of citation (So, 1988) and the similarity of journals based on network analysis (Rice & al., 1988; Hakanen & Wolfram, 1995; Park & Leydesdorf, 2009). Only Levine's study (2010) dealt with measuring the impact of communication journals through Google Scholar, indicating the differences with the ISI database, although it covered only 30 journals. Therefore, the subject of this present paper is unpublished. On the other hand, in order to trust a new bibliometric product in which the impact of journals is measured by citations, it is advisable to test this by comparison with the rankings offered by WOS or Scopus, these being the standard reference systems in the world of scientific evaluation. These products have traditionally been criticised for their English language bias. Archambault & Gagné (2004) demonstrated how journals from the United States and Great Britain were significantly over-represented in the WOS, a problem which is more acute in social sciences and humanities. For this reason, it is appropriate to investigate to what extent the new Google product is capable of eliminating this bias and offering considered, dependable and valid results (Cabezas & Delgado López-Cózar, 2012b; Delgado López-Cózar & al., 2012). Therefore, the second objective of this paper consists of demonstrating to what extent the journal rankings generated by GSM coincide or differ from those of WOS and Scopus in the field of communication.

2. Material and methods

This study refers to scientific journals that deal with the phenomenon of communication (theory, history and research), media (press, radio and television), journalism, audiovisual media, cinema, rhetoric and journalistic message, advertising and public relations. In order to identify communication journals, the following sources of information have been consulted:

- ULRICH'S International Directory, which is considered the largest and most up-to-date directory of periodic publications in the world. It retrieved all existing scientific journals (academic/scholarly) that had been indexed by topic in the categories («subjects»): «Communication», «Journalism», «Communication Television and Cable», «Communication Video», «Advertising» and «Public Relations».
- GSM: Two strategies were employed here: Firstly, any indexed journals in the Communication category were downloaded. It should be noted that they were curiously listed under «Humanities», «Literature & Arts» and not under «Social Sciences». Secondly, a series of searches in journal titles was undertaken using the following keywords: «Communication», «Mass Communications», «Communication Research», «Journalism», «Media», «Film», «Advertising», «Cinema, Audiovisual», «Audio», «Radio», «Television», «Public Relations», «Public Opinion», «Movie». These searches were carried out in the following languages: English, French, Spanish, German, Italian, Portuguese, Chinese,

Japanese, Korean, Arabic, Russian, Turkish and Polish.

• Communication & Mass Media Complete: Communication journals considered as «core», that is, entered in the database in their entirety (cover to cover). (www.ebscohost.com/academic/communication-mass-media-complete).

• WOS: Journals indexed in the topical categories of «Communication» and «Film, Radio & Television» (http://ip-science.thomsonreuters.com/mjl).

• Scopus: Journals indexed in the topical categories of «Communication» and «Visual Arts and Performing Arts» (www.info.sciverse.com/scopus/scopus-in-detail/facts).

After a manual filter of the entries for each search, to identify the relevant journals for the subject area covered by this paper, all the information was downloaded into a Microsoft Access® database, where titles were unified and any duplicates eliminated.

A total of 664 communication journals were identified. These journals were then searched for in GSM in the last week of November 2012. 277 journals appearing in appendix 1 (http://bit.ly/X7-HFBO) were found. These are ordered according to both the h index and the average number of citations obtained by the articles which contributed to the h index. The h index, which is the bibliometric indicator adopted by GSM to measure the impact of journals, was proposed by Jorge Hirsch in 2005 for use in measuring researcher performance but was immediately applied to journals (Braun & al., 2005).

A journal has an index equal to h when h of its articles have received at least h citations each; that is, a journal with an h index of 22 is one which has published 22 articles with at least 22 citations for each of these articles. The h index has received substantial attention, leading to numerous studies, proposals of new indicators, and already has at least two bibliographical reviews (Alonso & al., 2009; Egghe, 2010).

In order to carry out the comparative study with WOS and Scopus, the 277 journals located in GSM were searched for in these databases. Searches were limited to the same period as that used by GSM (2007-2011). Therefore, this comparative analysis only applies to the journals that are well represented in GSM and WOS (N=63) and in GSM and Scopus (N=102). Spearman's correlation coefficient (rho) was used, habitually employed in bibliometric studies in order to measure the grade of association between two variables according to their position in different rankings (Leydesdorf 2009; Bollen 2009; Torres-Salinas & al., 2010). The h indices of the journals offered by the three platforms were correlated according to the geographical origin of the publication, the language of the edition and the publishing house.

3. Results

3.1. Bibliographic control of communication journals

664 communication journals have been identified by this study (Figure 1). Ulrich's, the directory specialised in the control of periodical publications, was the system that located the highest number of journals. This was closely followed by GSM, a surprising fact when taking into account the general and open nature of the tool. Communication & Mass Media Complete also came close, a logical occurrence for an international database specialised in communication journals. The two large multidisciplinary databases (Scopus and WOS) had significantly lower coverage. However, it is worth noting that Web of Science contains 15 journals not registered in the other databases.

What is truly unprecedented is the limited overlapping that exists between the databases. 65% of the journals (433) appear indexed in one database only (Figure 1); Ulrich's being once again the product with the widest coverage. This means, that in order to carry out a thorough inventory of communication journals, it is necessary to turn to several information systems, which come to be complementary.

> **This paper supplies the h index impact of 277 communication journals. Although this figure represents approximately less than half (41.7%) the sphere of communication journals circulating in the world, it includes those journals considered world leaders, which in addition occupy the top positions.**

3.2. H Index of the communication journals in Google Scholar Metrics (2007-11)

Focusing on the primary objective of this paper, appendix 1 relates the communication journals ordered according to the h index provided by GSM for the

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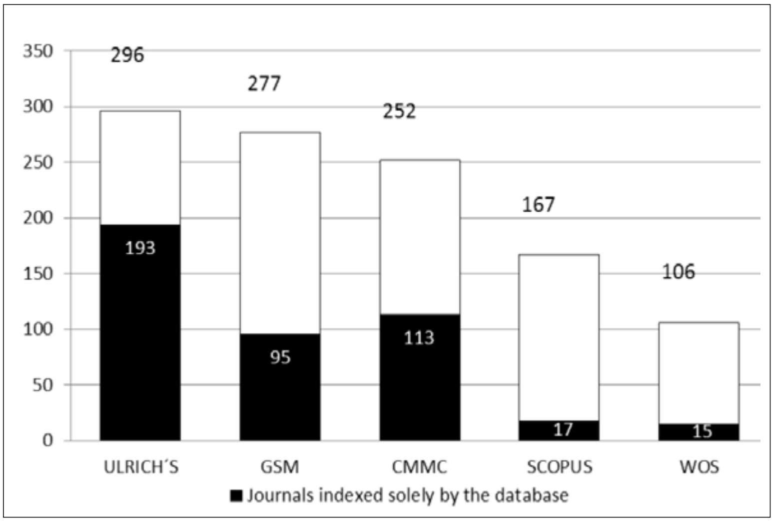

Figure 1. Number of communication journals covered by Ulrich's, Google Scholar Metrics, Communication & Mass Media Complete, Scopus and Web of Science.

period 2007-2011. As previously stated, there are 277 journals. As can be seen, GSM does not manage to cover half (41.7%) the sphere of communication journals circulating in the world. The strict criteria of inclusion adopted by GSM (journals with more than 100 published articles with at least one citation in the last 5 years), excludes a large number of publications unable to reach this threshold.

The values of the h indices obtained are not particularly low: 70% of the journals have an index equal to or greater than 5, with a maximum value of 43 and a minimum of 1. This allows a relatively reliable identification of the leading journals within the speciality, indicating pronounced differences between journals. The first quartile of the h index is dominated by journals of English language origin (United States and United Kingdom) and written in English. Only five journals are not edited in these countries and only one is published in a language other than English. It is necessary to move down to the last positions in the second quartile in order to find Chinese, Spanish, Brazilian, French or Portuguese journals; even then, they do not represent more than a third of the journals in this quartile.

3.3. Editorial composition of Google Scholar Metrics, Scopus and Web of Science.

The second objective of this paper is to compare GSM with WOS and Scopus, the traditional systems for the evaluation of the impact of journals by means of citation analysis. The main results obtained are set out below. From the point of view of size, GSM almost doubles (65.9%) the number of titles covered by Scopus and almost triples those indexed by WOS (figure 2).

When considering the geographical origin of the journals covered (table 1), GSM reduces the English language bias that has historically stigmatized both WOS and Scopus, representing in a more balanced manner the actual importance of the different nations publishing journals (table 1). A simple comparison of the distribution of the 664 journals by countries that constitute the sphere of communication journals identified in this study reveals how GSM is almost precisely adjusted to the volume of journal production in the world, as opposed to the completely biased distribution of WOS and Scopus. GSM not only indexes journals from more countries (30 GSM compared to 23 from Scopus and 13 from WOS), but also reduces the percentage of journals from the United States and the United Kingdom to 53.79%, compared to 74.85% from Scopus and 80.19% from WOS. Furthermore, it gives adequate room to countries with an undeniable weight in the production of journals, such as China and Brazil, whose journals do not even appear in WOS and only very nominally in Scopus.

If the publication language of the journals is analysed, a similar situation is found. GSM is better adjusted to the real use of different languages in existing communication journals throughout the world, eliminating the heavy English language bias of Scopus and WOS (table 2). So, whilst Scopus and WOS only register

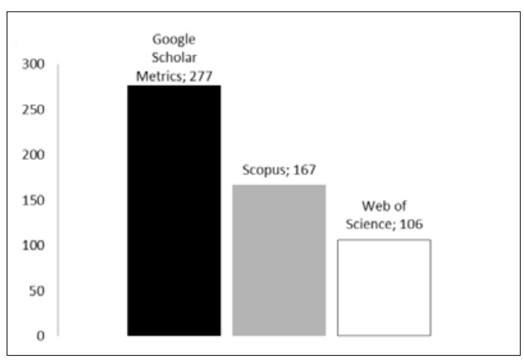

Figure 2. Number of communication journals covered by Google Scholar Metrics, Scopus and WOS.

journals published in 7 different languages, GSM includes journals in 13 languages. English, the principal publication language for communication journals, has a very different prominence depending on the database. It represents 59.67% of GSM indexed journals (182) whilst in Scopus and WOS it reaches 88.66% and 86.92% respectively (172 and 93 journals). Spanish is placed as the second language in all of the databases but its percentage of representation varies between 5.15% in Scopus, 5.61% in WOS and 13.77% in GSM. It should be noted that, in GSM, Chinese and Portuguese are the third and fourth most used languages respectively (8.85% y 7.78%), whilst Scopus only registers one journal in Chinese (0.52%) and three in Portuguese (1.55%). WOS does not include either of these two languages (Table 2).

Table 1. Geographical origin covered by Google Scholar Metrics, Web of Science and Scopus

Country	Comm. Journals		Google Scholar Metrics		Scopus		Web of Science	
	Nº Journal	%	Nº Jou.	%	Nº Jou.	%	Nº Jou.	%
USA	219	33.5	80	28.9	71	42.5	45	42.4
UK	145	22.2	69	24.9	54	32.3	39	37.7
China	43	6.6	27	9.7	0	0.0	0	0.0
Brazil	31	4.7	25	9.0	3	1.8	0	0.0
Spain	27	4.1	20	7.2	8	4.8	6	5.7
Germany	25	3.8	4	1.4	3	1.8	2	1.9
Australia	20	3.1	4	1.4	3	1.8	2	1.9
Netherlands	20	3.1	7	2.5	7	4.2	3	2.8
Italy	12	1.8	3	1.1	1	0.6	1	0.9
Canada	10	1.5	5	1.8	4	2.4	1	0.9
France	9	1.4	5	1.8	4	2.4	3	2.8
India	9	1.4	1	0.3	1	0.6	1	0.9
Portugal	8	1.2	2	0.7	1	0.6	1	0.9
Romania	8	1.2	1	0.3	0	0.0	0	0.0
Russia	7	1.1	1	0.3	0	0.0	0	0.0
Others	75	11.5	23	8.3	7	4.2	1	0.9
Total	**664**		**277**		**167**		**106**	

However, when the distribution of journals is studied according to their publishing houses, the same pattern is found for all three products (Table 3). The same six publishing houses in the three databases (Routledge y Sage, Taylor & Francis, Wiley-Blackwell, John Benjamins, Oxford University Press), in equal measure, publish the majority of the journals. Nevertheless, as occurred with language and country of publication, it is true that GSM is much more open to all types of publishing houses, having a lower concentration. Therefore, if the 10 most productive publishing houses represent 54.49% of the total in Scopus and 65% in WOS, this only reaches 40% for GSM.

3.4. Comparing journal rankings

Finally, from a bibliometric viewpoint, when a new product appears for evaluating the impact of scientific journals by means of citation analysis, it is most relevant to compare the extent to which the journal rankings given by GSM are similar or different to those given by WOS and Scopus. The comparative table of h indices of the journals in Google Scholar Metrics, WOS and Scopus has been uploaded to the following address http://bit.ly/YQZkZP.

Firstly, it can be confirmed that the average h index of the journals in the sample is 40% higher than

Table 2. Publication language of the journals covered by Google Scholar Metrics, Web of Science and Scopus

Language	Comm. Journals		Google Scholar Metrics		Scopus		Web of Science	
	Nº Jou	%	Nº Jou.	%	Nº Jou	%	Nº Jou.	%
English	465	70.0	181	65.3	153	91.6	93	87.8
Spanish	61	9.2	42	15.2	10	6	6	5.7
Chinese	43	6.5	27	9.7	1	0.6	0	0.0
Portuguese	38	5.7	24	8.7	3	1.8	0	0.0
French	31	4.7	12	4.3	4	2.4	4	3.8
German	24	3.6	7	2.5	0	0.0	0	0.0
Italian	11	1.7	2	0.7	1	0.6	1	0.9
Russian	7	1.1	1	0.4	0	0.0	0	0.0
Danish	4	0.6	1	0.4	1	0.6	0	0.0
Japanese	4	0.6	3	1.1	0	0.0	0	0.0
Romanian	4	0.6	1	0.4	0	0.0	0	0.0
Polish	3	0.5	0	0.0	0	0.0	0	0.0
Croatian	2	0.3	1	0.4	0	0.0	1	0.9
Dutch	2	0.3	0	0.0	0	0.0	1	0.9
Norwegian	2	0.3	0	0.0	0	0.0	0	0.0
Others	8	1.2	2					
Total	**710**		**304**		**173**		**107**	

Note: The journals can have more than one official language, for this reason the number of languages does not coincide with the total number of journals.

Table 3. Publishing Houses of the journals covered by Google Scholar Metrics, Web of Science and Scopus

	Google Scholar Metrics		Scopus		Web of Science	
1	Routledge[1]	45	Routledge[1]	40	Routledge[1]	24
2	Sage Publications	31	Sage Publications	24	Sage Publications	22
3	Taylor & Francis	7	Taylor & Francis	7	Wiley-Blackwell	5
4	Wiley-Blackwell	6	Wiley-Blackwell	5	Oxford University Press	4
5	John Benjamins	5	John Benjamins	4	Intellect Ltd	3
6	Intellect Ltd	4	Oxford University Press	3	Taylor & Francis	3
7	Universidad Complutense	4	De Gruyter Mouton	2	De Gruyter Mouton	2
8	Duke University Press	3	Inderscience Enterprises	2	John Benjamins	2
9	Elsevier	3	Intellect Ltd	2	Pergamon	2
10	Emerald Group	3	Lawrence Erlbaum As.	2	Universidad Complutense de Madrid	2
	Others (>123)[2]	166	Others (72)	76	Others (36)	37
	Total (>133)[2]	277	Total (83)	167	Total (78)	106

[1] Routledge was acquired by Taylor & Francis in 1998, keeping its original title.
[2] It has proven impossible to recover the names of several publishers from China, Japan and Korea, 30 in total, so it is estimated that the number of publishing houses registered by Google Scholar Metrics is greater than 133.

that of WOS and 47% higher than that of Scopus. In some highly significant journals in the sphere of Communication («Public Opinion Quarterly», «Journal of Communication», «Telecommunications Policy», «Communication Research», «Public Relations Review») the GSM h indices are two or three times higher than the two other aforementioned databases. Secondly, a high similarity between the three rankings is observed, there being only slight differences as to which are the leading journals. The high level of correlation detected (0.895 for WOS and 0.879 for Scopus) shows this close similarity between rankings (Table 4). Naturally, this does not mean they are identical; for example, «Journalism Studies», which is the 17th journal according to GSM, falls to 27th place in WOS and 61st in Scopus.

4. Discussion and conclusions

The first conclusion that can be reached by this study is the difficulty of adequately identifying and locating the journals produced worldwide in the scientific field of communication. None of the databases used here are capable of exhaustively monitoring all of the existing journals, for which reason it is necessary to use all three databases together. Despite the problematic technique implied by this lack of bibliographic control, it is certain that a contributory factor is the multidisciplinary nature of Communication itself, having boundaries so vague as to prevent a clear delimitation of the field covered. Communication receives a substantial theoretical inheritance from many other fields, such as rhetoric, sociology, psychology and semiotics (Craig, 1999) and has undergone important fluctuations in its epistemological values. It has passed from rhetoric, discourse and the media of the masses, to centre on the new means of communication: public relations, advertising and human communication (Craig 2003; Chung & al, 2009).

Apart from this discovery, collateral to the objective of this paper, the main finding obtained is the more than ample coverage of GSM, not only for identifying communications journals but also its manifest utility as a tool for the evaluation of the scientific impact of scientific journals. It not only covers more journals than its competitors (WOS and Scopus) but also lacks their English language bias; registering journals originating from more countries and written in more languages. All this is achieved in spite of its restrictive indexing policy. These results confirm what has been suggested by previous empirical studies on Google Scholar (Bakkalbasi & al., 2006; Meho & Yank, 2007; Falagas & al., 2008; Bar-Ilan, 2008-2010; Kulkarni & al., 2009), which is the information source for generating the bibliometric data offered by GSM. Being built on Google Scholar, GSM is based on the most thorough and least biased academic and scientific data source currently in existence.

When the ranking of journals is compared with that offered by Scopus and WOS, it is confirmed that GSM offers greater indicators (almost double) and, most relevantly, a high correlation, something already

Tabla 4. Matriz de Similitud (coeficiente de Spearman) entre los índices h de las revistas de comunicación registrados en Google Scholar Metrics, Web of Science y Scopus

	GSM	WOS	Scopus
GSM	1	0,895	0,879
WOS	0,895	1	0,878
Scopus	0,879	0,878	1

[1] The table of comparison can be consulted at http://bit.ly/YQZkZP.

demonstrated by other studies (Vanclay, 2008; Harzing & Wal, 2009; Delgado López-Cózar & al., 2012; Cabezas & Delgado López-Cózar, pending publication). Consequently, it can be affirmed that GSM measures journals in a very similar way to the classic journal evaluation systems (WOS and Scopus) for which, broadly speaking and for ranking only purposes, it is an equally reliable and valid alternative for measuring the impact of journals.

In short, this paper supplies the h index impact of 277 communication journals. Although this figure represents approximately less than half (41.7%) the sphere of communication journals circulating in the world, it includes those journals considered world leaders, which in addition occupy the top positions.

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Altmetrics: New Indicators for Scientific Communication in Web 2.0

Altmetrics: nuevos indicadores para la comunicación científica en la Web 2.0

ABSTRACT

In this paper we review the so-called altmetrics or alternative metrics. This concept raises from the development of new indicators based on Web 2.0, for the evaluation of the research and academic activity. The basic assumption is that variables such as mentions in blogs, number of twits or of researchers bookmarking a research paper for instance, may be legitimate indicators for measuring the use and impact of scientific publications. In this sense, these indicators are currently the focus of the bibliometric community and are being discussed and debated. We describe the main platforms and indicators and we analyze as a sample the Spanish research output in Communication Studies. Comparing traditional indicators such as citations with these new indicators. The results show that the most cited papers are also the ones with a highest impact according to the altmetrics. We conclude pointing out the main shortcomings these metrics present and the role they may play when measuring the research impact through 2.0 platforms.

RESUMEN

En el presente trabajo se realiza una revisión de las altmetrics o indicadores alternativos. Este concepto se define como la creación y estudio de nuevos indicadores, basados en la web 2.0, para el análisis de la actividad científica y académica. La idea que subyace es que, por ejemplo, las menciones en blogs, el número de tuits o el de personas que guardan un artículo en su gestor de referencias puede ser una medida válida del uso y repercusión de las publicaciones científicas. En este sentido, estas medidas se han situado en el centro del debate de los estudios bibliométricos cobrando especial relevancia. En el artículo se ilustran en primer lugar las plataformas e indicadores principales de este tipo de medidas, para posteriormente estudiar un conjunto de trabajos del ámbito de la comunicación, comparando el número de citas recibidas con sus indicadores 2.0. Los resultados señalan que los artículos más citados de la disciplina en los últimos años también presentan indicadores significativamente más elevados de altmetrics. Seguidamente se realiza un repaso por los principales estudios empíricos realizados, deteniéndonos en las correlaciones entre indicadores bibliométricos y alternativos. Se finaliza, a modo de reflexión, señalando las principales limitaciones y el papel que las altmetrics pueden desempeñar a la hora de captar la repercusión de la investigación en las plataformas de la web 2.0.

KEYWORDS / PALABRAS CLAVE

Science, scientific communication, Information, communication, Internet, social networks, quantitative methods, Social Web, Web 2.0.
Comunicación científica, ciencia, información, comunicación, Internet, redes sociales, técnicas cuantitativas, web social, Web 2.0.

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1. Introduction

Altmetrics is a very new term, and can be defined as the creation and study of new indicators for the analysis of academic activity based on Web 2.0 (Priem & al., 2010). The underlying premise is that, for example, mentions in blogs, number of re-tweets or saves of articles in reference management systems, may be a valid measure of the use of scientific publications. However, measuring the visibility of science on the Internet is not a new phenomenon. The origin of altmetrics arose in the nineties with webometrics, the quantitative study of the characteristics of the web (Thelwall & al., 2005). This was derived from the application of bibliometric methods to online sites, and encompasses various disciplines including communication. Despite the web playing an increasingly important role in social and economic relations, this discipline has not been able to overcome certain limitations inherent in the methodologies, methods and information sources used. However, it has contributed a complementary perspective to the traditional analysis of citations by means of the study of links, mailing list communications or analysis of the structure of the academic web. Shortly afterwards, the consolidation of scientific communication by journals and electronic media such as repositories opened the door to new indicators.

The so-called «bibliometrics usage» (Kurtz & Bollen, 2010), based on downloads of scientific materials, reveals that indicators of use of publications measure a different dimension to that of bibliometric indicators (Bollen & al., 2009), and demonstrate different behaviour patterns to citation (Schloegl & Gorraiz, 2010). With a view to measuring scientific impact, these indicators offer complementary information. Without doubt, the idea that traditional bibliometric measures and the sources on which they base their calculations are insufficient permeates throughout the scientific community. This leads to the emergence of new indicators, such as SJR (González-Pereira & al., 2010) or the Eigenfactor (Bergstrom, West & Wiseman 2008), which are based on the idea of Google's PageRank algorithm. There is a clear symbiotic relationship between web based and bibliometric methods. This move is motivated by the dissatisfaction of many scientists with bibliometric methods, in particular the highly criticised Impact Factor (Seglen, 1997; Rossner, Van Epps & Hill., 2007), exacerbated by the appearance of new databases such as Scopus and Google Scholar. This search engine's power and coverage, but also its normalisation problems, illustrate both the wealth of academic information on the web, and the difficulty of adequately understanding and analysing this information (Torres-Salinas, Ruíz-Pérez & Delgado, 2009; Delgado & Cabezas-Clavijo, 2012).

It is in this context, with the arrival of Web 2.0 and scientists' gradual use of said platforms as tools for the diffusion and receipt of scientific information (Cabezas-Clavijo, Torres-Salinas & Delgado, 2009) and with part of the scientific community relatively receptive, that scientometrics 2.0 (Priem & Hemminger, 2010), or altmetrics (Priem & al., 2010), began to be discussed. Although, in a wider sense, any unconventional measure for the evaluation of science can be considered an alternative indicator, sensu stricto it would be more accurate to speak of indicators derived from 2.0 tools; that is to say, measures generated from the interactions of social web users (primarily but not exclusively scientists) with researcher produced material. One of the principal strengths of altmetrics lies in its provision of information at article level (Neylon & Wu, 2009), which enables assessment of the impact of papers beyond the bounds of publication sources. Various studies have stated that altmetrics can be used for measuring other levels of aggregation, such as journals (Nielsen, 2007) or universities (Orduña & Ontalba, 2012). Additionally, altmetrics offer a new perspective, considering the almost real time information provided on research impact. This monitoring, in the form of revision by peer collectives or peer revision following publication (Mandavilli, 2011), is undoubtedly an element that introduces new forms of scrutiny by the scientific community.

Taking into account the impact of Web 2.0 and its now central position within communication research, this paper undertakes a review of altmetrics, focusing on quantative studies of the same. Firstly, an explanation is given of the main platforms and indicators, followed by the comparative evaluation of a selection of communication papers showing the number of citations received and their 2.0 indicators. Next, a review of the principal empirical studies is undertaken, centering on the correlations between bibliometric and alternative indicators. To conclude, the main limitations of altmetrics are highlighted alongside a reflective consideration of the role altmetrics may play when it comes to understanding the impact of research in Web 2.0 platforms.

2. Principal platforms and altmetric indicators

The placing on-line of bibliographic reference management systems and favourites, where personal libraries and researchers' references are regularly managed, has generated a series of original indicators.

For example, the number of times a study has been marked as favourite (bookmarking) or the number of times it has been added to a bibliographic collection. Such indicators point to the reader interest aroused by scientific papers and the use made of them (Haustein & Siebenlist, 2011). On the other hand, some authors such as Taraborelli (2008), note that these indicators represent a form of quick review, by reflecting the degree to which papers are accepted by the scientific community. Among the most usual platforms for extracting these types of indicators are CiteUlike, Connotea or Mendeley (Li, Thelwall & Giustini, 2011). Of these, Mendeley currently arouses the most interest. According to its web page statistics, more than 2 million users have uploaded a total of 350 million documents, figures that mean an article's number of Mendeley readers has become one of the most accepted metrics for evaluating an articles impact within altmetrics.

Other usual measurements are the mentions papers can receive in the multiple social networks in existence, these being a reflection of the diffusion and dissemination of publications (Torres-Salinas & Delgado, 2009). Normally, general social networks are used to calculate indicators, as in the case of Facebook or Twitter, by analysing the number of «likes», the number of times an article is shared or the tweets and retweets received. Alternative metrics also include the blog citations received by scientific articles, especially in scientific blogs such as those included in the Nature Blogs or Research Blogging networks (Fausto & al., 2012). This is also true for the citations received by articles, journals and authors in the popular Wikipedia (Nielsen, 2007). These measurements are quantitative approximations of the measure of interest aroused within the scientific community, and also amongst a general public, which transcend or compliment the impact of traditional citation indexes. Finally, it is worth mentioning that news promotion systems such as Menéame or Reddit, or platforms with subject specialisation such as Documenea, can also offer indicators of research impact amongst a non-specialised public (Torres-Salinas & Guallar, 2009).

As can be seen in table 1, there exists a large number of indicators of distinct nature, origin and degree of normalisation. This means that the first difficulty faced when compiling information for a specific publication, and the subsequent altmetric calculation, is the high cost in time and effort. To solve this problem, a series of tools have emerged to help monitor impact. Generally, these types of platforms, once one or more documents are included, use a unique identification number such as the DOI or the PUBMEID to return the grouped metrics. Some of these tools are altmetric.com, Plum Analytics, Science Card, Citedin or Impact Story. For scientific papers, statistics are normally presented from Facebook (Clicks, Shares, Likes or Comments),

Table 1. Principal measurements proposed by altmetrics, classified according to type of platform, indicator and social network or platform

Type of platform	Type of indicator	Social network or platform	Examples of indicators
DIGITAL LIBRARIES AND REFERENCE MANAGEMENT SYSTEMS	Social bookmarking and digital libraries	General - Delicious Academic - Citeulike - Connotea - Mendeley	- Nº of times marked as favourite - Nº of groups - Nº of groups added to
SOCIAL NETWORKS AND MEDIA	Mentions In social networks	General - Facebook - Google+ - Twitter Academic - Academia.edu - Research Gate	- Number of likes - Number of clicks - Number of comments - Number of times shared - Number of mentions in tweets - Number of retweets - Retweets of leading users - Etc.
	Mentions in blogs	General - Blogger - Wordpress Academic - Nature Blogs - Postgenomic blog - Research Blogging	- Number of blog citations - Comments on the entry in blogs - Systems of rating the entry
	Mentions in encyclopedias	- Wikipedia - Scholarpedia	- Citations in the encyclopedia's entry
	Mentions in news promotion systems	General - Reddit - Menéame Academic - Faculty of 1000	- Number of times on the title page - Number of Clicks (moves) - Number of comments on the news - Punctuation of experts

Mendeley (Readers, Number of Groups), Delicious, Connotea and Citeulike (Bookmarks) and Twitter (Tweets and Influential Tweets). In their favour, it has to be said that these tools enable the easy recuperation of statistics of collections of papers. However, they are limited by the presentation of contradictory results and only partially recover the statistics.

3. Altmetrics versus bibliometrics: examples in the field of communication

In order to illustrate the tools and their derived indicators, data has been compiled from the 30 journal papers from the field of communication most cited in Web of Science for the years 2010, 2011 and 2012 (the ten most cited for each year). This sample has been compared with a random control group of another 30 papers, comprised of uncited articles from the same journals and years. In this way, the objective is to verify if a connection exists between the most cited articles and those that show superior data from alternative indicators.

Once both samples of articles were downloaded from Web of Science (n=60; date: 04/02/2013), the altmetrics information was compiled using ImpactStory and Altmetric.com as sources. The following indicators were calculated for each article: mentions of the paper on Twitter, readers who have saved it in Mendeley and number of times it has been marked as favourite in Citeulike (table 2). The high occurrence of zeros among the most cited articles can be confirmed, in particular with regard to the indicators of Citeulike. This demonstrates one of the limitations of these statistics, as does the scant representation of some of these tools for reflecting scientific activity.

The frequently cited articles were tweeted on more occasions than studies from the control sample (table 3). According to the first source (Impact Story), the cited articles were tweeted on average once more than the control sample, which did not receive any tweets. These figures increase to 2.5 and to 0.8 respectively, according to Altmetric.com. Although, due to the large number of papers not tweeted, the median in all cases is zero. Turning to Citeulike, the social bookmarking tool for scientists, the articles most cited between 2010 and 2012 were saved an average of 1.5 times (1.3 according to Altmetric.com), against 0.1 for the control sample; although only between 23% and 30% of the studies show values different to zero. However, the most representative data is that from Mendeley, where the most cited studies have been saved by an average of 18.6 readers (15.2 according to Altmetric.com), whilst the control sample shows an average of 4.6 readers (2.4 according to Altmetric.com).

That is, the most cited papers are also saved more times by academics than uncited papers from the same

Table 2. Example of the number of citations and different altmetrics calculated for the ten most cited studies of 2012 in communication in Web of Science

	CITATIONS	TWEETS (TWITTER)		READERS (MENDELEY)		FAVOURITES (CITEULIKE)	
Title of the article and of the studies	**WoS**	**IS**	**ALT**	**IS**	**ALT**	**IS**	**ALT**
Epistemics in Action: Action Formation and Territories of Knowledge. Research on Language and Social Interaction	**13**	0	0	20	20	0	0
The Epistemic Engine: Sequence Organization and Territories of Knowledge. Research on Language and Social Interaction	**9**	0	0	13	13	0	0
Normalizing Twitter Journalism Practice in an Emerging Communication Space. Journalism Studies	**8**	21	26	0	17	0	0
Politics as Usual? Revolution, Normalization and a New Agenda for Online Deliberation. New Media & Society	**4**	2	9	27	21	1	1
The Dynamics of Audience Fragmentation: Public Attention in an Age of Digital Media. Journal of Communication	**4**	0	5	0	33	0	0
Pursuing a Response by Repairing an Indexical Reference. Research on Language and Social Interaction	**4**	0	0	0	0	0	0
It's a Dirichlet World: Modeling Individuals' Loyalties Reveals How Brands Compete, Grow, and Decline. Journal of Advertising Research	**3**	0	0	0	0	0	0
In 25 Years, Across 50 Categories, User Profiles for Directly Competing Brands Seldom Differ Affirming... Journal of Advertising Research	**3**	0	0	0	0	0	0
The Influence of Morality Subcultures on the Acceptance and Appeal of Violence. Journal of Communication	**3**	0	4	5	0	1	1
Grammatical Flexibility as a Resource in Explicating Referents. Research on Language & Social Interaction	**3**	0	0	0	0	0	0

WoS = Web of Science; IS = Impact Story; ALT = Altmetric.com.

Table 3. Average, standard deviation and median of the altmetrics for a sample of 60 communication articles indexed in the Web of Science

	CITATIONS	TWEETS (TWITTER)		READERS (MENDELEY)		FAVOURITES (CITEULIKE)	
SAMPLE	WoS*	IS*	ALT	IS	ALT*	IS*	ALT*
CITED	11.3 ± 6.1 (9.5)	1.0 ± 3.9 (0)	2.5 ± 6.1 (0)	18.6 ± 25.7 (5.5)	15.2 ± 19.1 (10)	1.5 ± 3.4 (0)	1.3 ± 3.4 (0)
NOT CITED	0.0 ± 0.0 (0)	0.0 ± 0.0 (0)	0.8 ± 2.9 (0)	4.6 ± 6.2 (2.5)	2.4 ± 3.8 (0.5)	0.1 ± 0.4 (0)	0.1 ± 0.4 (0)

*Statistically significant differences. Mann-Whitney Test; CI: 95%; $p<0.05$. Data expressed as Average ± Standard deviation (median). WoS: Web of Science; IS: Impact Story; ALT: Altmetric.com.

journals. This indicator is the most representative of the amount by which between 57% and 62% of the articles, depending on the source consulted, present indicators different to zero.

4. Relationships between bibliometric indicators and altmetrics

An interesting underlying theme, in view of the data presented and the different studies that have been undertaken, is the relationship that exists between classic bibliometric indicators and the new metrics. These studies are of interest because they reveal whether the altmetrics correlate with papers' citations or if the opposite situation is produced, that is to say they reflect a new impact dimension. Clearly, in the sample of 60 communication studies, the correlation coefficients between citation in Web of Science and the altmetrics is low and of little significance (table 4). The highest achieved is between Pearson's correlation coefficient between citations and the number of readers of Mendeley, but it barely reaches 0.52.

These results are in accordance with those obtained in other scientific papers (table 4). Cabezas-Clavijo & Torres-Salinas (2010) demonstrate that, for articles published in the journal PloS One, there is no connection between citation and comments and blog links received. A similar situation occurs if the Impact Factor or the EigenScore are used instead of citations (Fausto, 2012). With regard to the correlation between citation and Twitter, Eysenbanch (2011) observes very poor correlations in a global sample of 286 articles. The highest correlations between bibliometric indicators and altmetrics are produced, above all, when the former are compared with the number of readers in Mendeley; this is demonstrated by Li, Thelwall & Giuistini (2011) using the citations received in Google Scholar as an indicator. The correlation with Mendeley reaches 0.60 for a collection of papers published in «Science» and «Nature». If more specific fields of knowledge such as bibliometrics are taken into account, the correlation between readers in Mendeley and citations in Scopus rises to 0.45 (Bar-Ilan & al., 2012), a figure similar to that arrived at in this paper.

Table 4. Examples of studies of correlations between bibliometric indicators and altmetrics

Study	Sample used	Indicators compared	Correlations
Results for the sample used in this study			
Data presented in this study	60 communication articles (see table 2 and table 3)	Citations Web of Science - Tweets	0.09 Pearson / 0.08 Spearman
		Citations Web of Science - Mendeley	0.52 Pearson / 0.44 Spearman
		Citations Web of Science - CiteUlike	0.30 Pearson / 0.46 Spearman
Statistically significant differences. Mann-Whitney Test; p<0.01. Data calculated using Altmetric.com			
Studies relating to Bibliometric Indicators and Altmetrics			
Cabezas-Clavijo & Torres-Salinas 2010	8.945 published in the journal PLoS One	Citations Scopus - Nº Scientific Blog Links	0.14 Pearson
		Citations Scopus – Article Comments	0.21 Pearson
Eysenbanch 2011	55 highly cited articles from the JMIR	Citations Google Scholar - Nº Tweets	0.69 Pearson / 0.36 Spearman
		Citations Scopus - Nº Tweets	0.54 Pearson / 0.22 Spearman
Li, Thelwall & Giuistini 2012	1,613 articles from Nature and Science published in 2007	Citations Web of Science - Mendeley Bookmarks	0.55 Pearson
		Citations Google Scholar - Mendeley Bookmarks	0.60 Pearson
		Citations Web of Science - Citeulike	0.34 Pearson
		Citations Google Scholar - Citeulike	0.39 Pearson
Bar-Ilan & al. 2012	1,136 articles by bibliometric researchers	Citations Scopus – Mendeley Bookmarks	0.45 Spearman
		Citations Scopus – Citeulike	0.23 Spearman
Shuai, Pepe & Bollen 2012	70 articles deposited in the repository ARXIV	Citations Google Scholar - Twitter mentions	0.45 Pearson
		Downloads from arXiv - Twitter mentions	0.55 Pearson
Fausto & al. 2012	26,154 papers in 3,350 and reviewed in Researchblogging	Impact Factor – Blog views	0.3 – 0.4 Pearson
		Impact Factor – Blog Citations	0.2 – 0.3 Pearson
		Eigen Factor – Blog views	0.3 – 0.4 Pearson
		Eigen Factor – Blog Citations	0.2 – 0.3 Pearson

Therefore, in scientific literature to date, the correlation between any of the altmetrics and the number of citations remains to be convincingly demonstrated. However, evidence does exist of a certain association between highly cited or frequently downloaded and highly tweeted articles. For example Eysenbanch (2011), on isolating 55 highly cited articles from his sample, showed that in 75% of cases they were also highly tweeted, reaching a correlation coefficient of 0.69, the highest calculated to date. In addition, Shuai, Pepe & Bollen (2012), working with a sample of pre-prints deposited in ArXiv, observed greater download levels for papers promptly disseminated on Twitter. In the present case the most cited sample (table 3) also had higher rates of activity in social networks.

The results presented in table 4 suggest that altmetrics measure a dimension of scientific impact that is still to be determined. As stated by Priem, Piwowar & Hemminger (2012), there is a need for additional research into the validity and precise significance of these metrics, as, for example, in the case of the readers of Mendeley (Bar-Ilan, 2012). It seems apparent that altmetrics capture a different dimension, which could be entirely complementary to citation, given that the different platforms have audiences more diverse than the merely academic. If, for example, the phenomenon is observed from the other perspective, that of papers with greater altmetric impact, the studies most widely diffused across social networks in 2012 were not always related to strictly scientific interests, but to cross curricular subjects that better reflected the interests of the general public. For example, some of the scientific articles arousing the greatest interest in social networks in 2012 were related to very topical issues such as the Fukushima nuclear accident; cross curricular subjects, such as the effect of coffee consumption on health; or interests closely linked to the profile of a social network user, such as an analysis of classic Nintendo games (Noorden, 2012). Therefore, it is not strange that altmetrics are starting to equate with the social impact of research.

5. By way of conclusion: current problems for altmetrics

Without doubt, altmetrics offers a different outlook when it comes to measuring the visibility, in the widest sense, of scientific and academic papers. These new indicators should be welcomed as being complementary to traditional metrics. However, due to being very new, and only recently applied in scientific contexts, the use of altmetrics still has certain limitations that have to be taken into account. Among these is its place within the so-called liquid culture, as opposed to solid culture (Area & Ribeiro, 2012). This situation is clearly shown by the evanescent nature of its sources; whereas citation indexes such as Web of Science are stable and have trajectories of decades, the same cannot be said of the 2.0 world (Torres-Salinas & Cabezas-Clavijo, 2013). In general, platforms which archive papers, and ultimately generate indicators, usually have very exiguous life cycles and can disappear, as happened with the recent disappearance of Connotea in March 2013. Platforms can also eliminate certain functions, as occurred with Yahoo's removal of the command Search by Site, which shook the foundations of all cybermetrics (Aguillo, 2012). This means that it is currently difficult to choose a reference tool which guarantees medium term continuity. Many uncertainties still exist as to the reproducibility and final significance of results, especially concerning the scientific relevance of the same. This in turn makes it difficult for these tools to be incorporated into the list of evaluative tools.

Additionally, the proliferation of sources and users indexing articles aggravates traditional bibliometric problems of normalisation (Haustein & Siebenlist, 2011). In the 2.0 environment, an article can be found indexed or mentioned in multiple ways: by a normalised number, by a URL copied from a web, by part of the title, etc. This causes the compilation of direct mentions, and not indirect article reviews, to be a laborious matter. For example, if an article has been reviewed in a blog, should the diffusion of this entry or its comments be added to the article's original impact? Finally, it has to be mentioned that the empirical study undertaken has also enabled confirmation of the scant concordance of ImpactStory or Almetric.com, which provide different statistics, related only to normalised numbers (DOIs or other type of identifier). Not only is compilation difficult, but also, in most instances, data gathered from many platforms produces very low numbers. Added to this has to be the global difficulty faced by these tools in making data from some of the 2.0 services freely available (Howard, 2012). Despite Adie & Roe (2013) having calculated that more than 2.8 million articles since 2011 have at least one altmetric indicator calculated, the magnitudes provided remain lower than those of citation, even in the majority of cases (see for example the numbers provided in the case studies of Bar-Ilan & al., 2012 or Priem, Piwowar & Hemminger, 2012).

If these indicators are indeed wanted, beyond mere experiments and academic studies, for use in the

Table 5. Examples of the basic characteristics of traditional bibliometric indicators and altmetrics	
Traditional bibliometric indicators	**Altmetrics**
- Measure scientific and academic impact through scientific publications, especially articles and journals	- Measure social impact through means associated with Web 2.0 and not always strictly academic
- Clear association with the concept of scientific recognition and Mertonian normativism	- Further research is needed to determine the exact significance of the indicators
- Information sources recognised and accepted by the scientific community: Web of Science and Scopus	- Diverse information sources not always known and used by the whole scientific community
- Sources independently measure the number of citations, subsequently showing various calculations	- A great variety and heterogeneity of indicators exist, largely dependent on the platforms that produce them
- It is customary to use journal impact indexes in order to approximate the quality of scientific articles	- Indicators highly orientated towards measuring the impact received at article and never journal level
- Bibliometric indicators are highly orientated towards measuring traditional media: articles and books	- Altmetrics allows measuring the visibility of less conventional material such as courses or conferences
- Essential referent for agencies and institutions dedicated to the evaluation of scientific activity	- No agency officially incorporates these methods amongst their indicators for demonstrating the quality of a paper
- Results such as number of citations or a researcher's papers are easily returned in the databases	- Results are at times difficult to return and are very dependent upon the moment of measurement and the tool
- Measure long term impact, a period of time has to elapse before a publications impact starts to be known	- Measure immediate impact of a paper in social networks at the moment of publication
- Sometimes they do not function overly well in particular fields, as can be the case of Humanities	- Can play an important role when it comes to providing measurements in Humanities, where indicators are scarce

evaluation of scientific activity, there is no doubt that the many theoretical (significance), methodological (valid sources) and technical (normalisation) problems should still be resolved. These indicators should clearly be used for measuring the social impact of science and, above all, for measuring the impact or immediate visibility of publications, an impossibility for citation. The new metrics have a very short journey, with an initial burst of activity capturing the visibility of papers at the very moment of publication (Priem & Hemmiger, 2010). This facet complements the classic indicators and even expert reviews, which altmetrics should not aspire to substitute, a situation and a function noted by most scientists (Nature Materials, 2012). Additionally, an identifiable role can be played in fields were bibliometrics is most lacking, as may be the case in humanities (Sula, 2012). It can be stated that new forms of scientific communication require new forms of measurement. For the moment, the only definite conclusion seems to be that altmetrics is here to stay, to enrich the possibilities and dimensions of impact analysis, in all fields of scientific research, and to illuminate from a new perspective the relationship between science and society.

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Spanish Communication Academia: Scientific Productivity vs. Social Activity

La Academia Española de Comunicación: productividad científica frente a actividad social

ABSTRACT
At a time when academic activity in the area of communication is principally assessed by the impact of scientific journals, the scientific media and the scientific productivity of researchers, the question arises as to whether social factors condition scientific activity as much as these objective elements. This investigation analyzes the influence of scientific productivity and social activity in the area of communication. We identify a social network of researchers from a compilation of doctoral theses in communication and calculate the scientific production of 180 of the most active researchers who sit on doctoral committees. Social network analysis is then used to study the relations that are formed on these doctoral thesis committees. The results suggest that social factors, rather than individual scientific productivity, positively influence such a key academic and scientific activity as the award of doctoral degrees. Our conclusions point to a disconnection between scientific productivity and the international scope of researchers and their role in the social network. Nevertheless, the consequences of this situation are tempered by the non-hierarchical structure of relations between communication scientists.

RESUMEN
En un momento en que la actividad académica en el ámbito de la comunicación se valora principalmente por el impacto de las revistas y los medios de comunicación científica y por la productividad de los investigadores, surge la cuestión de si los factores sociales pueden condicionar la actividad científica con la misma fuerza que estos elementos objetivos. Esta investigación analiza la influencia de la productividad científica y de la actividad social en el ámbito de la comunicación. Se ha identificado la red social de los investigadores de comunicación a partir de las tesis doctorales; para los 180 investigadores más activos en los tribunales de tesis se ha calculado su producción científica. Se utiliza el análisis de redes sociales para estudiar las relaciones que se producen en los tribunales de tesis doctorales. Los resultados muestran que los factores sociales influyen positivamente en una actividad académica y científica tan relevante como la obtención del grado de doctor, mientras que la productividad científica individual no lo hace. Como conclusiones cabe señalar que existe una desconexión entre la productividad científica y la proyección internacional de los investigadores y su papel en la red social. Las implicaciones de este hecho están matizadas por una estructura no jerarquizada de las relaciones entre los científicos de comunicación.

KEYWORDS / PALABRAS CLAVE
Social networks, bibliometrics, thesis, invisible colleges, communication research, university.
Redes sociales, bibliometría, tesis doctorales, colegios invisibles, investigar en comunicación, universidad.

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1. Introduction

The development and the future of scientific activity have generally been treated as endogenous aspects linked to the evolution of research, significant scientific discoveries and the process of transferring scientific knowledge and know-how, etc., generating unstoppable, gradual and, in some cases, exponential progress. However, for many decades, a strong social element has clearly been identified in scientific activity that can determine its creation, diffusion and demarcation to an extraordinary extent (Kuhn, 1962; Merton, 1973). Scientific activity may be the origin and/or the result of social structures, giving rise to specific disciplines, such as the sociology of science (Ben-David & Sullivan, 1975; Lamo-de-Espinosa & al., 1994).

Special attention is given to the social structures that underlie scientific activity, because of the relative youth of social sciences and the habitual coexistence of possible paradigms and currents of thought that may be reflected upon simultaneously, which may at times assume opposing and antagonistic positions (Rodríguez, 1993). Many scientific communities, to a greater or lesser extent, have geographical boundaries that depend on their scope of knowledge, while academic traditions, linguistic environments and the physical structures of scientific activity more often than not generate its national geographical environment. It is therefore of interest to know the particularities of the scientific communities in each country or region.

In this context, it appears pertinent to look into the social aspects of the Spanish scientific community linked to the field of communication. University studies in this field are recent (the first faculty was founded in 1971) and arise out of the framework of the so-called «Napoleonic» university model, centred on professional training. At present, a transition to the «Humboldtian» model is underway, the main aim of which is the generation and transference of scientific knowledge (Ginés, 2004: 14). This change is leading to a slow increase in the specific weight attached to research in the promotion of university teaching staff. At the same time, communication represents a fertile territory, as in other social disciplines with high levels of interdisciplinary studies, in which social aspects are given a prominent place in scientific activity. Less than 50% of Spanish contributions to communication journals listed on the Social Science Citation Index (SSCI) are from faculties and departments of communication (Masip, 2011: 7). In addition, it appears especially relevant to link social activity in this field to aspects that are related to scientific communication, as the current trend is to assess scientists and academics in their discipline in accordance with their publications and the impact factors of the journals in which they publish (Soriano, 2008; Perceval & Fornieles, 2008; Fernández-Quijada, 2010; Masip, 2011; Castillo & Ruiz, 2011). Studies on Spanish Communication Academia have concentrated on the most relevant journals, on their role in the furtherance of knowledge and on detecting the structure of the field through bibliometric studies (Castillo & Carretón, 2010; López-Ornelas, 2010; Martínez & Saperas, 2011; Castillo, Rubio & Almansa, 2012). However, it would be worth asking whether the weight of such apparently objective measures of scientific prominence (publications and citations) is the criterion shaping the structure of Spanish communication academia and whether the baseline of social relations between scientists plays a defining role in their scientific activity.

This work has the objective of determining whether the demonstrated relevance of a researcher in the field of communication, measured in terms of scientific productivity, and the researcher's social position, measured in terms of membership of the active core of academia, have an influence on important decisions for academic and scientific activity. In response to that question, we will study how both scientific productivity and social activity influence a key academic decision in the scientific community: the choice of committee members that evaluate doctoral theses in the field of knowledge. Social network analysis was selected as a referential framework in which to conduct an acceptable analysis of social ties between scientists arising from the academic act of the reading of a doctoral thesis (Scott, 1991).

2. The academic and scientific community in the field of communication

The analysis of social factors in scientific production has a long tradition and has generated a particular field of knowledge: the sociology of science (Merton, 1973). The influence of social structures on scientific production may be conceptualised as invisible colleges. De Solla Price (1963) pointed to the existence of groups of scientists that were basically constituted by a contact and by informal communication that generated a stable social structure (highlighting the role of the elite within it). Where De Solla Price highlighted the role of informal communication as the basis of the social structure, Crane (1969; 1972) stressed the possibility of belonging to the group (invisible college) through indirect contacts between scientists between whom multiple simultaneous relations are established (co-authorships, citations, exchange of drafts, joint presence at events and in organizations, management of doctoral theses, etc.). Crane (1969; 1972) used an incipient network analysis to highlight the appearance of emergent social structures in the scientific field in the form of invisible colleges or social circles. To do so, she used various relations between scientists and pointed out that the set of relations comprised a social circle in an informal way (an informal social structure with fuzzy limits).

Zuccala (2006) proposed the concept of the invisible college as the organizational structure of a set of social actors (researchers) who exchange formal and informal information on the framework of the rules in a discipline and certain research problems. She used social network analysis and the analysis of co-citations to identify these invisible colleges in a particular field. Moody (2004) used the relation of co-authorship to describe the collaborative networks in social science and constructed various models to test how collaboration affects scientific practice (appearance of small relatively isolated groups, exchanges between groups with different interests, and networks dominated by star scientists). The first two possibilities were also explored by Crane (1969). In the field of communication, invisible colleges and their definition have also been explored through bibliometric studies (Chang & Tai, 2005; Tai, 2009).

The Spanish communication academia may be studied in terms of an invisible college that generates a tie of membership between its members and that will generate a series of formal and informal contacts between them at various scientific gatherings (congresses, workshops, academic proceedings and professional events, etc.), transference of information and knowledge between them and both direct and indirect informal communication.

Various researchers have brought up the existence of these networks in communication. The majority used the analysis of co-authorships in articles published in scientific journals from the discipline (López-Ornelas, 2010; Masip, 2011). Fernández-Quijada (2011) established a network of collaborations between professors belonging to the different Spanish universities based on a bibliometric study of co-authorships in Spanish communication journals with the highest impact. This author suggests the need for more in-depth studies for an understanding of how these networks are formed and how they function.

Martínez-Nicolás (2006) studied the quality of research in the area of journalism and related it to the structure of the scientific community. This structure responds to the «vicissitudes of its historic constitution and development». Empirical studies focusing on the groups that have been identified would be of interest.

The pioneering bibliometric studies of Daniel E. Jones and others (2000) should be highlighted, in relation to the study of doctoral theses on communication, which have contributed an important body of knowledge that has served as the basis for subsequent investigations. Repiso, Torres, and Delgado (2011b) analysed social networks in communication on the basis of the members of the doctoral thesis committees. They structured the research system into different specialities such as television (Repiso & al., 2011a), radio (Repiso & al., 2011b) and cinema (Repiso & al. 2011c), in Spain, around the main university chairs in those disciplines.

The reading of a doctoral thesis represents an important part of scientific activity within the Spanish communication academia, because of the characteristics of its contribution and because of the fact that it implies a validation of the research capabilities of the doctoral students. It is therefore very important that each thesis should be evaluated by qualified researchers. Its defence is conducted before a panel made

At present, a transition to the «Humboldtian model» is underway, the main aim of which is the generation and transference of scientific knowledge. This change is leading to a slow increase in the specific weight attached to research in the promotion of university teaching staff. At the same time, communication represents a fertile territory, as in other social disciplines with high levels of interdisciplinary studies, in which social aspects are given a prominent place in scientific activity.

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up of various doctors in the field and from other related disciplines. The director of the doctoral thesis and the departmental members intervene in a decisive way in the choice of the committee members through informal processes, which are therefore based on considerations that go beyond the purely scientific. These choices should be based on criteria that should be objective, arising from the research capabilities of the members that sit on the doctoral committees. The scientific productivity of academics is a measure of the success of their scientific activity, marking the road towards professional progress (Alcántara, 2000; Joy, 2009). Therefore, the professional development of researchers and, consequently, their selection by the academic community to conduct research-related activities will be conditioned by what they are objectively able to contribute. Thus,

• Hypothesis 1: The selection of doctoral committee members in the field of communication will be positively influenced by their scientific productivity, measured by their publications and the number of citations received.

Furthermore, a complementary hypothesis may be developed that links social factors to relevant decisions of scientific activity in communication. It appears logical to think that social structures that take shape in the network of researchers and academics in an area of knowledge might determine or condition the evaluation of a first rate piece of research and the accreditation within the scientific community of the investigative worth of the doctorand. The idea of the aforementioned social circles or invisible colleges (Crane, 1972) and the network structure in the academic relations between researchers (Molina, Muñoz & Doménech, 2002) help explain a possible association between personal and professional knowledge transfer between communication researchers and academics and the choices that they make, so that other actors evaluate the theses that they have directed. In an empirical way and using social network analysis, Sierra (2003) demonstrated, on the basis of the composition of CSIC thesis committees, that the choice of committee members did not follow random criteria, but that there is a social grounding for those decisions. Likewise, Casanueva and Larrinaga (2013) presented evidence that social factors and, in particular, the previous contact between other members of the network significantly influenced the choice of doctoral committee members and their chairpersons in the discipline of accounting and finance. The following hypothesis may therefore be formulated:

• Hypothesis 2: the selection of doctoral committee members in the field of communication will be positively influenced by the social activity of the members of the academia.

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3. Methods

3.1. The network in the field of communication based on doctoral committees

The network constituted by researchers and academics from the field of communication who have participated in doctoral committees from 2000 up until 2012 is selected as the area of study, in order to test the two hypotheses on the influence of scientific productivity and social activity in scientific decisions. The Teseo database was used to demarcate the area of study, which provides different information on doctoral theses read in Spain. This database is still the most complete resource available and an essential reference for the consultation of doctoral theses in Spanish universities (Sorli & Merlo, 2002: 203), even though it presents a series of drawbacks such as lack of standardization, incompleteness, duplication of entries and omissions (Repiso & al., 2011: 419). The definition of the theses within the area is complicated, insofar as there are no suitable descriptors that mark out clear frontiers, without overlaps in the area of communication. Therefore, our strategy involved the identification of all theses produced in departments of audiovisual communication, marketing and journalism from all Spanish universities. In total, 1298 doctoral theses read in the period under consideration were analysed. Almost 2500 different doctors had a role in those theses as directors and members of the doctoral committees, as researchers in the same or in other similar disciplines in Spain or as foreign doctors. Many of these actors had no relevant role in the network. A relational criterion was therefore chosen, in line with Laumann and others (1989), when defining the network, in order to conduct a more suitable empirical analysis that would respond to the purpose of this investigation, in such a way that only those doctors who sat on eight committees or more were analysed. This meant a more manageable and sufficiently broad network in terms of its analysis that would limit itself to the 180 most active doctors on the doctoral committees.

Data obtained on these 180 researchers in the field of communication refer to their affiliations and to their scientific productivity. The number of publications and the number of citations from those same publications were used for the calculation of scientific production. The information contained in the most standardized international databases (SSCI and Scopus) produced no search results that clearly differentiated between the 180 members chosen from the network in terms of their scientific production. For example, only 27.22% of them had one or more publications in SSCI. This finding is consistent with earlier studies that described the limited internationalization of publications from communication academics in Spain (Masip, 2011). So, we referred to Google Scholar to obtain the most important data on the scientific production of the 180 actors. Harzing's Publish or Perish (version 2.8.3.4792), available as an on-line programme, was used to systematise the search. Data referring to articles in journals, books, and chapters of books were all considered. Manual inspection the data gathered in this way and its registration was done, as this tool is not very discriminatory with regard to names and document types.

3.2. Analysis of social networks

The study of the influence of social relations in academic decisions, and more specifically in the selection processes for the committees that will evaluate doctoral theses should pay specific attention to the social relations that they engender and the social structure that arises from them. An acceptable analysis of social structures should be based on specific data, not on the characteristics, but on the social ties of the individual. Social network analysis is used for this purpose (Wellman & Berkowitz, 1988).

Unlike quantitative methods of investigation in social sciences, based on the analysis of the attributes of sample elements (Wasserman & Faust, 1994), social network analysis centres its attention on the identification of the ties that are generated between a series of nodes or actors that constitute the network. Social network analysis attempts to reveal the overall structure of the ties between actors, identifying the existence of general relational patterns that result from the abstraction of individual choices or from the links between the nodes.

A network may be defined in a simple way as a set of interrelated nodes. So, the starting point of network analysis is the study of these two basic units: the nodes that represent the actors or elements of the network and the ties between those nodes. Since its recent origin, social network analysis has been applied to the study of scientific activity (Crane, 1972). It has undergone notable development over recent years with the availability of massive bibliographies on co-authorships in scientific publications (Moody, 2004; Newman, 2001).

3.3. Variables

Different regression models were prepared to test the hypothesis, the variables of which are explained below:

• Dependent Variable. As an outcome variable, the dependent variable used the sum of the times that each of the 180 doctors who represent the sample of the most active doctors was chosen to participate in a doctoral committee. As mentioned earlier, the minimum value of this variable was set at 8.

• Independent Variables. Four basic indicators of scientific productivity were used for their measurement. In the first place, «Publications» measured the breadth of scientific production throughout the professional career of each network member. These included books, book chapters, and publications in scientific journals that have been cited at least once. They are taken in aggregate, without differentiating between document types. In second place, the variable «Citations» corresponds to the number of citations of each author received by the aforementioned publications. The third variable seeks an overall measurement of publication capacity and of the impact of the published documents measured by the number of citations they have received: «the h-Index». An author will have an h-index of 10, if 10 of the author's articles have received at least 10 citations. The fourth variable, «International», takes a value of 1 if the member of the network has published in an SSCI journal, which was taken as a reference to indicate the international scope

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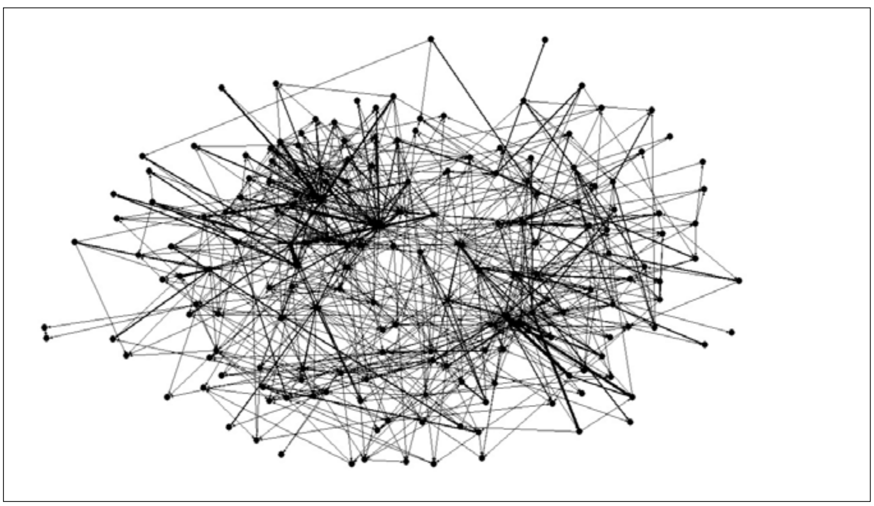
of an author, and a value of 0 if otherwise. The preparation of the indicator of social activity was more complex. In the first place, a new network was constructed, in which the link under consideration was the joint presence of academics at the reading of a doctoral thesis. In other words, each thesis brings together committee members, directors, and co-directors of the thesis at a single academic act (from which other social events often arise). This mutual contact means that the members of the network get to know each other (or their familiarity is deepened). The social network programme UCINET (Borgatti, Everett & Freeman, 2002) was used to construct the indicator, which divides the network into two groups by means of a process of iteration. The first of these is made up of the core of the network and second by its periphery. The variable «Core» is determined by the doctor forming part of that network core with a joint presence on doctoral committees in the field of communication.

Control Variables. Two control variables were used. The «Chair» variable seeks to reflect the value of occupying the most senior posts in the academic hierarchy as a predictor of academic elections, as highlighted in earlier studies in the context of Spain (Casanueva & Larrinaga, 2013) and in the context of Germany (Muller-Camen & Salzgeber, 2005). A dichotomic variable was constructed with a value of 1 for academics that occupy a university chair. The second control variable «Journal Editorial Board» measures whether a member of the network forms part of the managerial, scientific and/or editorial boards of the nine journals (Revista Latina, Comunicación y Sociedad, Comunicar, Estudios del Mensaje Periodístico, Zer, Trípodos, Ámbitos, Anàlisi y Telos) in the first quartile of the In-Recs index for 2011.

4. Results

Graph 1 shows the network of the 180 most active doctoral committee members. Even though the existence of very dense zones may be appreciated in the graph of the network, it is better to study the indicators that arise from the analysis of social networks, as graphic representations offer a very limited scope for analysis. Table 1 presents the most relevant indicators of the complete network of the selection of the doctoral committee members in the field of communication together with those same indicators referring to the network that comprises the 180 doctors selected for the empirical analysis. Data on academic networks from another two areas of the social sciences are shown, to facilitate a comparative analysis of the data on network structure: marketing (Casanueva & Espasandín, 2004) and accounting and finance (Casanueva, Escobar & Larrinaga, 2007).

The first row of table 1 shows the size of the network, which serves as a good reference in order to analyse its structure, as many indicators of the network structure will depend on it. The size of the network of all the doctors participating in the doctoral committees under consideration is 2496, while the ties between the 180 most active members were carefully analysed, as opposed to the 255 for accounting and the 84 for marketing.



Graph 1. Graph of the network of 180 researchers.

The density is shown in the second row of table 1. Density refers to the number of real ties in the network in comparison with all the possible ties between its members. The low density of the complete communication network, with only 0.1% of possible links, is principally because of the large number of nodes that make up that network in relation to the number of people that can intervene in each event (reading of a thesis). The density in the second network increases by a factor of 50, almost reaching 5%. This relational

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Table 1. Characteristics of the doctoral committee member selection networks				
	Complete Network	Network of 180	Accounting and Finance	Marketing
Nodes	2496	180	255	84
Density	0.001	0.0498	0.0250	0.0267
Indegree	2.46%	12.67%	11.94%	14.37%
Outdegree	6.91%	15.48%	15.50%	22.90%
Betweeness	2.69%	12.8%	7.21%	12.25%

level is already moderately high and shows that the 180 actors in the network show significant cohesion between each other and that they have had the opportunity of sharing tasks with many other members of the doctoral committees. In fact, the density is twice that of the two previously mentioned areas of knowledge, such that selection in the field of communication is considerably more interconnected than in other areas of the social sciences in Spain.

Indegree centralization indicates how the network is concentrated around certain points, but the level for ties relating to selection is very low in the complete network (2.46%) and is not considerable (12.67%) in the case of the 180 most active members. It leads one to think that the network is not very centralized and, therefore, not very hierarchical. This is very important, as its suggests that the academic act of reading a thesis is quite open to the participation of many actors and is not focused on a social structure with a dominant central core.

Conversely, outdegree centralization is an indicator of the level at which the thesis management process is focused on a few doctors. The values are low for both the overall network (almost 7%) and the 180 members (15.48%), such that once again the activity of managing a thesis is on the whole not linked to a central group. Similar values are found in the two other areas under analysis.

Betweeness centralization presents low values in the four networks presented in table 1, such that only with difficulty can doctors exploit their position as intermediaries or brokers (in general terms) to connect more distant or separate parts of the network and to gain advantage from that position. This situation is an indicator that the network is well connected and that anyone can access another node in the network along different paths. Once again, it suggests that this structure is far removed from a hierarchical one.

Table 2 shows the mean and the standard deviation of the previously explained variables. The most striking point is that average scientific productivity of the 180 most active members of the doctoral committees in the field of communication is quite high, close to 20 publications with at least one citation on average, the same as the impact of the journal, as the average number of citations that they have is 186. This last point should be qualified, as the dispersion is very high. These data may be explained because there are certain members of the network with numerous citations, basically because their works are standard references in their field. The fact that approximately half of the network members are university chairs and that a third participates or have participated in the management of the most relevant scientific journals in the field is also noteworthy.

A joint regression analysis with the variable «Selection» as the dependent variable was used to compare the hypotheses presented in the conceptual framework. Table 3 presents three regression models. The standardized coefficients of the variables and their level of meaning appears in the same table. Model 1 is the control model. It includes the control variables University Chair and Editorial Board. The model is significative and the percentage variance explained is considerable (R2=0.114). The results show a positive and significative relation (although at a

Table 2. Descriptive statistics and correlations (Pearson) between variables

	Mean	Std. Dev.	Medium	Selection	University Chair	Editorial board	Publication	Citations	h-Index	Intn'l
Selection	14.86	8.994	12							
Chair	0.48	0.501	0	0.304**						
Editorial Board	0.35	0.480	0	0.206**	0.211**					
Publications	19.84	24.014	12	0.077	0.266**	0.214**				
Citations	186.27	359.578	66	0.052	0.248**	0.118	0.883**			
h-Index	4.79	3.409	4	0.104	0.348**	0.237**	0.891**	0.846**		
International	0.27	0.446	0	0.085	-0.017	0.432**	0.153	0.067	0.170*	
Core	0.76	0.431	1	0.400**	0.240**	0.260***	0.160**	0.167**	0.189**	0.057

*. The correlation is significant at a level of 0.01; *. The correlation is significant at a level of 0.05

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different level) of the dependent variable with the control variables.

Model 2 is intended to test Hypothesis 1. The four variables that measure scientific productivity now intervene as independent variables. The model is significant and presents a R2=0.116. Almost no increase in the explained variance was observed as a result of the inclusion of the new variables in the model. Once again, a positive and significative relation was shown in Model 2 between the condition of university chair and the dependent variable, whereas the relations with the four independent variables that measure scientific productivity (Publications, Citations, h-Index and Internationalization) are not significative. No support is therefore forthcoming for Hypothesis 1.

Table 3. Regressions between variables

	Model 1	Model 2	Model 3
Editorial Board	0.149*	0.136	0.055
University Chair	0.271***	0.287***	0.232**
Publications		0.000	0.035
Citations		-0.029	-0.081
h-Index		-0.009	-0.025
International		0.034	0.050
Core			0.340***
R^2	0,114	0.116	0.218

*** p>0.001; ** p>0.01; * p>0.05

Model 3 serves to test Hypothesis 2, including the variable «Core» in the model. The first thing that may be seen is the important increase of R2 that rises to a value of 0.218. The independent variable «Core» shows a positive and significative relation (with a high degree of meaning) with the dependent variable. Hypothesis 2, which states that the selection of doctoral committee members in the field of communication is positively associated with the social activity of the academics, is therefore confirmed.

5. Conclusions and discussion

This research has proposed two, in principle, complementary hypotheses, on the way in which decisions are taken that affect research within Spanish academia in the field of communication. The first of these links the selection of members of academia with those who have a more productive scientific activity either in terms of publications (and its type) or in terms of the impact (measured by the number of citations or by the h-index) of those publications. The second hypothesis links these decisions to the social activity of the scientists following the assumptions of the sociology of science and the logic of invisible colleges (Crane, 1972; De-Solla-Price, 1963; Kuhn, 1962; Merton, 1973). The results offer no support for the first and uphold the second of these hypotheses.

These findings have three important implications. The first is that social factors play a prominent role in scientific activity and can condition it, as confirmed in earlier studies in other knowledge areas of the social sciences (Casanueva & Espasandín, 2004; Casanueva & Larrinaga, 2013). Scientific productivity (and its underlying indicators, which have a day-to-day effect on the activities of researchers and academics in the field of communication, such as publications, citations or the impact factor of the journals in which they publish) as an objective measure of good scientific practice does not occupy the most relevant place among the selection criteria in important scientific activities, such as those analysed here. This raises problems of incentives for the most active researchers who may encounter limitations to their possibilities of progressing towards a position in the social elite. It also erodes the dominant discourse on the immediate relation between scientific productivity and academic and investigative development. The third implication is that it leaves each of the two earlier positions as a sort of alternative model in which, on the one hand, the social and the subjective predominates and, on the other, the scientific and the objective. In this interplay, the social component appears as a momentary victor.

It may be asked whether a model in which the social aspect predominates over the scientific aspect is unfair and even perverse. The consideration of social structures arising from the network of the academia of communication in Spain has provided a partial response to this question. A problem would arise if the situation were one in which the social aspect was fundamental and in which the social structure was dominated by a more-or-less closed elite or core that could control the processes as they were happening. Our earlier analyses of the characteristics of the networks in the area would suggest that we can discard that scenario. The different centrality measures were found to be very low, so the concentration of selection in one part of the network may, it appears, be discounted. An additional analysis was completed to confirm this idea. The correlation between the matrix of choices of doctoral committee members with its transposed matrix were tested to validate the degree of symmetry in the choices. The correlation level is over 0.400 and significative, such that we have relations that are basically symmetric where the roles of those selecting and those selected interchange, which discards the idea of a hierarchical structure in the network of communication academics. Although it could also reflect zones in the network in which reciprocal choices occur and in which rather more closed social sub-groups are forming.

This work presents a series of limitations. The first is the impossibility of generalization from the network of the 180 most active doctors to the complete network, as the latter was not randomly chosen. The second is related to the degree of adjustment between indicators and the phenomenon to be measured. Particularly, the use of the core as a reference for social activity, based on how many people know each other, will be a possible approximation to a more complex phenomenon. Neither has the time factor been taken into account that might add some bias to the analyses. An interesting line of future research would perhaps be a longitudinal analysis of the variables to analyse their evolution and the institutional aspects and context that might influence them. The most promising line of work, however, would be to look more deeply into the question of whether a real and a single invisible college exists in communication and to look more closely at the connections between the invisible college in communication and other elements of scientific activity such as the means of scientific communication (basically journals and their impact) or other social and conceptual networks (the existence of which may be deduced from co-citations, co-authorships and citations). The results leave open other questions, such as whether the most scientifically productive thesis directors also choose doctoral committee members using social criteria and whether social activity conditions the type and the quantity of scientific production.

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Multidisciplinarity in Spanish and Foreign Communication Journals

La multidisciplinariedad de las revistas de comunicación españolas y extranjeras

ABSTRACT
Communication can be understood, under an epistemological framework, as a macro-context from which education participates as a part. One of the objectives of this work is to contrast this theoretical consideration with the observed interaction between education and communication scientific journals defined by citations and relatedness towards other scientific journals. At the same time, there might be relevant differences between the citation patterns of Spanish and foreign (journals in Journal Citation Reports) communication journals, particularly with regard to their disciplinary composition. These differences might become a major problem for the interexchange of information between both sets of journals. The authors analyze the citations distribution by subject category for Spanish and JCR journals, as well as for the journal «Comunicar», and also the frequency of related journals per subject category in the case of JCR. It is concluded: a) that the aforementioned epistemological relationship is valid only for Spanish Communication journals, b) that there are relevant differences between both sets of journals in the disciplinary composition of their cited-citing and related journals and that Information Science & Library Science might serve as a suitable communication channel; finally, c) the characteristic multidisciplinarity of the journal «Comunicar» is corroborated, both at the national and international level.

RESUMEN
La comunicación puede entenderse como un macro-contexto epistemológico del que la educación participa como una parte. El análisis de la correspondencia entre esta relación teórica epistemológica y la interacción real entre las revistas de educación y comunicación es uno de los objetivos de este trabajo. Al mismo tiempo, los patrones de citación de las revistas españolas de comunicación, en cuanto a la procedencia de las citas recibidas o emitidas por las revistas de comunicación en el Journal Citations Report, pueden presentar diferencias que dificulten el intercambio de información entre ambos conjuntos. Se analiza la distribución de citas según disciplina citante para las revistas españolas y extranjeras de comunicación, así como para «Comunicar», y la frecuencia de aparición de revistas con tasa de afinidad según su disciplina para las revistas en la «Subjet Category Communication» de JCR. Se concluye que la relación epistemológica entre educación y comunicación se da únicamente en el caso español, que existen marcadas diferencias en la composición disciplinar de las revistas afines y citantes al comparar las revistas españolas con las indexadas en JCR. Además, la interacción con las revistas del área «Information Science & Library Science» podría ser un canal de comunicación entre ambos conjuntos de revistas. Finalmente, se corrobora la correspondencia de la característica multidisciplinariedad de «Comunicar» en el ámbito nacional e internacional.

KEYWORDS / PALABRAS CLAVE
Citation, relatedness, epistemology, scientific journals, interdisciplinarity, research.
Citación, tasa de afinidad, epistemología, revistas científicas, interdisciplinariedad, investigación.

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1. Introduction

The main objective of this research is to contrast the assumption that links theory and practice regarding the relation between the communication and education disciplines, both in terms of epistemology and behavior, understood as relatedness and the origin of citations of, or received by, the journals published in both disciplines. Consequently, the introduction is divided in two subsections, each related to one of these two aspects.

1.1. The theoretical relation between communication and education

Almost a decade ago, a paper published in this journal, whose title is relevant, detailed the relatedness between communication and education. It highlighted that both are social, intentional actions which make use of languages and media, that they are unpredictable, use information and require interaction (Alonso-Corral, 2004). The author of this paper, following Kaplún (1998), stressed the need to configure a hybrid communication-education field capable of orientating educational research towards «communication pedagogy» (Alonso-Corral, 2004). Yet this hybrid field should maintain the differentiating identity features that characterize each discipline without overlap. Communication is both an instrument and a necessary means for education. This implies an atmosphere-like environment in which educational action takes place. In the first case, communication can be understood as a mere vehicle for message transmission, while in the second, communication is essentially a consequence of human sociability (Pasquali, 1980: 51). Our human development strongly depends on communication, understood as connection or interaction with others, and on education, as a basis for displaying all human potentialities. Communication is not, therefore, an «added feature to person» (Gómez, López & Velásquez, 2006) but an anthropological need closely related to personality-building and cultural processes. Researchers such as George H. Mead, Claude Lévi-Strauss, Gregory Bateson, Abraham Moles or Martín-Serrano support the idea that «communication is among the nuclear elements involved in reflection on society, culture and universe» (Karam, 2007). Participating in the task of strengthening one's community is only possible when the personal and the community project move in the same direction and complement each other. For this, the conformation of own personality and identification with the community is a precondition. For the achievement of the necessary balance between inclusion and participation in the community and a distance that allow permanent reflection regarding the various aspects of the community, enabling personal perfecting, it has recently been claimed that there is a need for civic education capable of developing a feeling of citizenship in increasingly globalized environments (Diestro & Cruz, 2006; Tucho, 2006), one which seeks out participation and to involve itself in social change. Some authors have seen in this idea a new paradigm; eduCommunication –a concept already stated by Kaplún (1998)– closely related to the creation of a communicative ecosystem which, in short, aims to plan communicative actions which incorporate a sense of culture and community belonging so that through cooperative work projects for the transformation of society are undertaken (Castro, 2011). Despite the clear link between communication and education, the agreement on its precise relation is not yet clear. In any case, what seems crucial for Education is the constant asking of the question: «What do changes in communication represent in terms of challenges for Education and what do these really mean?» (Martín-Barbero, 1998: 29). An answer, given by Martín-Barbero himself, is the change from a linear sequence-based model to a hypertext model, with the consequent change in the teacher's role (Martín-Barbero, 1999). Following this reasoning and contrary to the traditional role of education as mere transmission of knowledge, some years ago there emerged the concept of «knowledge management», focused on access to knowledge through the use of different sources and forms of communication (Fontcuberta, 2003). Furthermore, taking into account the complexity of educational contexts and requirements, there has been a tendency towards interdisciplinary teams and approaches (Fernández-Ríos, 2010, Folegotto & Tambornino, 2004: 49; Sierra, Méndez & Mañana, 2013). More recently, the concept of interdisciplinarity, understood as a form of articulation of knowledge around the idea of transversality, has become relevant (Pozzoli, 2007). Nicolescu points out that this latter term has already appeared in the works of Jean Piaget, Edgar Morin and Eric Jantsch among others, and that it is now used to address complex realities, such as education (Nicolescu, 1996). In summary, this perspective aims to overcome the limits of interdisciplinarity in a totalizing attempt at the integration of levels of reality.

1.2. Spanish and foreign Communication journals and their relation to education

It might be of interest to investigate whether the scientific communication tools of Communication and

Education journals really reflect this theoretical relation. Taking into account that there are data available to enable the comparison of such behavior both at national and international level, the question is whether there exist specific features related to the behavior of Spanish Communication journals that significantly differentiate them from their equivalent journals in JCR, which are mostly non-Spanish journals. The analysis of the citations –both in terms of the cited and the citing publications– applied to Communication journals, and particularly in the case of «Comunicar», whose scope is the intersection of communication and education, could be a useful instrument for the analysis of theoretical-practical coherence, since citation behavior is a reflection of the behavior corresponding to the interest of specialist in a given field (Atkinson, 1984).

The various methodologies already in use for citation analysis include the so-called bottom-up approach, which make use of pre-established subject categories (Wagner & al., 2011), as in the case of Tomov & Mutafov (1996), or those which take as a starting point the mapping of scientific domains in order to characterize the interactions between scientific disciplines or clusters, formed by journals according to measures of similitude, such as Boyack (2004), Leydesdorff & Schank (2008), Rafols & Meyer (2010), Stirling (2007) and Leydesdorff & Rafols (2011).

Apart from the analysis of the subjects related to the citations received (in the case of Spanish journals) and in the citing and cited publications (in the case of non-Spanish journals), as well as the place occupied by citations from Education in each field, it is possible to obtain and analyze information on the Relatedness indicator, which is available in Thomson Reuters' Journal Citations Report. This indicator is based on the developments of Pudovkin and Garfield (2002), and takes into account the strength of the sets of citations given and received between pairs of journals, or when applied to a whole discipline, between a particular journal and the set of journals in that discipline.

It is a well-documented fact (Engels, Ossenblok & Spruyt, 2012; Giménez & Román, 2009, Nederhof, 1991; Archambault & al., 2006) that Social Sciences as well as Humanities have peculiarities in their behavior related to features such as the national environment and the preference for communication media other than journals. In some nationally delimited geographical settings, we can identify conditions and relations between disciplines that are substantially different to those observed between the same disciplines in other countries. Communication and Education are not an exception to this reality. For this reason, it is worth considering, with regard to the unique position of «Comunicar» (specialist in edu-communication, the intersection between Education and Communication, a field that is on the rise in terms of the number and relevance of papers published, [Repiso & Fonseca, 2012]), whether we can observe an intense citation relation between communication journals and education journals in Spain, whether this pattern can also be found in the international framework by observing the citation and relatedness patterns, and finally, if it is necessary to explore the consequences of the observed situation for Spanish Communication journals regarding their internationalization possibilities. It is also worth mentioning here that, as contextual information, the set of Spanish Communication journals is highly dynamic in its behavior for aspects such as citations, self-citation and interaction with Spanish / foreign journals (Fernández-Quijada, 2010).

The theoretical relation between Communication and Education can be observed in Spanish journals since the relevance of Communication papers for authors publishing in Education journals has been proved. In this sense, as has been detailed in the introduction, Education can be understood within an epistemological framework as a specific form of Communication, and the results confirm this theoretical relation since the number of citations from Education to Communication is considerably higher than vice versa.

2. Objectives

On the basis of the relation between Education, Communication and interdisciplinarity developed in

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the introduction, the first objective is to identify the degree of relation by topic between Spanish Education and Communication journals, taking into account the topic affiliation of the citations received by journals in both sets. In order to fulfill this objective, journals in each discipline will be characterized according to the pattern of received citations aggregated by the discipline of the citing journals. The database used for this purpose is the «Índice de Impacto de Revistas Españolas de Ciencias Sociales», IN-RECS (Impact Factor of Spanish Social Sciences Journals) in its 2009 version (the latest data available).

Considering the twin topic scope of «Comunicar» and the fact that it is indexed in the Journal Citations Report (JCR), the general pattern of citation exchange of the journal in that database will be analyzed from data available in its 2011 version. In this case, the pattern of aggregated citations by discipline of the citing and cited journals will be analyzed. In order to search for divergences in the behavior of «Comunicar», as well as assembling a comparative framework, the same analysis will be carried out for the whole Communication subject category. With the aim of analyzing the role of education as a discipline related to Communication, the values of the Relatedness for Communication indicator for journals will be structured in quartiles by its accumulated value, and the disciplinary composition of each quartile will be studied. The values of relatedness between Communication journals in the first quartile by impact factor in the JCR and Education journals will also be analyzed. Finally, both the theoretical-practical coherence of the hypothesized epistemological relation between Education and Communication and the possible existence of communication patterns obstructing the exchange of information between Spanish and non-Spanish Communication journals will also be explored.

3. Methods and materials

The source of information on Spanish journals is IN-RECS, in its 2009 version – a database that extracts impact indicators from the bibliometric data in Spanish Social Sciences journals, developed by the EC3 research group at the University of Granada. From this database, which has been selected since it provides specific information on the disciplines that cite any indexed journal, the information extracted and analyzed for all journals in Education and Communication subject categories (132 and 23 journals respectively) was the frequency of citations received from the different subject categories (hyperlinked from the text-citing disciplines-, available after accessing the website linked to each journal's title in the general ranking). In the case of «Comunicar», we discovered the disciplinary origin of citations given and received on the basis of the information in JCR 2011 (72 journals in the Communication subject category). The selection of the JCR as source of information for the analysis of non-Spanish journals derives from the fact that this database is relevant worldwide and the inappropriateness of the alternative, Scopus, due to the multiple gaps in its coverage of journals, which rendered this database unreliable as a source of information, at least at the discipline level (Jacsó, 2010). The analysis by JCR-derived information was carried out by aggregating the citing and cited journals according to the subject categories in which they are indexed in the database. Taking into account the possible co-classification of journals in various subject categories, both of the citing and cited journals as well as the journal under analysis (in the case of «Comunicar», the journal is in the Communication and Education & Educational Research subject categories), it is relevant to mention that: a) it is considered that a citing or cited journal belongs to the «Communication» subject category if that journal is classified, at least, in that discipline; that is to say, applying the «or» Boolean operator to the journal's classification; b) for the rest of journals included in the analysis, not classified in the Communication or Education & Educational Research categories, the discipline of the journal has been randomly chosen from among the disciplines in which that journal is classified. The reason for a random choice is the potential bias which a selection by the authors of this work could imply, and the fact that a fractional counting could spuriously increase the number of received citations. The discipline has been randomly selected by attaching a pseudorandom number between 1 and the maximum number of disciplines in which the journal is classified to the name of each of the disciplines, then selecting as the discipline to which the journal belongs all those with the number two. This procedure provides equiprobability in the choice for all cases on the same level of co-classification.

For non-Spanish journals, the information obtained was: abbreviated title and number of citations from/to cited/citing journals by the set of journals in the Communication subject category) in 2010, as well as the disciplines in which the citing/cited journals are indexed in JCR 2010. JCR 2010 was used in the case of non-Spanish journals, while the 2011 version provided the basis for the analysis of «Comunicar»; the reason for this being the availability of information for all subject categories in JCR 2010 and the scarce loss of comparability between the two versions, given its contiguity and the volume of information involved in the analysis. The procedure for the assignation of a discipline to the citing/cited journals has been, in this case, the same as the one applied to «Comunicar», its classification in the Communication subject category and in others places is it in Communication. The value of the Relatedness indicator, from discipline to each journal and in the opposite direction, has been captured for the set of journals in the Communication subject category, as well as the disciplines in which the related journals are classified. In the case of journals in the first Impact Factor quartile of Communication a frequency analysis was carried out, taking as an aggregation unit the discipline in which each of the journals with a Relatedness value (in its Rmax value) is classified.

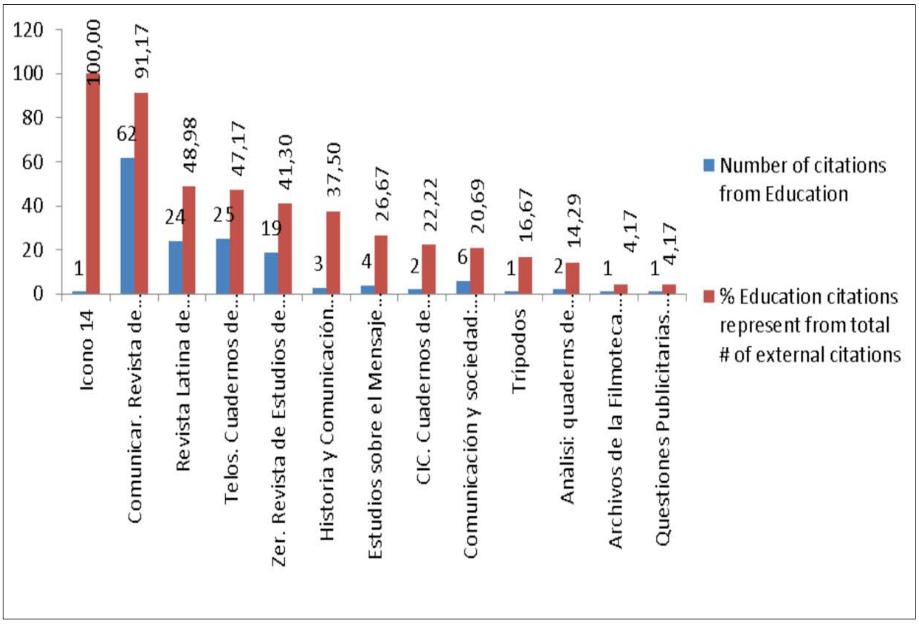

Chart 1. Number and percentage (in terms of the total number of external citations) of citations from Education journals received by Communication journals (1996-2009).

4. Results

Firstly, the results of the analysis of the origin of the citations received by Communication journals (IN-RECS 2009) from Education journals are presented. Taking into account that the number of citations is highly variable, the number of citations from Education to Communication has been expressed here as a percentage of the total number of external citations (citations which do not come from other Communication journals, except in the case of «Comunicar»).

As can be observed, partially due to its double topic classification, «Comunicar» has the highest number of citations from Education journals (the number of self-citations is 39). The journal «Icono 14», receives a single citation from Education journals, which therefore represents 100% of the references from that sector. Consequently, the role of «Comunicar» in the interaction between education and communication in Spain is remarkable. Among the non-education journals, «Revista Latina» and «Telos» are also highly relevant. In general terms, it can be stated that there is a relatively generalized relation between Communication and Education journals, with Communication journals being receptors of citations from Education journals, with percentages ranging from 4.17% to 100%, since 13 of the 23 Communication journals in IN-RECS 2009 have received, at least, one citation from Education journals.

The situation in the case of Education journals is, nevertheless, substantially different.

Despite the special situation of «Comunicar», indexed in both disciplines, and removing from the quantification in the chart all self-citations which would increase the number of external citations due to their analysis as citations from Education, the total number of external citations from Communication would be 12, which in practice shows that this journal has as the highest number of citations from Communication.

Aggregating citations received by the set of Communication journals by discipline of origin yields the following distribution pattern.

As the chart shows, papers published in the set of Spanish Communication journals are mainly cited by authors publishing in Education, Library & Information Science, Sociology and Psychology. However, the volume of citations coming from other journals in the same discipline is highly superior to the ratio of citations from journals in other disciplines: 615 cita-

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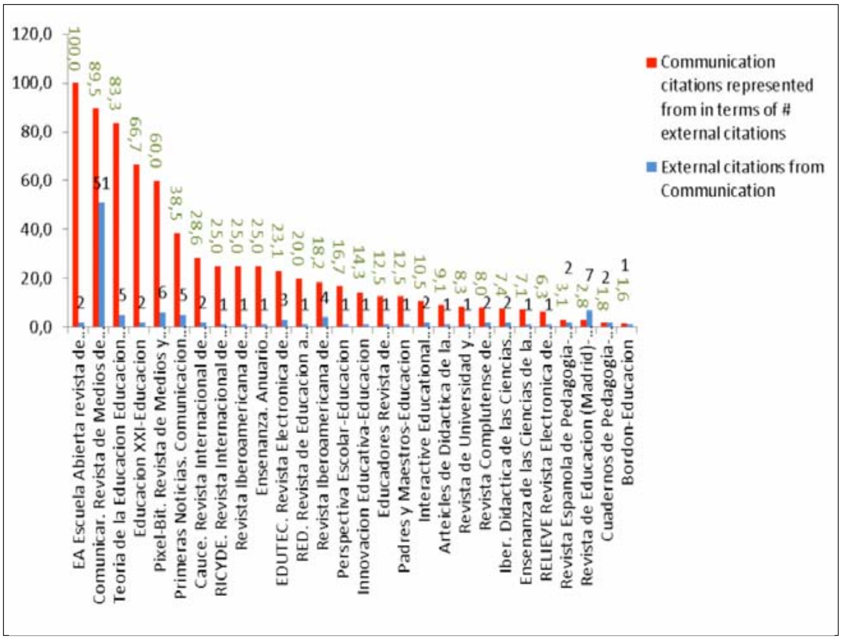

Chart 2. Number and percentage (in terms of the total number of external citations) of citations from Communication journals received by Education journals (1996-2009).

tions from other Communication journals against only 156 from Education journals, the second discipline by number of citations. Nevertheless, it is relevant to consider the comparability of this situation with the set of journals in the JCR Communication subject category.

According to the results, it seems clear that the behavior of journals in both sets (Spanish and non-Spanish journals) regarding the distribution of citations given and received (this variable is proportional to each node's diameter, except in the case of internal Communication citations and their place in the network) differs strongly from Communication journals in JCR 2010. Education & Educational Research occupies a distant position regarding the exchange of citations when compared to its Spanish counterpart (627 citations from Education & Educational Research to Communication journals, but only 205 from Communication to Education & Educational Research). By contrast, the closest discipline to Communication (apart from the discipline itself, with 9,014 citations distributed among the journals in the Communication subject category, which differs considerably from the findings of Reeves & Borgman, 2006, revealing a discrete 13% of citations from Communication journals to Communication journals, though their study was published in 1983) according to the citation pattern observed is Business (2,950 citations from Business to Communi-

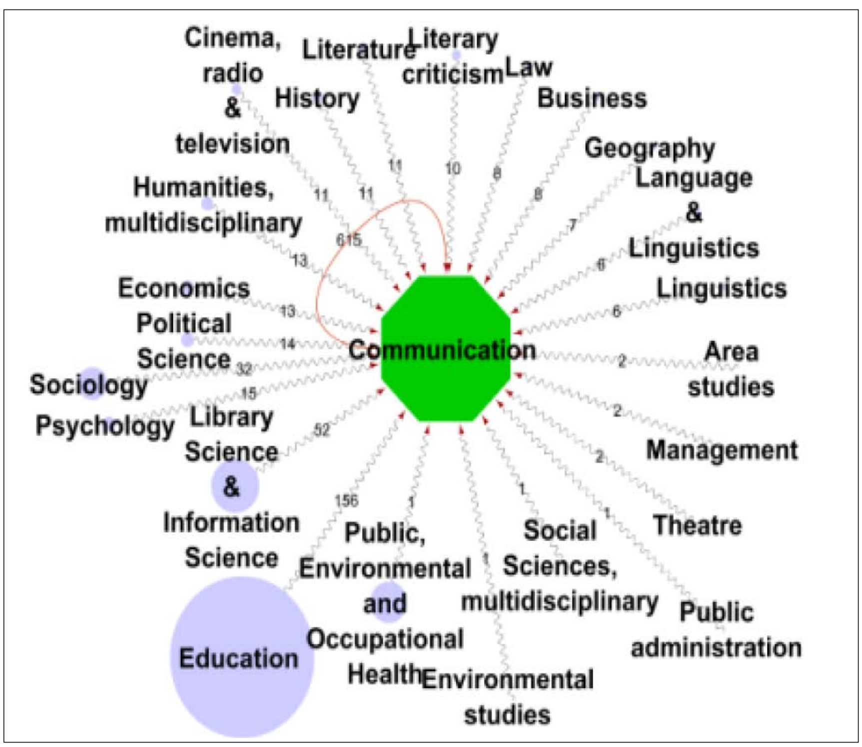

Chart 3. Distribution of citations received by Spanish Communication journals (IN-RECS), aggregated by citing discipline.

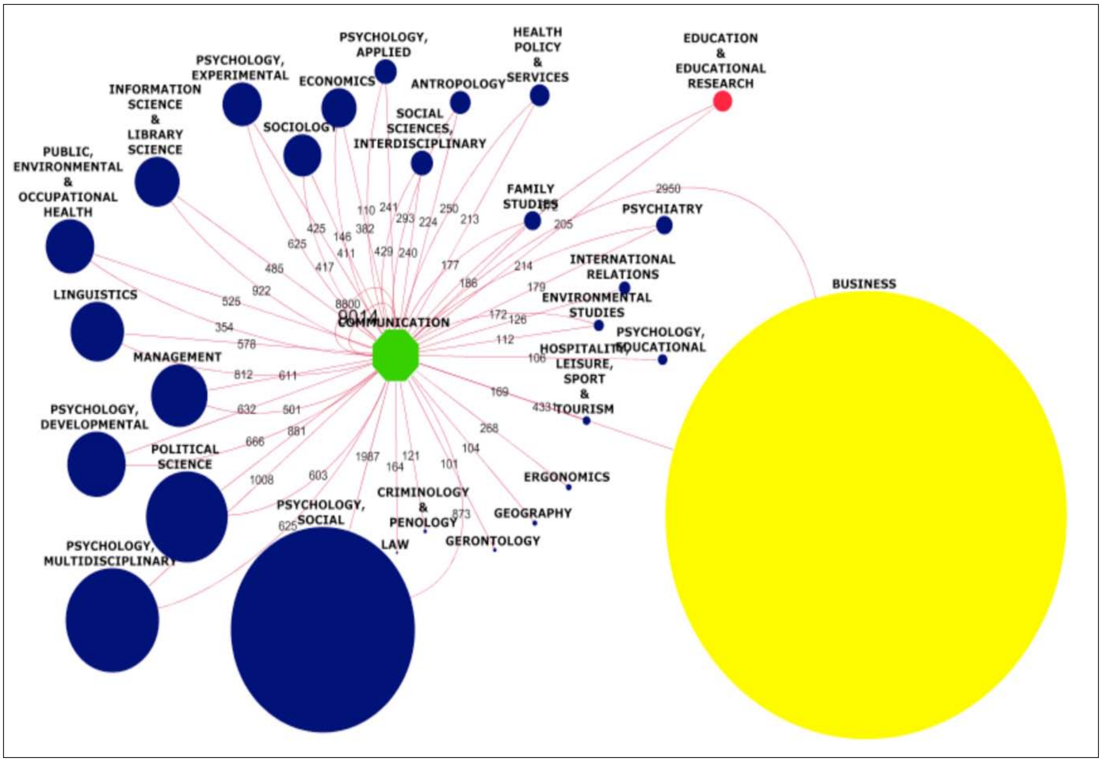

Chart 4. distribution of citations given and received by Communication journals (JCR 2010) grouped by journalsaccording to subject category.

cation journals and 4,331 citations from Communication to Business) followed by Psychology, Social, Psychology, Multidisciplinary and Political Science.

The structure of the research front in the set of non-Spanish journals clearly differs from the Spanish structure; the most important input is still, as in the Spanish case and in most disciplines, the set of journals in the same subject category, but the origin of the cited journals is very different, since not only the disciplinary structure of received citations is significantly different in its «nominal coincidence» but also in the nature of these disciplines: Business and Education differ in key aspects such as their methodology, study objectives and research aims. Communcation has been defined by Leydesdorf (2009) as a hybrid field between Political Science and Psychology which seems, at first sight, to differ from the concept of the Communication journal in Spain.

The question is what is the position of «Comunicar» within the international framework?. The following chart reflects the citations given and received for «Comunicar», aggregated by origin of discipline (JCR 2011).

The chart shows that the journal is strongly related to other journals in terms of JCR Communication subject category. Yet it is necessary to point out, that in citations given (sine-wave line) and received (curved line), the number of citations to and from the same journal is 75. Also of note is the presence of Education & Educational Research journals, which occupy second place in citations received.

The Relatedness indicator values, when applied to sets of journals in a given subject category, vary depending on the method of calculation according to whether a journal is considered in terms of a discipline or in terms of another journal. JCR provides a stable value for measuring this relation: Rmax, which consist of the highest of these values. Its value is proportional to the degree of relation between a given journal and a subject category, or vice versa. For the set of Communication journals in the JCR, we analyzed the value of Relatedness for each of the related journals and the set of journals in the Communication subject category, the inverse value (R from Communication, SC to each journal) and Rmax. Once the discipline of each related journal was identified, these journals were ordered according to their attachment to a quartile in the Rmax distribution. Therefore, journals in the first quartile would be those more closely related to the set of journals in the Communication subject category, and so on. We also analyzed the frequency with which journals of each discipline appear in each of the quarti-

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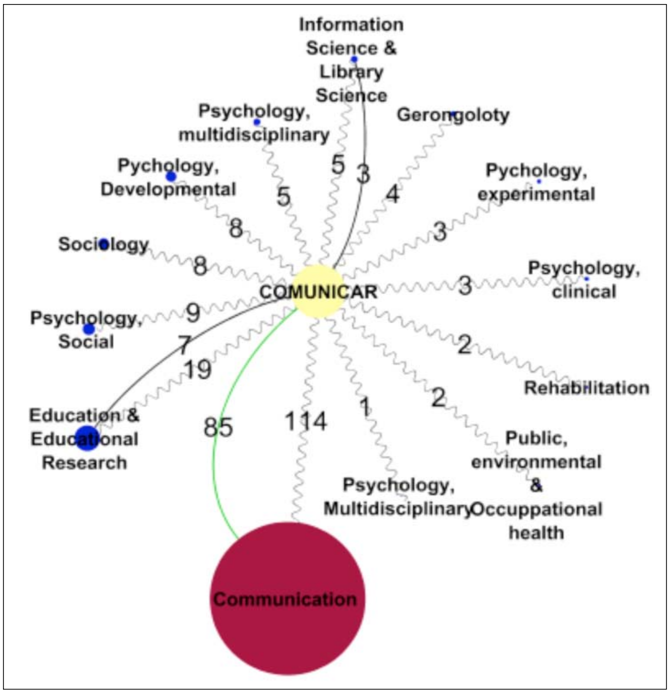

Chart 5. Citiations given and received for «Comunicar». Journals indexed in JCR 2011, aggregated by subject category.

les, obtaining the following results. (The inner circle represents the disciplinary composition of quartile 1 by Rmax, the second inner circle corresponds to quartile 2, and so on).

It is necessary to reach the fourth quartile before Education & Educational Research journals appear. Regarding the other quartiles, the set of journals in the first quartile are, predictably, Communication journals, as well as in the second and third quartiles, whereas there are none in the fourth quartile. It is possible to observe a rapid diversification in the number of different disciplines as the quartile number increases; that is to say, as the degree of relation to Communication journals diminishes. Also, it is important to note the numeric relevance of Business journals in all quartiles, even in the fourth, in which Communication is not observed, which reveals a deep relation across all strata.

In regard to the relation between Communication journals and other journals in the JCR Science Edition, the set of disciplines of the related journals are, by order of accumulated value: Public, Environmental & Occupational Health (13 journals, 19% of the total number of related journals), Computer Science, Information Sciences (9 journals, 13% of the total) and Computer Science, Cybernetics (5 journals, 7%). Given the multidisciplinary nature of Public, Environmental & Occupational Health, this relevant relation is not particularly conclusive. Nevertheless, the fact that Computer Science, Information Sciences is the second highest in terms of the number of related journals can be understood as a consequence of the publication of papers related to the underlying aspects of highly developed communication media in recent decades, namely information systems.

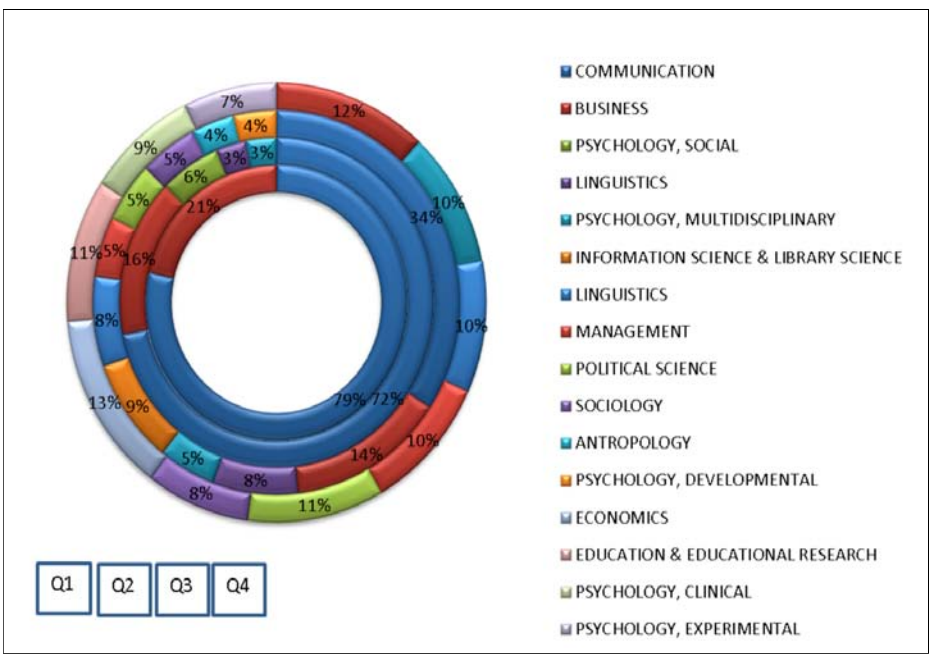

Chart 6. Frequency of appearance of journals related to the set of Communication journals according to the quartile to which they belong by Rmax ranking.

The analysis of the percentage which Education & Educational Research journals related to Communication (regardless its value) journals in the first quartile by Impact Factor in terms of the total number of related journals is further evidence of the weak link between both disciplines.

From a total of 16 journals in the first impact factor quartile in the JCR 2011 for the Communication subject category, only 7 Education & Educational Research journals have a Relatedness value.

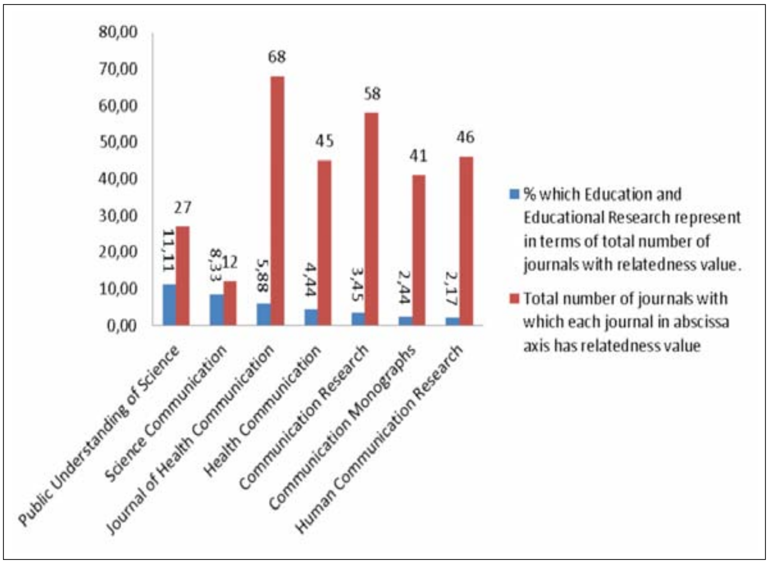

Chart 7. Percentage of Education & Educational Research Journals represented in terms of the total number of journals related to Communication journals in the first quartile by Impact Factor.

5. Conclusions and discussion

One immediate conclusion, directly derived from the evidence shown, is the relevant difference regarding the disciplines of the citing journals between Spanish and non-Spanish journals, and more specifically, between Communication and Education journals. It can be stated that the close interaction between Communication and Education is a characteristic feature of Spanish journals. The theoretical relation between Communication and Education can be observed in Spanish journals since the relevance of Communication papers for authors publishing in Education journals has been proved. In this sense, as has been detailed in the introduction, Education can be under stood within an epistemological framework as a specific form of Communication, and the results confirm this theoretical relation since the number of citations from Education to Communication is considerably higher than vice versa.

When looking at JCR Communication journals, not only is the relation between Education and Communication for Spanish journals invisible, but also the discipline that occupies that «privileged position», Business, strongly differs in basic aspects such as study objects, methodology and premises with its Spanish counterpart, and maintains a prominent position even beyond the discipline under study, Communication – which becomes evident when analyzing journals with low Relatedness to Communication journals.

«Comunicar», as a reference among Spanish Communication journals and, at the same time with regards to its far reaching, multidisciplinary scope, is a clear exception to the general rule in the JCR Communication subject category, since although not being the general pattern in its topic environment, it maintains close citation relations with Education journals in terms of citations received and given.

IN-RECS and JCR are two very different information systems, not only in the obvious aspect related to coverage and geographical / topic delimitation, but also in the classification structure used. This would represent a major problem if considering the possibility of carrying out more detailed comparative studies. Nevertheless, in the case of this work, the fact that external citations in IN-RECS are associated to the original name of the discipline in which the citing journals are indexed in the original system, it is a potentially interesting overlapping point between the names of the citing disciplines.

The implications of this difference for fruitful citation exchanges between Spanish Communication journals and those indexed in JCR (apart from «Comunicar»), are not conclusive, but point to considerable topic differentiation, which does not contribute to the this exchange in any way. One of the most revealing data supporting this paradoxical `communication difficulty´ between Communication journals in both sets might not be the fact that the relation with regards to Education journals is substantially different, but that the discipline with a higher number of external citations given and received for journals in the JCR (Business) does appear to be firmly in second place in the case of Spanish journals (with only 8 received citations).

For these reasons, it is necessary to find a «communication bridge» between both sets of journals. A discipline fulfilling the features for fitting such a role might be Library Science and Information Science (LIS). In the JCR, Communication journals gave 485 citations to LIS and received 922 LIS citations, while in the case of Spanish journals, Communication journals received LIS 52 citations, the latter being the second discipline with the highest citation intensity towards Communication. A hypothetical citation exchange between Spanish Communication journals and JCR LIS journals might serve as an indirect diffusion medium.

Finally, we confirm the highly interdisciplinary profile of «Comunicar» since, although there are strong differences between the citing/cited profiles of the journal and the set of journals in the JCR, «Comunicar» still maintains a close relation with Education journals.

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The Videoarticle: New Reporting Format in Scientific Journals and its Integration in MOOCs

El videoartículo: nuevo formato de divulgación en revistas científicas y su integración en MOOCs

ABSTRACT
The new training context in higher education is moving toward a new model of massive, open and free education through a methodology based on video simulation and students' collaborative work. Using a descriptive methodology, we analyze the formats and Web content presentation of 72 journals indexed in the Journal Citation Reports® (2013) in the field of communication, and their presence in the development of massive open online courses (MOOCs) at the leading global platform, «Coursera». The findings show that the vast majority of scientific journals in the field of communication offer few disclosure formats and are difficult to embed in new massive, ubiquitous and collaborative movements which use the self-created «audiovisual pill». Therefore, the integration of articles of international scientific journals in MOOCs is almost nonexistent. Journals are not taking advantage of the great potential of these courses for scientific divulgation, probably because its unique disclosure format is written text. Thus, we propose a new model for scientific publication which shares writing text format with the video article, social media outreach and new formats supported by mobile digital devices to foster greater international visibility of scientific development and social progress in an everyday, more interconnected and visual society.

RESUMEN
Los nuevos escenarios formativos en la educación superior se están orientando hacia un nuevo modelo de formación masiva, abierta y gratuita por medio de una metodología basada en la videosimulación y el trabajo colaborativo del estudiante. En este artículo analizamos a través de un estudio descriptivo los formatos de divulgación y presentación de contenidos de las 72 revistas indexadas del campo de la Comunicación en el Journal Citation Reports® (2013) y su presencia en el desarrollo de cursos online masivos en abierto (MOOCs) en la principal plataforma mundial «Coursera». Las conclusiones muestran que la gran mayoría de revistas científicas del campo de la Comunicación ofrecen pocos formatos de divulgación y poco integrables en los nuevos movimientos masivos, ubicuos y colaborativos que utilizan, como recurso principal, la «píldora audiovisual» de creación propia. El posicionamiento de las revistas de reconocido prestigio internacional es casi nulo y no se está aprovechando el gran potencial que estos cursos suponen para la divulgación científica; probablemente debido a que su único formato de divulgación es el texto escrito. Como consecuencia de esta situación, proponemos un nuevo modelo de divulgación científica que comparta el soporte escrito con el videoartículo, la divulgación en redes sociales y la difusión en formatos soportados por dispositivos digitales móviles que favorezcan una mayor visibilidad internacional del avance científico y social de manera más integrada en la sociedad interconectada y visual en la que vivimos.

KEYWORDS / PALABRAS CLAVE
Videoarticle, scientific publication, MOOCs, communication, journals, ubiquity, digital formats.
Videoartículo, divulgación científica, MOOCs, comunicación, revistas, ubicuidad, soportes mediales.

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1. Introduction

The current training scenarios in higher education are moving toward a new format that combines three basic principles: free-of-charge, massive and ubiquity (Cormier & Siemens, 2010; Berman, 2012; Boxall, 2012). These three principles are materializing with the acronym MOOCs (massive open online courses). The development of these courses, extended worldwide by their philosophy, opens a new concept of education and training and also a giant door to the scientific world (Anderson & Dron, 2011; Rodríguez, 2012; Regalado, 2012). This new type of formative macro-scenario stems from the philosophy of «open learning movement» which is based on four fundamental principles: redistribute, rework, revise and reuse (Cafolla, 2006; OECD, 2007; Bates & Sangra, 2011; Dezuanni & Monroy, 2012).

The presence of international refereed journals indexed in the most prestigious databases, such as Journal Citation Reports, Scopus or ERIH, perform a kind of academic scientific divulgation, exclusively in writing format, and this hinders its appearance in MOOCs, based on a video-simulation methodology with the format of «audiovisual pill» (Kukulska-Hulme & Traxler, 2007; Özdamar & Metcalf, 2011). From these new social, training and educational parameters, scientific disclosure should be positioned in a free movement to integrate new access formats and content creation to allow an effective divulgation of their contributions in the new training scenarios. This new scientific divulgation should be characterized by audiovisual and social content presentation, which opens massive international dissemination opportunities for authors and journals. For the development of these proposals, the scientific journal should advance on their reporting processes to combine traditional methods based on written format with interactive presentation in the form of video article and integrating within it the major contributions presented and developed in the written article. In this paper, we present a descriptive study in which we analyze the content presentation format, Web pages, and platform capabilities of the 72 journals in the field of communication indexed in the Journal Citation Reports and their presence in MOOCs offered by the most important global platform today, «Coursera». As a result of the study, we also discuss possible new forms of social and scientific divulgation grounded in the new mobile digital devices.

1.1. MOOC characteristics and their implications for the scientific journal

The MOOCs based on network distributed learning are based on connectivism theory and on its learning model. The MOOCs have been rated as «Direct to Student» by the Council for Higher Education Accreditation (Eaton, 2012; Boxall, 2012; Berman, 2012) and considered the most significant educational innovation in 2012 (Khan, 2012). The main reason for this consideration has been produced by the break in the hierarchical system of higher education. Instead of offering an elite education to a few college students (Harvard, Stanford, etc.), this new training system offers massive free training from two principles: ubiquity and collaboration among students. What really distinguishes these new training scenarios is the opportunity to access a free training and be taught, in many cases, by renowned professors (Fombona & al., 2011; Young, 2012; Vázquez, 2012). The germ that sparked this new idea was born in Stanford University with an initiative called «Stanford's AI Course» which resulted in three methodological approaches in the open education movement based on networks, tasks and content (Traxler, 2009; Ynoue, 2010).

The MOOCs based on network distributed learning are based on connectivism theory and on its learning model (Siemens, 2005; Ravenscroft, 2011). In these courses, the content is minimal, and the fundamental principle is network learning in an adequate context –from learner autonomy– to seek, create, and share information with the rest in a «node» of shared learning (Sevillano & Quicios, 2012). One theory is currently being questioned, but it serves to establish a starting point of learning from distributed nodes using the principles of autonomy, connectivity, diversity, collaboration, and openness (Downes, 2012). A model where traditional evaluation becomes very hard and learning focuses primarily on the acquisition of skills developed through social network conversations and contributions made by its members.

The MOOCs based on tasks are founded on students' skills in solving certain types of work (Winters, 2007; Cormier & Siemens, 2010). The learning is distributed in different formats, but there are a number of tasks that is compulsory to solve. Some tasks are able to be solved by many ways, but the student has to pass them to acquire new skills and be promoted to other modules. What really matters is student progress through different jobs (or projects). Such MOOCs are developed from a mixture of instruction and constructivism (Laurillard, 2007; Bell, 2011).

The content-based MOOCs present a series of automated tests and have great media coverage (Rodríguez, 2012). They are based on content acquisition system with an assessment model very similar to traditional classes (standardized tests and self-assessed). Their appeal comes from the participation of universities' renowned professors. The major problem with this type of MOOCs is the massive student treatment (without any individualization) and the teaching assessment based on a trial-and-error system already overcome.

These three types of MOOCs are grouped into two classifications: cMOOCs and xMOOCs (Downes, 2012). The first ones are based on network learning and tasks, and the second ones, based on content. The most widely developed –xMOOCs– promote a teaching methodology focused on video-simulation, autonomous learning, and collaborative and (self-) evaluation. Their key features are as follows.

• Free access with no limit on the number of participants.

• No free certification for participants.

• Instructional design based on the audiovisual content with support of written text.

• Collaborative and participatory methodology with minimal teacher intervention.

Current research considers that this new type of format still requires a more elaborate pedagogical architecture to actively promote self-organization, connectivity, diversity, and decentralized control processes of teaching and learning (deWaard & al., 2011; Baggaley, 2011). Therefore, these emerging training systems must overcome many shortcomings for a sustainable future construction, such as the economic management of the participating institutions, the accreditation of the education, monitoring of training, and authentication of students (Eaton, 2012; Hill, 2012). Alongside these deficiencies, they also have to face imminently a number of challenges:

• The content, conversations, and interaction dispersion; a dispersion is part of the essence of the MOOC, but it is needed to be organized and facilitated to the participants. The MOOC needs «content curators» (one who seeks, collects, and shares information continuously), automating and optimizing resources but keeping in mind that it is the students who must also filter, aggregate, and enrich the course with their participation.

• The lack of certification in some of them, which should lead to more innovative and flexible accreditation models of knowledge and adapted to the needs of a constantly evolving labor market. In this sense, the «badges» (representation of a skill or accomplishment, as an iconographic identification) can be an interesting item to test.

• The design of activities should face reflection on their own practice and instruction for the acquisition of new skills, rather than memorization of theoretical contents.

• Learning in a MOOC requires not only a certain level of participants' digital competence but also a high level of autonomy in learning, which is not always present in all the students.

• The integration of higher quality audiovisual content with reference in the scientific world, where video article would have greater penetration.

Everyone is aware that the mass movement objectives are not only based on altruism. Performing MOOCs enables free, quality, and global training, but accreditation is not always guaranteed (Eaton, 2012). The business is established in that accreditation, which requires a parallel evaluation to the free one. The overcoming of this assessment and the corresponding payment –n most cases– certifies the training. In this business model, the scientific journal, whose financial difficulties are well known to the international scientific community, has an opportunity for funding with its participation in the accreditation of courses in which they participate with their content. In turn, the MOOC organizers and course developers

This new scientific divulgation should be characterized by audiovisual and social content presentation, which opens massive international dissemination opportunities for authors and journals. For the development of these proposals, the scientific journal should advance on their reporting processes to combine traditional methods based on written format with interactive presentation in the form of video article and integrating within it the major contributions presented and developed in the written article.

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save their own production and give higher quality to the content provided on their platform as they come backed by the quality of the journal, its position in international databases, and the blind peer review process that ensures anonymity and quality of the scientific contributions. However, to materialize this process, the journal should move toward new disclosure formats more suited to the digital society and the principles of portability and ubiquity of these digital training environments (Aguaded, 2012; Area & Ribeiro, 2012). We can talk about a new era of knowledge: the «visual thinking» (Pérez-Rodríguez, Fandos & Aguaded, 2009).

2. Method

The method used in this research is descriptive of censal and quantitative character. The research aims to analyze two objectives:

• To test out digital formats of disclosure and interactive possibilities offered by the Web pages of JCR journals in the field of communication using a rubric of analysis.

• To analyze quantitatively the learning resources of 67 «Coursera» MOOCs related to the fields of communication, education, and humanities. The analysis aims to quantify the frequency of articles presented in these courses corresponding to communication journals indexed in the Journal Citation Reports.

For the first dimension, we developed and used the rubric of analysis (table 1) to analyze the Web pages of scientific journals with five quality levels (1: Very Poor, 2: Poor, 3: Average, 4: Good, and 5: Excellent) depending on formats, capabilities, and interactive possibilities offered. This classification was based on the results of the research project I+D+I (Ministry of Education: Research+Development+ Innovation Project with public funding), in which researchers have been rated the value of online reporting formats of Web pages to promote ubiquity and interactivity.

For the second dimension, we conducted a descriptive study of largest globally MOOC platform, «Coursera». The platform was founded by Daphne Koller and Andrew Ng, professors at Stanford University and obtained a funding of more than $25 million, and 37 universities worldwide are involved, offering over 200 courses grouped into 20 branches of knowledge. Today, there have been conducting courses for more than three million students, representing twice Spanish university students enrolled in 2012. For this study, we selected the four branches of knowledge offered in «Coursera» more related to the field of communication. We proceeded to pre-enroll in 67 courses to analyze the characteristics and materials (mandatory and optional) in the development of each course. We perform a quantitative study to show the frequency of occurrence of different reporting formats used in its development.

3. Results y analysis

The application of the rubric of analysis to analyze Web sites and reporting formats are shown in table 2 according to the standards established in the project. For its development, we proceeded to identify the editor and journal name by the partial percentage they represent of the total indexed JCR journals in the field of communication.

The results most notable of this classification can be specified in the following items:

• The percentage of journals that are qualified with low levels 1 and 2 is very high (N 57 = 77.77%), with few formats available and with little interactivity in social networks.

• It is noteworthy that one of the editors with the highest percentage of journals in the JCR «Sage» (20 journals in communication area) allows only the articles in HTML and PDF format and tracking numbers using RSS Feeds.

• The number of journals that can be considered as «good» are only three, which represents a small percentage of 4.16%. These journals are the ones that provide more interactive possibilities: «Comunicar»

Table 1. Rubric for analysis of online reporting formats of scientific journals

Value of online reporting formats of JCR® communication journals Web pages

	HTML Format	PDF Format	EPUB Format	Networks	Video Article	Forum	App	RSS
- Very Poor		x						
- Poor	x	x						x
- Average	x	x		x				x
- Good	x	x	x	x			x	x
- Excellent	x	x	x	x	x	x	x	x

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published by Group Comunicar, whose Editor-in-Chief is José Ignacio Aguaded, professor at the University of Huelva, that offers on its Web site different reading format for mobile digital devices (Epub) and complementary audiovisual material, and the journals «International Journal of Public Opinion Research» and «Public Opinion Quarterly» published by Oxford journals and whose editors-in-chief are Claes de Vreese (University of Amsterdam), James N. Druckman (Northwestern University), and Nancy A. Mathiowetz (University of Wisconsin-Milwaukee) that provide the possibility to display digital format in mobile devices (smartphone, tablet, etc.).

The results of the second dimension «Presence of the Communication journals in MOOCs» can be viewed in table 3, where we can find reporting formats employed and classified by type: videos, payment books, free books, free, and payment articles (we identified with symbol * articles indexed in JCR journals).

We can infer a number of considerations from the analysis of the data presented in table 3, among which, we highlight the following:

• The audiovisual pill between 5 and 15 minutes in video format is the most widely used learning resource in MOOCs (N 2308 = 93,51%).

• The percentage of both free and payment article is very low, and it does not represent more than 3.5% of total resources used in MOOCs.

• The percentage of articles belonging to journals indexed in the JCR is only 0.32%.

• The payment book (primarily offered online at Amazon Library) is the second most used resource but in a much lower percentage to the videos.

We believe that these new learning contexts can

Tabla 2. JCR® communication journals classification according to online reporting formats and interaction in Web pages

EDITOR/NUMBER OF JOURNALS IN JCR
LEVEL 1: VERY POOR (N 29 = 40,27%)
Editor: Sage (N 20 = 27.77%). Journals: Communication Research; Discourse & Communication; Discourse & Society; Discourse Studies; European Journal of Communication; Games and Culture; International Journal of Press-Politics; Journal of Business and Technical Communication; Journal of Language and Social Psychology; Journalism & Mass Communication Quarterly; Journal of social and personal relationships; Management Communication Quarterly; Media Culture & Society; New Media & Society; Public Understanding Of Science; Science Communication; Television & New Media; Visual Communication; Written Communication.
Editor: Springer (N 1 = 1.38%). Journals: Argumentation.
Editor: IEEE Prof. Com. Society (N 1 = 1.38%). Journals: IEEE Transactions on Professional Com.
Editor: Universidad Complutense (N 1 = 1.38%). Journals: Estudios Sobre el Mensaje Periodístico.
Editor: M.E. Sharpe (N 1 = 1.38%). Journals: International Journal of Communication.
Editor: European Institute for Comm. and Culture (N 1 = 1.38%). Journals: Javnost -The Public.
Editor: The University of Queensland (N 1 = 1.38%). Journals: Media International Australia.
Editor: John Benjamins Publishing Company (N 1 = 1.38%). Journals: Narrative Inquiry.
Editor: Uitgeverij Boom BV (N 1 = 1.38%). Journals: Tijdschrift voor Communicatiewetenschap.
Editor: St. Jerome Publishing (N 1 = 1.38%). Journals: Translator.
LEVEL 2: POOR (N 27 = 37,50%)
Editor: Routledge Journals, Taylor & Francis (N 20 = 40,27%). Journals: Asian Journal of Communication; Chinese Journal of Communication; Communication Monographs; Continuum-Journal of Media & Cultural Studies; Critical Studies in Media Communication; Ecquid Novi-African Journalism Studies; Health Communication; Information Communication & Society; Journal of Applied Communication Research; Journal of Broadcasting & Electronic Media; Journal of Health Communication; Journal of Mass Media Ethics; Journal of Media Economics; Journal of Public Relations Research; Journalism Studies; Mass Com. and Society; Political Communication; Quarterly Journal Of Speech; Research on Language And Social Interaction; Rhetoric Society Quarterly.
Editor: German Ass. of Communication Research (N 1 = 1.38%). Journals: Communications.
Editor: John Benjamins Publishing Co. (N 1 = 1.38%). Journals: Interaction Studies.
Editor: The Advertising Ass. by Warc. (N 1 = 1.38%). Journals: International Journal of Advertising.
Editor: Mary Ann Liebert Publishers (N 1 = 1.38%). Journals: CyberPsychology & Behavior.
Editor: Universidad de Navarra (N 1 = 1.38%). Journals: Comunicación y Sociedad.
Editor: Society for Technical Communication (N 1 = 1.38%). Journals: Technical Communication.
Editor: Mouton De Gruyter (N 1 = 1.38%). Journals: Text & Talk.
LEVEL 3: AVERAGE (N 12 = 16,66%)
Editor: Wiley (N 7 = 9.72%). Journals: Communication Theory; Human Communication Research; Journal Of Communication; Journal of Computer-Mediated Communication; Communication Theory; Human Communication Research; Personal Relationships.
Editor: Emerald (N 1 = 1.38%). Journals: International Journal of Conflict Management.
Editor: Advertising Research Foundation (N 1 = 1.38%). Journals: Journal of Advertising Research.
Editor: Intellect (N 1 = 1.38%). Journals: Journal of African Media Studies.
Editor: Elsevier (N 3 = 4.16%). Journals: Language & Communication; Public Relations Review; Telecommunications Policy.
LEVEL 4: GOOD (N 3 = 4,16%)
Editor: Oxford University (N 2 = 2.77%). Journals: International Journal of Public Opinion Research; Public Opinion Quarterly.
Editor: Grupo Comunicar (N 1 = 1.38%). Journals: Comunicar.
LEVEL 5: EXCELLENT (N 0 = 0%)

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serve as a starting point for many scientific journals to redefine its international position and open up new disclosure formats and obtain new financial opportunities. Scientific journals, offering open and payment article, should take advantage of this new scenario to reorganize its communication processes, facing new forms of scientific divulgation. In this scenario, the videoarticle constitutes one of the formats with highest potential, but today, no journal in the field of communication offers it on their pages or Web platforms. In table 4, we summarize the characteristics, challenges, and difficulties of the journal within the new macro scenario of open learning movement.

Tabla 3. Digital and printable resources for training in MOOCs (*8 articles indexed in JCR)

Area	Courses	Videos	Payment Book	Free Book	Free Article	Payment Article
Education & Social Sciences	5	N=135 87,09%	N=7 4,51%	N=1 0,64%	N=12* (2) 7,74%	N=0 0%
Humanities	35	N=1211 94,24%	N=36 2,80%	N=3 0,23%	N=32* (5) 2,49%	N=3* (1) 0,23%
Information, Technology, and Design	17	N=698 96,01%	N=22 3,02%	N=2 0,27%	N=4 0,55%	N=1 0,13%
Music, Film, and Audio Engineering	10	N=264 96,70%	N=7 2,56%	N=2 0,73%	N=2 0,73%	N=0 0%
Totales:	**67**	**N=2308 93,51%**	**N=72 3,22%**	**N=8 0,40%**	**N=50 2,98%**	**N=4 0,09%**

4. Toward new disclosure forms in scientific journals

The international scientific journals with high impact factors and indexed in renowned databases have an opportunity to redefine their processes of scientific disclosure and incorporate new media formats that can be projected on several devices from the principles of ubiquity and portability. To do this, the platforms and Web sites that offer journals' content should be rearranged to make them learning digital platforms and not just repositories of published articles. Our proposal consists of a journal platform that integrates, among other possibilities, the following features:

• Videoarticle: video presentation and explanation of the articles by the authors. A «videopill» from 5-15 minutes. Free access with license «creative commons» even in journals with format «pay per view».

• Academic forum: a discussion of the findings and methods used in each article by other researchers would be a new form of scientific reflection.

• Scientific chat: open to ideas and dissemination of registered researchers.

• Audiovisual monographs: the creation of audiovisual monographs could be associated to MOOCs, and in future, to the development of thematic courses.

• Youtube channel: a journal channel with their own themes and videos.

• Mobile APP: journals need to be adapted to mobile paging, e-reader, smartphone, and tablet. Thus, the journal and its production are fully visible and with quality in any digital device, which promotes the portability and ubiquity.

• Accessing video articles in scientific or general social networks and creating a specific account on Twitter for wider dissemination of scientific activity.

These platforms would represent a qualitative step of great importance to scientific journals. The video article finds in them the main disclosure format in conjunction with the written format. For its development, it should take into account some basic performance criteria (Ynoue, 2010; del-Casar & Herradon, 2011):

1) Duration of no more than 10-15 minutes. It is believed that this time is a good compromise that allows to develop the main parts of a scientific paper: introduction, theoretical framework, methodology, results, discussion, and conclusions.

2) High-intermediate level of technical content. The video article is a complement to the written format, containing all technical information, especially the research methodology. The video article must find a balance between lively exposure and scientific rigor in every idea, that it may be useful to the largest possible interested audience. A superficial treatment would provide very little educational value, and a very deep development could hinder its following in the training process.

3) Enhance the visual aspects as opposed to formal ones. This means that the process of developing ideas, even taking a deep mathematical support, will be projected through pictures appoggiatura (both real and animations), introducing the mathematical formulation only when it is absolutely necessary.

4) Use of digital speech by speech synthesis. There are two basic reasons that justify the adoption of this standard. The first one is practical, it is easier to adjust the length of the text to the evolution of the images than if it is done by a more conventional analogical

system. Furthermore, if necessary, it is simpler to reedit and modify a text fragment and incorporate to the video again using this technology (it can be done in few minutes) than perform a real face recording with a microphone (trying to maintain the same voice, reading speed, etc.) and then incorporate it again with the exact duration and at the precise point of the video matrix. The last option also requires more infrastructure and editing time. Fortunately, the state of digital voice synthesis allows a voice with an acceptable expression and practically no «robotic» effect. It also allows a language conversion very functional to enhance international dissemination of articles and possible integration into MOOCs in different languages.

Tabla 4. Open learning movement and scientific journals' characteristics, challenges and difficulties

	Open learning movement	Scientific journal
Characteristics	Learning for «all», collaborative, massive, video-simulation, free, support feedback, interdisciplinary, intergenerational, and international.	Open, payment, cataloging and indexing in databases, and international outreach.
Challenges	Accreditation, evaluation, dissemination of international relevant content, economic management of accreditation, and creative methodology.	Open platform, audiovisual presentation of the main contributions, collaborative spaces, discussion forums, content and adaptation to mobile digital devices.
Difficulties	Student identification, languages available, disclosure formats, and forum moderation.	Recording content by authors, digital repository of videos, Web location, language recording, and interactivity.

5) Dissemination via YouTube® platform. We have chosen this site as the Web location more adequate to spread and share the material created. Although other alternatives can be proposed (Moodle Web site of the journal, social networks, etc.), we consider that by capacity, image quality (up to 1920 × 1080 pixels maximum), and audio offered (AAC encoding with two channels at 44.1 kHz), global impact and capacity for online edition (to generate dynamic links among related videos) are the most appropriate channel for divulgation of video articles and their possible integration into MOOC educational experience.

5. Conclusions

The new MOOCs are meaning a new global way of training and a great opportunity to disseminate worldwide scientific production. In this paper, we have analyzed the incidence of written format (books and articles) in the development of MOOCs related to the communication field. The descriptive analysis shows how books or articles in written format have a very low incidence in these courses. Instead, video is the preferred reporting format because it uses a more dynamic, fun, and visual format. We have also analyzed and classified disclosure formats, features, and interactive capabilities of the platforms and Web sites of the 72 journals in the field of communication indexed in the Journal Citation Reports to analyze their compatibility with the new media and ways to access the information. The study concludes that the vast majority of journals related to the field of communication offer few disclosure formats and opportunities for interaction, making it difficult to position them in the digital world. Thus, the classification of the 72 journals in the field of communication indexed in JCR journals shows only three (4.16%): «Comunicar» (edited by Group Comunicar in Spain), «International Journal of Public Opinion Research» and «Public Opinion Quarterly» (edited by Oxford Journals) are positioned in appropriate quality criteria to meet a scientific divulgation in line with current technological principles. This should provoke a reflection about a change in scientific publication toward formats that enhance the classic written article with other media formats that encourage interactivity, ubiquity, portability, and integration into the new formats of higher education training.

These scenarios dominated by visual methods require resources like video article that converted into a « scientific pill», and also, an «educational pill» has many possibilities for disclosure in open courses, in university educational platforms, as part of curriculum of different subjects and also can be a powerful claim for the international divulgation of the journal. Furthermore, if scientific journal advances in formats and resources adapted to the new digital mobile devices (smartphones, tablets, etc.) and incorporates new forms of collaboration and interaction in social networks, promoting the development of new audiovisual channels, it will adopt a role partner and modifier of scientific thinking in the information society, and the informative dimension of scientific thought will acquire greater international relevance.

6. Prospective

The field of MOOCs is a new area of development that is constantly evolving, and it is beginning to generate new areas of research. The Erasmus consortium is designing a large multilingual portal from over 4000 member institutions to disseminate massive courses, and it is scheduled to start by 2014. The aim is not only to offer courses but interconnect knowledge, research, and transfer of results between universities and where the ubiquitous and mobile audiovisual format will be a priority.

Notes

[1] Web sites JCR journals Rubric of analysis has been developed and evaluated by the researchers that make up the project I+D+I outlined in the section of «acknowledgments».

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Methodological Approaches to Study of Interactivity in Communication Journals

Propuestas metodológicas para el estudio de la interactividad en revistas de comunicación

ABSTRACT

The aim of this paper is to map out the research around the concept of interactivity, as well as to point out the dominant streams and under-researched areas. It is based upon the content analysis of methods employed in articles published in five top-ranking communication journals over five year period (2006-10). The review of methods applied in research of interactivity is based upon distinction between social interactivity, textual interactivity and technical interactivity. This classification is further developed by adding the category of levels of interactivity, which allows further classification of different mediated practices. This leads to specification of nine theoretical subsets of interactivity as the main categories of the analysis of research articles. Within this matrix we have situated diverse methods that respond to conceptually different types and levels of audience/users interactivity. The analysis shows that scholarly focus lies within the low textual and the high social interactive practices, whereas the high technical and high textual interactivity are under-researched areas. Investigations into the audience/users relations with texts are mainly orientated towards content analyses and surveys. High social interaction research is reviving the application of ethnographic methods, while the possibilities of technical interactivity are embraced not as an object but as a tool for research.

RESUMEN

El objetivo de este artículo es trazar las investigaciones alrededor del concepto de la interactividad e indicar las tendencias dominantes y las áreas poco investigadas. Está basado en el análisis del contenido de los métodos utilizados en los artículos publicados en las cinco revistas de comunicación más importantes por ranking durante un periodo de cinco años (2006-10). La evaluación de los métodos aplicados en la investigación de la interactividad se basa en la diferencia entre la interactividad social, la interactividad textual y la interactividad técnica. Se desarrolla esta clasificación de forma más profunda al añadir la categoría de los niveles de interactividad, lo cual permite una clasificación adicional de las varias prácticas medidas. Todo esto conduce a una especificación de nueve subconjuntos teoréticos de la interactividad como las categorías principales del análisis de los artículos evaluados para esta investigación. Dentro de esta matriz, hemos situado varios métodos que responden a unos tipos y niveles de interactividad del público que son conceptualmente diferentes. El análisis demuestra que los investigadores se centran en las prácticas de la interactividad textual baja y la interactividad social alta, mientras que la interactividad técnica alta y la interactividad textual alta suscitan poco interés entre los académicos. Las investigaciones de las relaciones del público con los textos se orientan principalmente hacia el análisis del contenido y las encuestas. La investigación de la interacción social alta está reactivando la aplicación de los métodos etnográficos, mientras que las posibilidades de la interactividad técnica se aceptan no como un objeto de estudio sino como una herramienta de investigación.

KEYWORDS / PALABRAS CLAVE

Interactivity, digital communication, research, methods, journals, top-ranking, papers.
Interactividad, comunicación digital, investigación, métodos, revistas, top-ranking, artículos.

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1. Introduction

The advancement of communication technologies brought about new modes of communication in the public domain, new paths and fluxes of messages' intersections, transforming the linear model into what Gunter (2003) summed up as a one-to-one, one-to-many, many-to-many and many-to-one model of public communication. The transformation of communication technologies «empowered» the previously passive audience with tools to alter/collaborate in creator content, involve/pace social interaction with the author/audience and to take part in the technological or architectural structure of media by producing new/unlocking present digital codes. Interactivity, although a highly contested concept in media and audience studies, becomes rather useful for interrogating the roughly sketched transformation of the communication social system and of the audience as its inherent part.

This article will view interactivity as differentia specifica that exceeds and encompasses changes that shape the new media ecology. Its aim is to map out the research around the concept of interactivity, to point out the dominant streams and under-researched areas and to situate diverse methods that respond to conceptually different types and levels of interactive practices.

2. Concept of Interactivity

The starting obstacle in investigating interactivity is the problem of circumscribing and operationally defining the concept. Although it has been in focus for almost three decades now, even the recent scholarly examination of interactivity starts with concept explanation (Sohn, 2011; Koolstra & Bos, 2009; Rafaeli & Ariel, 2007; McMillan, 2002; Kiousis, 2002). A review of previous research shows that the obstacles can be placed in three groups:

First, the concept is theorized and used in a multitude of disciplines ranging from computer science, information science, advertising and marketing to media studies. Therefore it is defined from numerous perspectives.

Second, there is a difference between feature-based versus perception-based interactivity. Different authors defined interactivity either as a structural element of the medium (Manovich, 2001), or as a perception variable in the mind of the user (Wise, Hamman & Thorson, 2006). In the context of this article we will avoid this dispute by arguing that actual interactivity cannot be strictly contrasted to perceived interactivity as a psychological state experienced by the user. Or as Rafaeli and Sudweeks (1997, cited in Cover, 2006: 141) state, interactivity is not a characteristic of the medium, but a process-related construct about communication.

The third is the dimensional character of interactivity. The multidimensionality of the concept was variously determined by interrelations between: frequency, range, and significance; direction of communication, user control, and time; speed, range, and facilitating users' manipulation of contents; or by degree of sequential relatedness among messages (Jensen, 1999).

Szuprowicz (1995) introduces a more unified approach and identifies three dimensions of interactivity: user-to-user, user-to-documents, and user-to-computer (user-to-system). This approach can be a good starting point for further exploration of the interactivity because it examines audience relations with three crucial components of every mediated communication – content, other participants and technology. Furthermore, the conceptualization of interactivity through these three dimensions leads to a framework that is inclusive of many different perspectives and approaches, and provides a rather large umbrella needed for this research. Having that in mind, we take up the presented dimensional treatment of interactivity which we will label:

- Social interactivity (interaction among users).
- Textual interactivity (interaction between user and documents).
- Technical interactivity (interaction between user and system).

Another contested issue in the media theory and research is the degree or level of interactivity. Essentially, there is a question of how much interaction with other users, texts and systems can be achieved. First Kayany, Wotring and Forrest (1996) and later McMillan (2002) suggest that users exert relational (or interpersonal), content (or document-based) and process/sequence (or interface-based) type of control. Although in McMillan's framework the level of control is not the only dimension of interactivity, it is the only one relevant to all types of interaction.

In line with these arguments, we propose that interactivity, defined as control over text, social interaction and medium, can be subdivided into three levels: low, medium and high, defined by the control users are able to exert. This means that within each type of control, different degrees can be identified and analysed.

If we think about interactivity as a continuum of different practices, the activity of the audience as recipients in classical mass communication flow would be at the lower end, while actions similar to those of producer or participant in interpersonal communication would be at the opposite, high side. In some practices, the audience does not have the possibility to control any of the three dimensions of interactivity. For example, they cannot initiate communication, alter text, or influence other participants in communication. We argue that this is not a situation of zero control because even in the typical mass communication situation, audience members can stop the communication or interpretatively control media texts. These low levels of interaction are seeds of what will grow into higher levels of audience control (Cover, 2006).

Table 1. Types and levels of interactivity

	Textual	Social	Technical
Low	'Reading' the text, with no possibility of changing it: Typical mass communication	Centre-to-many, many have no control over interaction: Para-social interaction with 'author'	No manipulation of media architecture: Classic mass communication model
Medium	Co-creation of text, based on the selection of the already available items: Browsing through hypertexts, making narrative choices	Centre-to-many, many have the possibility to partially control the interaction: Some genres and forms of typical mass communication (live program, in program texting, audience 'comments'	Manipulation of media architecture within the pre-given limits: Adjusting settings, customization
High	Co-creation in which the text is the product of multiple users: Wikipedia, modifying gaming texts	Public communication of many-to-many who have equal control over the interaction: Forums, Wikimedia	Manipulation of media architecture beyond the given limits: Changing video game codes

The medium level of interactivity refers to the activities in which the audience exercises control, but within pre-given parameters and rules. In terms of social interactivity, this means that authors have envisaged and provided channels for users to respond and maintain interaction. The textual medium interactivity is typically related to those situations in which users are invited to actively participate in the construction of media content. In the case of technical interactivity, medium control should be seen as producer provided opportunity to participate in the co-construction of some parts of media architecture. The high level of interactivity assumes freedom achieved by the users themselves, contrary to the desired level of control which the producer-creators want to keep.

The intersection of the outlined dimensions of interactivity with the additional levels of control (Table 1) assembles the theoretical model of interactivity which will be used in this article to investigate trends and methods employed in communication research.

3. Method

The selection of the communication journals for any study is faced with one general and one subject specific problem. The general problem is related to the controversy around journal evaluation, in scientometrics and academic circles. After decades of prevalence of the journal impact factor (JIF) applied to the journals from the Web of Science data base, in the last ten years new methods have started to emerge (e.g. h-factor (Braun & al., 2006), EigenfactorTM (www.eigenfactor.org), Article-Count Impact Factor (Markpin & al., 2008) and others. However, there is no agreement on the common method as all of them favour some and neglect other journal characteristics (Bollen & al., 2009). Aware of its limitations, we still opted for JIF as the criteria for inclusion as it is most commonly used in the analysis of communication journals (Feely, 2005) and because it is widely used by promotion and grant review committees (Kurmis, 2003). Journals with higher JIF will be more frequently read, used and cited and, as such, they set trends in research.

Journal Citation Report (JCR) of the Web of Science, the last report available at the time of research, included 55 journals in the Communication field for 2009. The subject specific problem with this list is that it reflects diversity of intellectual traditions and atomization of research domains within the communication scholarship. In order to capture a wider array of interests in the field we have selected the journals which, according to Park and Leydesdorff (2009), fall into the «sector of communication research». Among the first ten highest ranking journals (based on their JIF), those were Journal of Communication (IF 2.415, ranking: 2/55), Human Communication Research (IF 2.200, ranking: 3/55), Communication Research (IF 1.354, ranking: 8/55) and New Media and Society (IF 1.326, ranking: 10/54). General psychology and health-related psychology, as two other primary sectors among communication journals (Park & Leydesdorff, 2009: 169), were excluded. An exception from this criterion was made with the Journal of Computer-Mediated Communication (IF 3.639, ranking: 1/55) because it was first on the JCR for

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2009, it is published by the biggest communication research association ICA, and, most importantly, because its thematic scope promised research in computer-mediated interactive forms. To achieve a representative sample for analysis of trends and methods we analysed papers published during a five-year period, between 2006 and 2010.

In selecting the sample of articles, standard bibliometric research through key words proved insufficient, as in some papers interactivity was not explicitly mentioned, although some aspects were investigated. We included papers which took interactivity into account as an element of the communication process, with or without explication of the term. Second, we were interested in the articles presenting empirical research, because the aim of this paper is to provide insights into methods employed for different types and levels of interactivity. The third criterion was that the object of analysis is public or semi-public communication. In line with the proposed typology, we decided to preserve the minimum condition of «audiencehood», although acknowledging the change indicated by the new terms such as consumers and users. Using these criteria, 98 articles were selected for further analysis

We analysed the content of selected papers using NVivo9 as a software tool. Dependent variables of the code were types of interactivity (social, textual, technical) and levels of interactivity (low, medium, high). Coding was done by the authors. To develop precise definition of variables and resolve dilemmas authors thoroughly discussed 10 articles that were included in inter-coder reliability sample. Additional 40 papers were subject to inter-coder reliability testing. The discrepancies were resolved by simple majority rule (2 of 3) and these 50 papers became part of the full sample. Since inter-coder reliability, calculated using average pairwise per cent, was 0.93 (Table 2), the remaining 48 articles were coded independently.

For the frequency of methods employed in empirical research we adopted a slightly different approach. Using NVivo software we coded information on the methods as they appeared in the articles. Since this information is explicitly provided, the nodes and subnodes for each method were added as it appeared in an article.

Table 2. Inter-coder reliability values

	Social Low	Social Medium	Social High	Low Textual	Textual Medium	Textual High	Technical Low	Technical Medium	Technical High
Agreement percent	0.97	0.93	0.92	0.94	0.9	0.93	0.97	0.91	0.97

4. Findings

Within 98 analysed articles, the majority of papers are published in the Journal of Computer-Mediated Communication, New Media and Society and Communication Research (table 3). No significant trend can be traced when it comes to research interest into different types and levels of interactivity, at least not in the five year period (table 3). However, our sample shows that there is a constant interest into interactivity in general, since the article distribution per year varies only 6%, from the lowest 17% in 2006 to the highest 23% in 2007.

Authors are interested in the low textual and the high social interactivity, while it can be observed that technical interactivity is an under-researched area (Table 4). There are only two articles in which all types of interactivity are accounted for. In terms of methods, they present survey based research interested in general usage of the features of web communication. There are further 12 articles in which two types of interactivity are considered as important, and in majority of them (10 out of 12) it is a combination of social high and technical medium interactivity.

The table 5 shows distribution of methods of research within the matrix of the types and levels of interactivity. In the next section we will discuss it further.

4.1. Textual interactivity

Classified under the subset of low textual interactivity are the papers in which researchers focus on text rather than audience activities. Activities with hypertext and multi-narratives are considered as medium interactivity, while co-creation of the content is regarded as a highly interactive act. The researchers follow the dominant stream of communication research loo-

Table 3. Interactivity research in the selected journals

	2006	2007	2008	2009	2010	Total
Journal of Computer-Mediated Communication	5	9	5	3	6	**28**
Journal of Communication	4	5	1	3	1	**14**
Human Communication Research	0	3	2	1	4	**10**
New Media and Society	2	4	9	6	5	**26**
Communication Research	7	2	4	4	3	**20**
Total	18	23	21	17	19	**98**

Table 4. Types and levels of interactivity in the analysed articles per year	Social			Textual			Technical		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
2006	0	0	7	7	1	1	0	4	0
2007	0	3	11	5	5	0	0	1	0
2008	0	2	13	2	2	3	0	2	0
2009	1	3	9	4	4	0	0	4	0
2010	0	1	8	6	5	0	0	1	0
Total	**1**	**9**	**48**	**24**	**17**	**4**	**0**	**12**	**0**

* The total number is higher than the number of articles, because in 14 articles there is more than one type of interactivity.

king at content without audience involvement (table 4).

4.1.1. Low textual interactivity

Media effects paradigm is a dominant theoretical framework in dealing with the low textual interactivity practices. Researchers are interested in: a) the effects of a particular type of media content (e.g. cosmetics surgery makeover program, entertainment TV organ donation stories) on audience behaviour; and b) the impact of certain textual features (sources, narrative types, presentation, characters' gender) on the audience. The new media audiences are treated in low textual interaction, leaving aside the possibilities offered by the digital medium. For example, even computer games are researched as any other type of media content, without any acknowledgement of user role in creating narration or adjusting the settings (Ivory & Kalyanaraman, 2007; Williams, 2006).

Audience behaviour was also approached from the uses and gratifications perspective in order to research the particular aspects of media use, such as gratification in watching movies (Oliver & Bartsch, 2010), motives for participation in phantasy sport competitions (Farquhar & Meeds, 2007), or patterns of the use of a web site (Yaros, 2006).

Two methods dominate the research into the low textual interactivity – survey and experiment. While survey is used to gain knowledge about television and new media audiences-users, the experimental design is almost exclusively applied in order to investigate the internet and gaming behaviour. The results indicate that in computer-mediated communication, novel ways to manipulate text in order to examine effects of messages emerge. This manipulation allows researchers to control textual features and examine audience responses with higher precision and certainty (Yaros, 2006; Knobloch-Westerwick & Hastall, 2006).

Qualitative research was rarely conducted and it is an exception from the dominant pattern. For example, Buse (2009) finds it the most appropriate for investigating how computer technologies relate to experiences of work and leisure in retirement, while Kaigo and Watanabe (2007) qualitatively analyse reaction to video files depicting socially harmful images in a Japanese internet forum.

4.1.2. Medium textual interactivity

Research into the medium textual interactivity is targeting new media, dominantly web sites and online forums, with two exceptions focusing on computer games. The audience activities that were attracting interests were information seeking, especially related to health issues (Ley, 2007; Balka & al., 2010), and hypertext reading.

Tracking user behaviour through web behaviour recording programs is the frequently used gathering technique in researching medium textual interactivity. Tracking is organized either in the natural setting of the users (Kim, 2009) or, more often, in laboratory controlled and generated conditions (e.g. Murphy, 2006; Tremayne, 2008). To provide additional information about the meaning of computer collected data, researchers need insight into the motives and intentions of participants. Surveys are often used for that purpose (Wu & al., 2010; Wirth & al., 2007; Kim,

Table 5. Methods applied for different levels and types of interactivity								
Methods	Social			Textual			Technical	
	Low	Medium	High	Low	Medium	High	Medium	Total
Survey	0	0	10	11	6	0	6	33
Online survey	1	3	8	7	2	1	2	24
Social network analysis	0	0	6	0	0	0	1	7
Q methodology	0	0	0	1	0	0	0	1
Content analysis	0	4	11	1	2	2	1	21
Experiment	0	1	18	10	10	1	9	49
Ethnography	0	1	6	0	1	0	0	8
Qualitative text/discourse analysis	0	0	9	1	3	0	1	14
Total	**1**	**9**	**68**	**31**	**24**	**4**	**20**	**157**

2009), but talk aloud protocols or measurement of physiological responses in an experimental setting (Weber & al., 2009) are sometimes used instead.

There are also already established methods that were harder to achieve in previous media environments, such as gathering written narratives from the audience, by e-mails, forums and blogs. Also, content analysis is used to get insight into participants' selections and navigations while using a search engine (Wirth & al., 2007) or into gamers' behaviour (Weber & al., 2009).

4.1.3. High textual interactivity

With only four articles, it seems that collaborative content creation is rarely within the range of researchers' interests. Two types of Wiki content are explored – Wikinews (Thorsen, 2008) and Wikipedia (Pfeil & al., 2006), both based on a content analysis of collaborative products, but not on the processes through which the content is co-created. Cheshire and Antin (2008) used the internet field experiment in order to research the correlation between the feedbacks that an author receives and her/his willingness to post again. Citizens' readiness to incorporate their own content into local online newspapers was explored using online survey (Chung, 2008).

4.2. Social interactivity

For a long period of time social interactions were researched mostly from the perspective of sociology and psychology interested in unmediated interpersonal communication. Nowadays, this is a relevant topic for media studies, as new technologies enable interpersonal encounters in mediated settings. The boost of forums, social networks and similar social platforms caused significant interest among scientists and our findings confirm that. The majority of articles refer to the different aspect of practices that are labelled as high interactivity because they are the most similar to face-to-face communication which is the prototype of the highest possible interaction. The number of articles that belong to the category of medium social interactivity is more than five times smaller (see Table 3). Para-social interaction with the 'author 'defined as the low social interactivity, is missing from the research. This is understandable because in the new media environment there is real, sometimes even high, social interaction with the typically distant communicators (celebrities, journalists etc.).

4.2.1. Medium social interactivity

Medium social interactivity is present when audiences have the opportunity to communicate with the authors of media content by sending comments or taking part in live programs, thus having partial control over the interaction. The shift from typical mass media audience to blog audience is evident and logical, because the medium social interaction is embedded in the definition of the blog. The behavioural patterns and attitudes of blog users were researched using online surveys (Sweetser & Kaid, 2008; Kelleher, 2009). The use of online journal style web log was an object of a case study, which included long term participant observation and in depth interviews (Hodkinson, 2007).

Content analysis of comments on blogs, news sites or YouTube is rather vivid in this area of research, so text is used as an indicator for the medium level of social interaction (Robinson, 2009; Antony & Thomas, 2010). Compared to the traditional content analysis, the scope of the mentioned studies has increased significantly. For example, employing semi-automatic methods to detect frequency of certain words during crisis, Thelwall & Stuart (2007) used evidence from postings blogs and news feeds. Online posts were also used to assess the salience of different opinion frames with that of different media frames, as in agenda-setting research (Zhou & Moy, 2007).

Similar to manipulation of texts, there are social experiments in creating blogs and observing participants behaviour. For example, Cho & Lee (2008) have created discussion board for students from three distant universities and analysed posting frequency in relation to socio-cultural factors.

4.2.2. High social interactivity

Social interactions through different online social networks, or rather high social interactivity, prove to be the richest field of investigation in communication journals. Two main methods of research are employed, depending on the authors' orientation towards either control (experiment) or naturalism (ethnography). Experimental design is usually followed by surveys, and ethnography by in-depth interviews. Field experiment emerges as a method designed to include elements of both.

Ethnographic tradition has flourished in the past twenty years, partly due to the emergence of numerous online communities. In the articles analysed, virtual ethnography methods range from observing online communities to exploring their connections with everyday life. By engaging in online mothering group, Ley (2007) studied the significance of the site architecture for members' commitment to their online support groups, while Campbell (2006) researched interaction among skinheads in a news group. Takahashi (2010), on the other hand, observed his informants' everyday lives in front of the screen settings as well as their on-screen everyday lives through social networking sites.

Behaviour observation is often situated in experimental, not in a natural environment. Nagel & al. (2007) created the virtual online student Jane in order to improve students' online learning success. Potential of networked technologies to facilitate different aspects of young people's civic development was explored using Zora, a virtual city, in the context of a multicultural summer camp for youth. Eastin & Griffiths (2006) used six virtual game settings to study how game interface, game content and game context influence levels of presence and hostile expectation bias. In experimental research the creation of a virtual self, an avatar is exploited as one of the behavioural indicators. This is a part of the wider research interest in multi-user virtual environments (MUVE). Yee & al. (2009) found that people infer their expected behaviours and attitudes from observing their avatar's appearance, while Bente & al. (2008) integrated a special avatar interface into a shared collaborative workspace to assess their influence on social presence, interpersonal trust, perceived communication quality, nonverbal behaviour and visual attention. Schroeder & Baileson (2008: 327) summarized the MUVEs advantages for research: subjects and researchers do not need to be co-located; virtual environments allow interactions that, for practical or ethical reasons, are not possible in the real world; all verbal and nonverbal aspects of the interaction can be captured accurately and in real time; and the social contexts and functional parameters of interactions can be manipulated in different ways. In communication journals MUVE research is used to advance our knowledge of mediated social behaviour and its transfer to offline situations.

Recording participant behaviour is a rather exploited advantage. Although large volumes of data can be easily collected in an objective and automated way, they offer «thin» descriptors because data recording devices on the Internet track only some aspects of the users' behaviour. In order to get a richer picture of the phenomena under study, authors are using a combination of nonreactive data collection procedures (like log file data) with auto perception data. There are many authors who use these complementary data gathering techniques and triangulate them to achieve higher validity of results. For example, Ratan & al. (2010) linked survey data with unobtrusively collected game-based behavioural data from the Sony Online Entertainment large back-end databases.

Social interactions through different online social networks, or rather high social interactivity, prove to be the richest field of investigation in communication journals. Two main methods of research are employed, depending on the authors' orientation towards either control (experiment) or naturalism (ethnography). Experimental design is usually followed by surveys, and ethnography by in-depth interviews. Field experiment emerges as a method designed to include elements of both.

4.3. Technical interactivity

Technical interactivity in the five analysed journals can be labelled as the 'black hole' in communication studies. Neither low interactivity, defined as zero control over technical characteristics of medium or medium structure, nor high technical interactivity, which includes modifications of the medium beyond the pre-given media options, receive any attention at all.

4.3.1. Medium technical interactivity

Medium technical interactivity which includes user control of the medium or system within pre-given possibilities is rarely researched on its own. Rather, it can be said that researchers have embraced various customization and personalization opportunities not as an object of research but as a tool to analyse other aspects of communicative behaviour. Scholars used technical interactivity either as independent variable in experimental design in researching social interaction or as one of the elements affecting textual interaction.

Usage of avatar customization is frequent in Proteus Effect research on the dependence of individuals' behaviour on their digital self-representation (Yee & Bailenson, 2007), as well as in research around the concepts such as social presence or interpersonal trust (Bente & al., 2008). Yee & al. (2009), for example, placed their respondents in an immersive virtual environment and assigned them taller and shorter avatars and looked for variations in behaviour and attitudes depending on the avatar height variation. More towards textual interactivity, Farrar, Krcmar and Nowak (2006) analysed how two internal video games manipulations – the presence of blood which could be switched on or off, and the point of view which could be third or first person – influence perception and interpretation of the game.

In the research on medium technical interactivity, the focus is placed on interactive features of online newspapers and their effects on perceived satisfaction with the newspaper websites (Chung, 2008). Using web based survey to gather respondents' opinions Chung and Nah (2009: 860) specifically examined increased choice options, personalization, customization and interpersonal communication opportunities offered as part of news presentation.

In similar fashion but using experimental design, combined with pre and post surveys, Kalyanaraman and Sundar (2006) created three different version of MyYahoo website to reflect three the conditions being high, low, medium levels of customization.

Among already rare studies of technical interactivity, a study of Papacharissi (2009) holds a special place as the author analyses the underlying structure of three social networking sites «with the understanding that they are all specified by programming code» (Papacharissi, 2009: 205). By employing comparative discourse analysis and analysis of content, aesthetics and structure of SNSs, Papacharissi examines how individuals modify, personalize and customize these spaces and the extent to which online architecture allows them to do so.

Investigations into the audience/user relations with texts are still orientated towards content, within the realm of media effects tradition. On the other hand, it is evident that the researchers are increasingly turning to communication practices of social network sites.

5. Discussion and conclusion

The primary classification of the selected articles, between the types and levels of interactivity, shows that the scholarly focus lies upon the low textual, followed by the high social interactive practices. This could be attributed to the fact that both areas are well situated objects of communication (sociology, psychology mass media) research, and as such they have relatively stable research agendas, concepts and methods. The high textual interactivity and the high technical interactivity are rarely researched, although in their novelty they are probably most challenging.

Investigations into the audience/user relations with texts are still orientated towards content, within the realm of media effects tradition. On the other hand, it is evident that the researchers are increasingly turning to communication practices of social network sites.

Each level of textual interactivity is related to a specific set of media practices and certain regularity in methods used can be noticed. For research of low textual interactivity survey and experiment prevail. The medium level exploits computer-mediated data gathering techniques, while higher level of textual interaction remains an under-researched area.

High social interaction seems to be a central preoccupation in communication studies, reviving the application of ethnographic methods. As Hine observes, «(R)ecognition of the richness of social interactions enabled by the Internet has gone hand in hand with the development of ethnographic methodologies for documenting those interactions and exploring their connotations» (Hine, 2008: 257).

The lowest subset of technical interactivity is not being examined, as unchangeable medium structure is 'taken-for-granted' in classic communication scholarship. In sharp opposition to traditional media, the new digital ones afford and invite tampering with the channel, an activity which from the early days of new technologies gave rise to numerous hacker practices. Still, activities such as modding of games or other software remain outside the dominant communication research agenda.

Looking specifically into methods we can identify innovation in data gathering techniques. In the new media environment, communicators leave traces of their behaviour. Therefore the use of log files and tracking procedures are new valuable sources of information for researchers.

In spite of technological developments the traditional methods like survey, content analysis and experiment are still frequent. There are certain transformations of these methods which can be regarded more as a technical progress than as an essential change. This can be seen in software assisted research and content creation in experimental design. With the proliferation of software tools, the question remains of how future research can achieve comparability and replicability, more and more often demanded by the research community.

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Bibliometric Analysis of Research on Women and Advertising: Differences in Print and Audiovisual Media

Análisis bibliométrico de la investigación sobre mujer y publicidad: diferencias en medios impresos y audiovisuales

ABSTRACT
The media in general, and advertising in particular, are considered as important agents of socialization, including gender-related issues. Thus the legislator has focused on the regulation of the images of women and men in advertisements. However, regulations prohibiting sexist advertising in Spain pay specific attention to audiovisual media. The objective of this study is to check whether this unequal interest also takes place in academic research. This paper analyzes the differences in the scientific literature (national and international) on the sexism in advertising depending on the media. Specifically we examine the methodology, techniques and ways to measure concepts. In order to do this, we conducted a systematic review of studies on gender and advertising published in Spanish or English between 1988 and 2010 in seven databases –Spanish (Dialnet, Compludoc, ISOC), or international (Scopus, Sociological Abstracts, PubMed and Eric)–.The main results of the 175 texts analyzed show that, unlike legislative controls, the academy has studied mainly sexism in advertising in print media, although interest by analysis of the treatment of gender in the discourse of advertising audiovisual seems to be increasing.

RESUMEN
Los medios de comunicación en general, y la publicidad en particular, son considerados importantes agentes de socialización, incluso en temas relacionados con el género. No en vano el legislador se ha preocupado por la regulación de las imágenes de mujeres y hombres trasmitidas en los anuncios. Sin embargo, las normativas que prohíben la publicidad sexista en España prestan específica atención a los medios audiovisuales en detrimento del resto. En este escenario, el objetivo del presente trabajo es comprobar si este dispar interés según soporte se reproduce en la investigación. Así, se consideran las diferencias en la producción científica (nacional e internacional) sobre el sexismo publicitario en función del medio de comunicación observando específicamente la metodología, las técnicas y la forma concreta de medir este concepto en los artículos. Para ello se realizó una revisión sistemática de los estudios sobre publicidad y género publicados en español o en inglés entre 1988 y 2010 indexados en siete importantes bases de datos –españolas (Dialnet, Compludoc, Isoc) e internacionales (Scopus, Sociological Abstracts, PubMed y Eric)–. A partir del análisis de los 175 textos seleccionados, los resultados apuntan que, a diferencia de los controles legislativos, la academia ha estudiado mayoritariamente el sexismo publicitario en los medios impresos, aunque el interés por el análisis del tratamiento de género en los discursos publicitarios audiovisuales parece irse acrecentando.

KEYWORDS / PALABRAS CLAVE
Legislation, public policy, advertising, sexism, audiovisual, television, magazines, press.
Legislación, política pública, publicidad, sexismo, audiovisual, televisión, revistas, prensa.

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1. Introduction

The media are considered to be important agents of socialisation (Dietz, 1998: 428; Messineo, 2008: 752) capable of influencing the ideas, values, attitudes and social and cultural beliefs of their audiences (Ibroscheva, 2007: 409). As such, the «mass media» are deemed to transmit ways of living and patterns of behaviour (Casado, 2005: 2).

In particular, it has been suggested that advertising –also an important agent of socialisation (Tsai, 2010: 423)– can disseminate cultural values (Kalliny & Gentry, 2007: 17) and can come to reinforce certain lifestyles and stereotypes (Royo, Aldás & al., 2005: 114). It is also understood that, within industrialised societies, the influence of commercial communication on men and women is on the rise (Díaz, Muñiz & Cáceres, 2009: 222). More specifically, and bearing in mind that advertisers frequently employ gender stereotypes (Zhang, Srisupandit & Cartwright, 2009: 684), advertisements' portrayals of women and men are perceived by audiences to be the standard images of both sexes (Zhou & Chen, 1997: 485). In effect, masculinity and femininity are conditioned by the cultural environment and not by nature or biology (Feasey, 2009: 358), so that femininity (and also masculinity) is transmitted through the media and varies from culture to culture (Frith, Shaw & Cheng, 2005: 56).

Based on these premises, it is not surprising that, while not all of the gender stereotypes used are sexist[1] (Jones & Reid, 2009: 20), there are nevertheless so many regulations governing the portrayal of men and women in advertising[2]. In Spain, there have been various regulatory changes since the beginning of this century which have been aimed at improving representations of gender in adverts. So it is that, following various amendments (and notably those introduced by Spain's 2004 Law Against Gender-Based Violence [the Ley Orgánica de Medidas de Protección Integral contra la Violencia de Género]), the country's General Advertising Act of 1988 (the Ley General de Publicidad) deems the discriminatory or degrading representation of women within commercial communication to be against the law when a) their bodies, or parts of their bodies, are used directly or specifically as simple objects with no relation to the product being advertised; b) their image is used in relation to stereotyped behaviours that encourage gender-based violence (Ley General de Publicidad, 1988).

In addition, Spain's Equal Opportunities Act of 2007 (the Ley Orgánica para la Igualdad Efectiva de Mujeres y Hombres) establishes that advertising which encourages discriminatory conduct as defined within this Act will be deemed unlawful advertising in accordance with the provisions of general and institutional advertising and communication legislation (2007: 12.619).

But aside from these regulations, which refer to the portrayal of both sexes in advertising generically, Spain's legal framework establishes differences between how sexism in advertising is policed in the various media[3], with specific regulations for the broadcast media.

In effect, since the so-called Television Without Borders Act in 1994 (the Ley de televisión sin fronteras [1994: 22.346] through which the European Council Directive 89/552/CEE on the Coordination of Certain Provisions Laid Down by Law, Regulation or Administrative Action in Member States Concerning the Pursuit of Television Broadcasting Activities was incorporated into the Spanish Law) –an Law currently repealed by the General Audiovisual Communication Law (the Ley General de la Comunicación Audiovisual [2010: 30.204]– advertising which is broadcast on television and which shows discrimination based, among other things, on gender has been considered unlawful advertising. Law of 2010, due to the General Audiovisual Communication Law (2010: 30.174), this is now valid for all broadcast media: radio and television.

Thus this Act –an incorporation into the Spanish Law of the Audiovisual Communication Services Directive (Directiva de Servicios de Comunicación Audiovisual), which modifies the abovementioned 89/552/CEE European Council Directive of 2007– focuses specifically on advertising broadcast through audiovisual media (radio and television) and prohibits advertising which, among other things, offends people's dignity, promotes sexism or uses female images in a discriminatory or degrading way. It also deems it to be a serious offence to broadcast content which clearly encourages gender-related contempt, hatred or discrimination, among other things (General Audiovisual Communication Law, 2010: 30.195). Similarly, it stipulates that subscriber broadcasting services must not incite hatred or discrimination based on gender or any other personal or social circumstance and must respect human dignity and constitutional values, taking special care to eradicate conduct which fosters female inequality (General Audiovisual Communication Law, 2010: 30.167).

In contrast to this reinforced control of sexism on radio and television, the press world is characterised by a lack of regulatory standards within the sector (Salvador, 2008: 189) and must therefore defer to generic laws regarding the portrayal of women within commercial communication (the 2004 Law Against Gender-Based Violence; the 2007 Equal Opportunities Act; and the 1988 General Advertising Act).

European legislators in general –and Spanish legislators in particular– appear to have paid unequal attention to the various media in which advertisements are run, resulting in prevention within the broadcast media but not within the press. There has traditionally been a process to bring television broadcasting regulations up to a stricter and higher standard than other media such as the press (Ariño, 2007: 13); a situation due, among other things, to the potential influence that the dominant medium –television– can have on individuals (Ariño, 2007: 13).

The lack of equal regulation across all media leads us to wonder whether this imbalance is due to scientific reasons and is reproduced within the research. Our question is whether sexism in advertising, which has been a topic of interest since the 1960s (Eisend, 2010: 418), has been studied differently in the printed press than in television, a medium which has aroused interest as to its effects (Furnham & Paltezer, 2010: 223).

The lack of equal regulation across all media leads us to wonder whether this imbalance is due to scientific reasons and is reproduced within the research. Our question is whether sexism in advertising, which has been a topic of interest since the 1960s, has been studied differently in the printed press than in television, a medium which has aroused interest as to its effects.

Within such a context, this paper aims to round up the scientific literature on sexism in advertising within the different media, and specifically assess disparities in the following areas:

- The production of articles by year, publication, geographical location, language, gender of main author, authors and institution.
- Objects of study (the people observed and subject analysed).
- The concepts and terms used.
- Methodology, techniques and the precise way of measuring the concept (operationalisation).

2. Material and methods

To attain the aforementioned objectives we conducted a systematic review of texts relating to gender and advertising in the print media and television[4].

The scope of study comprised all the articles relating to the topic of research which were published in English or Spanish between 1988 (year of the General Advertising Law)[5] and 2010 (the data having been gathered in the first quarter of 2011) in scientific journals indexed on multidisciplinary databases in Spain (Dialnet, Compludoc and Isoc) and abroad (Scopus) and on specialist sociology (Sociological Abstracts), education (Eric) and medical (PubMed) databases[6].

The main search strategy was to locate the following keywords in the title and/or abstract of the documents: «advertising and woman», «advertising and gender», «sexist advertising», «advertising and sexism», «advertising and stereotypes», «gender stereotypes and advertising», «advertising and gender discrimination», «advertising and sex discrimination», «advertising and discrimination» and «advertising and gender bias» on Sociological Abstracts, PubMed, Eric and Scopus. The same keywords, but in Spanish, were searched for on Dialnet, Compludoc and Isoc, resulting in English-language documents from the former group of databases and Spanish-language documents from the latter.

The second search strategy depended on the functionalities available on the various databases. Thus on Dialnet, which took the keywords from any part of the article, it was necessary to locate the keywords in the title and/or abstract individually. On Compludoc two searches were conducted: one to locate the concepts in the title, and the other to locate those in the abstract. On Isoc the subject areas were analysed collectively through a search by field, which meant that, like in the previous case, all the keywords were returned twice. On PubMed, Eric, Sociological Abstracts and Scopus the keywords in the title and the abstract were located directly. Where the database permitted, the searches were refined by date, language and type of document. Otherwise they were sorted manually.

Having located the texts, we selected only those works which met certain criteria for inclusion: empiri-

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cal articles published in scientific journals which analysed either the portrayal of men and/or women in advertisements in the print media or on television; the public's perception of gender in advertising messages in the aforementioned media; or the situation of men and women in advertising agencies with reference to the print media or television. Literature reviews were thereby eliminated.

The choice of which works to analyse was made independently by two researchers in accordance with the aforementioned criteria (Deeks, 1998: 703, 708). Of the total documents found on the databases consulted, and based on a reading of the title, abstract or text, 175 articles were deemed to have met the inclusion criteria. Then, to examine these articles, it was necessary to retrieve and analyse the complete texts[7]. Half of these final items were found on Scopus, 22.7% on Sociological Abstracts, 8.3% on Dialnet, 6.4% on Isoc, 5.3% on PubMed, 3.8% on Eric and 3.4% on Compludoc. In terms of overlap (i.e. the same article appearing on different databases), it is worth mentioning that of the 175 documents examined, 97 were found on the same database, 67 were found on two and 11 were found on database.

Once the complete texts had been gathered, they were then classified using a protocol with three categories: a) characteristics of the work, b) authors and organisations, and c) content of the texts. Two people spent three months classifying the selected works, obtaining between them a mean Kappa index of 0.88. To analyse the available information, a database was created in SPSS 15, with use thus made of Pearson's chi-squared tests[8], contingency tables, multiple response tables, line graphs and frequencies.

3. Analysis and results

3.1. Productivity

A quick glance at figure 1, which shows the scientific literature on sexism in advertising broken down by medium, immediately reveals two things: firstly, that throughout the 22 years in question there has been greater interest in analysing the print media than the broadcast media (although the differences are not statistically significant); and secondly, that while increasing attention has been paid to the print media, there appears to have been a reversal of this trend in recent years (as of 2008), with more academics beginning to analyse the broadcast media and fewer studies being conducted on sexism and the press.

The 175 documents analysed were published across a range of 125 journals, making for a variety of publications featuring texts related to the topic of study and a low concentration of journals specialising in the subject (since the vast majority –102– published just a single article).

The publication with the greatest number of articles is Sex Roles: A Journal of Research, which featured 19 works (11 relating to the print media and 8 to television), followed by the Journal of Advertising with 7 (5 on the printed mass media and 2 on the broadcast media) and then Comunicar with 4 (all of which focused on television). It should thus be noted that none of the three abovementioned journals featured research which analysed both types of media together.

Of the articles selected, 46.9% were taken from journals indexed on the JCR database in the year in which they published the paper under analysis. However, not one of these texts was written in Spanish or came from a Spanish-language journal (see table 1). In terms of the quartile for these publications, which is available from 2003 and which has been cal-

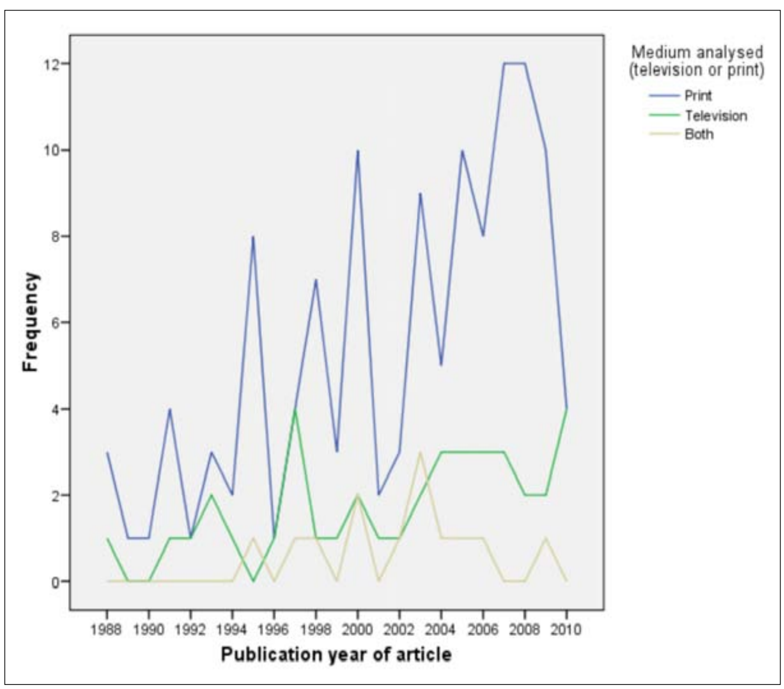

Figure 1: Publication Year of Articles by Medium.

culated for each of the subject categories into which the journal falls, it should be noted that, of the 88 situations it has been possible to examine, only 9.1% form part of Q1, with 28.4% in Q2, 42% in Q3 and 20.5% in Q4.

With regard to the 125 texts which were published in or after 1999, the year in which SCImago Journal & Country Rank (SJR, a portal which analyses the scientific literature retrieved by Scopus) became available, 98 were among the journals considered by SJR in the year in which they published the article under examination. Only 9 of these 125 documents were written in Spanish, with 7 belonging to Spanish journals, as opposed to the 46 from the United States.

Table 1: Geographical Zone of Publications by Articles Indexed on JCR Database in Year of Article's Publication

Geographical Zone of the Publication		Journals Indexed on JCR in Year Article was Published			TOTAL
		Yes	No	Unknown	
Spain	Count	0	25	0	25
	% from geographical zone	0	100	0	100
	% of journals on JCR	0	28.1	0	14.3
Rest of Europe	Count	28	29	2	59
	% from geographical zone	47.5	49.2	3.4	100
	% of journals on JCR	34.1	32.6	50	33.7
United States	Count	51	27	2	80
	% from geographical zone	63.8	33.8	2.5	100
	% of journals on JCR	62.2	30.3	50	45.7
Rest of World	Count	3	8	0	11
	% from geographical zone	27.3	72.7	0	100
	% of journals on JCR	3.7	9	0	6.3
TOTAL	Count	82	89	4	175

In terms of the geographical zone, in general and taking account of total production, differences can be observed in the interest in the various mass media, in that there are more articles focusing on the print media than on television, and these differences in volume are significant in Spain (x^2=7.407; p=0.025) (48% versus 36%) and in the rest of Europe in particular (x^2=9.813; p=0.007) (83.1% versus 8.5%). Looking at the relative attention paid to each medium according to geographical zone, we can see that interest in the print media is greater in Europe (83.1%) and the rest of the world (81.8%) than in the US (66.3%) and Spain, where fewer than half of the published articles focused exclusively on print media (48%). Spain pays relatively more attention to television (36%) than do the US (28.8%), Europe (8.5%) and the rest of the world (18.2%). But Spain also produces relatively more multimedia research (with press and television) into sexism than the other zones analysed (16% versus 8.5% in Europe and 5% in the US) (see table 2).

In all cases the articles are predominantly in English (83.4% of the total) rather than Spanish (16.6% of the total), although this tendency –in keeping with the point made above– is particularly striking for studies of the printed media (87% versus 13%). For the texts written in Spanish, the difference between the media is considerably less marked than the difference for those written in English (24.2 points versus 52.8 points), meaning that when you take the percentage of documents in each language into account, you are more likely to find works based on the medium of television in Spanish than in English (31% versus 20.5%).

Women tend to be credited as the main author more often than men (65.1% of the total versus 33.7%). Women wrote 79 documents on the print media, 27 on television and 8 relating to both media, as opposed to 42, 12 and 5 for men respectively. There are no statistically significant differences by gender in the attention given to the print media and to the broadcast media.

In terms of authorship, 44% of the articles were written by one author, 50.3% by between two and three, and just 5.7% were written by more than three authors, with no statistically significant differences by the medium analysed.

In the Spanish journals, the people who published the most documents –four, to be precise– were Paloma Díaz (studying the print media) and Marcelo Royo. The latter, writing alongside María José Miquel and Eva Caplliure, was part of the most prolific group, which published three works: one focused on analysing the print media and the other two works combining their interest in television and the print media.

With regard to the remaining publications, Elianne Riska has four articles to her name, each cowritten and with a focus on magazines. Only one group of authors –Katherine Toland Frith, Hong Cheng and Ping Shaw– appears together on more than one occasion (twice, to be precise), and they also studied magazines.

Inter-institutional works are infrequent among the documents analysed, with most articles (64.6% of the total) written by a single organisation, 22.3% by two organisations and only 5.7% by three or more. These

Table 2: Geographical Zone of Publications by Medium of Communication					
Geographical Zone of the Publication[a]		Print	Television	Both	TOTAL
Spain*	Count	12	9	4	**25**
	% from geographical zone	48	36	16	
	% on medium	9.8	23.1	30.8	
Rest of Europe*	Count	49	5	5	**59**
	% from geographical zone	83.1	8.5	8.5	
	% on medium	39.8	12.8	38.5	
United States	Count	53	23	4	**80**
	% from geographical zone	66.3	28.8	5	
	% on medium	43.1	59	30.8	
Rest of World	Count	9	2	0	**11**
	% from geographical zone	81.8	18.2	0	
	% on medium	7.3	5.1	0	
TOTAL	Count	123	39	13	**175**

Percentages and totals are based on responses.
a. Dichotomy group. Tabulated at 1. * With statistically significant differences.

differences are not, however, statistically significant.

The institutions appearing most frequently in the Spanish journals (in precisely four articles) are the Complutense University of Madrid, the University of Valencia, and Rey Juan Carlos University. Within the rest of the publications, meanwhile, the University of California is the most prolific organisation. Between them, these four institutions have published articles on the print media and on television, and have published both individually and alongside other institutions.

3.2. Characteristics of the articles

When the articles examine the people portrayed in advertisements and they specify the ages they are looking at, the most studied age group is young people, followed by adults, the elderly, adolescents and children. This remains the order when studying the print media. However, when television is analysed exclusively, children and adolescents are researched on the same percentage of occasions, whereas these two age groups are not considered in any of the articles which focus on the print media and television together. The only statistically significant differences are produced with reference to children ($x^2=7.16$; $p=0.028$), in that their presence is greater when television is analysed than when the print media are analysed (66.7% versus 33.3%).

When the articles study people's (or age groups') perception of adverts (principally through discussion groups, interviews or questionnaires), it should be noted that children are never questioned: it is young people who are paid the most attention, followed by adults, adolescents and, finally, the elderly. In effect, young people and adults are the groups of people most consulted in all situations and, what's more, the documents which focus exclusively on the broadcast media do not consult adolescents or the elderly at any time.

While the main subject of this research is women and advertising, some articles also turn their attention to men. Thus when examining the gender of the people analysed in the discourses, as shown in table 3, men are researched in 41.4% of the documents studying the print media, in 47.3% of those focusing on television, and in 40% of those looking at both types of media, as opposed to 58.6%, 52.7% and 60% respectively which examine women. Notwithstanding this generality, there are statistically significant differences ($x^2=7.704$; $p=0.021$) in the case of men, making it more common for men to be examined in texts based on the print media (66.1%) than in works looking at television (27.6%) or both types of media (6.3%).

When the works refer to the populace, a situation arises very similar to that described above: it is predominantly the female population which is analysed by the articles examining the print media (58.6% versus 41.4%) and television (66.7% versus 33.3%). Yet when the documents examine both media, they do so equitably (50%). On this occasion, the differences shown are not statistically significant.

Bearing in mind that only articles focusing on the printed mass media and/or television were selected for conducting this study, as to be expected, no articles were found analysing men and/or women in advertising agencies that referred specifically to these media. Meanwhile, articles studying the presentation of men and women within commercial communication were more frequent than those studying people's perception of this portrayal for all media: 85.9% versus 14.1% for the press; 85.7% versus 14.3% for television; and 76.9% versus 23.1% for both. These differences are not, however, statistically significant.

3.3. Keywords

While all the keywords brought up articles relating to the print media, four of the concepts used –«advertising and gender bias», «advertising and discrimination», «advertising and gender-based discrimination»

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and «advertising and sexual discrimination»– returned no results for television or the two media together. «Advertising and women» and «advertising and gender» were the two combinations that returned the most results, without any differences by medium. Only «advertising and stereotypes» returned statistically significant differences by medium ($x^2=15.739$; $p=0.000$), reporting a greater number of articles relating to the printed mass media (46.5%).

Table 3: Gender Analysed in Advertising and Gender Surveyed, by Medium of Communication

Gender Analysed in Advertising[a]		Print	Television	Both	TOTAL
Men*	Count	84	35	8	**127**
	% of gender	66.1	27.6	6.3	
	% of medium	41.4	47.3	40	
Women	Count	119	39	12	**170**
	% of gender	70	22.9	7.1	
	% of medium	58.6	52.7	60	
TOTAL	Count	203	74	20	**297**
Gender Surveyed[a]		Print	Television	Both	
Men	Count	12	3	3	**18**
	% of gender	66.7	16.7	16.7	
	% of medium	41.4	33.3	50	
Women	Count	17	6	3	**26**
	% of gender	65.4	23.1	11.5	
	% of medium	58.6	66.7	50	
TOTAL	Count	29	9	6	**44**

Percentages and totals are based on responses. a. Dichotomy group. Tabulated at 1.
* With statistically significant differences.

3.4. Gender Indicators, operationalisation and sexism

While there are no statistically significant differences between them, quantitative methodology is employed more frequently than qualitative methodology within the texts analysing the print media (61% versus 39%) and in works focusing on television (71.4% versus 28.6%). However, when the two are studied together, both methodologies are employed equally (50%).

The majority of articles tend to realise and identify –albeit only partially– the operationalisation effected for analysing sexist advertising. The works on the print media featured this information 85.4% of the time, texts on television 89.7% of the time and those on both 76.9% of the time, with no statistically significant differences. It is worth noting, however, that information on this subject is missing from 12% of the total texts.

The research uses scales to measure sexism in advertising in 67.4% of all the cases (67.5% for the print media, 71.8% for television and 53.8% for both). Subject categories are employed to evaluate the existence of sexist advertising in 24.6% of the articles, with no statistically significant differences according to medium.

Only 8.6% of the documents conclude that the advertising is not sexist or that the representations of gender featured in the advertisements cannot be described as traditional. Nevertheless, not one of these articles deals exclusively with television. In other words, not one of the academic texts selected concludes that television advertising is healthy in terms of gender. There are thus statistically significant differences by medium ($x^2=11.852$; $p=0.003$), as 73.3% of these studies focus on the press.

4. Discussion and conclusions

The data obtained indicate that, in general, and especially in the international arena, there is more research into sexism and gender-based discrimination by and within advertising in the print media than on television. There is a practical reason for this tendency: it is more difficult to analyse content on television. It could thus be considered that the reason why researchers do not focus their interest on television is related, according to Pérez (2009: 105), to the fact that the ephemeral nature of the broadcast advertising media brings an added difficulty to its analysis. Pérez also states that the broad possibilities in terms of production and the language used in television spots have made it difficult to establish a strict methodology that enables television to be analysed within scientific parameters (Pérez, 2009: 105). Researchers have thus resorted to the print media for ease of study despite the fact that, as this paper shows, there are no relevant differences in the methodologies chosen to analyse biases in the various media.

Considering the works as a whole, meanwhile, it is rather complex to ascertain whether sexism exists within the media under consideration, as academics tend not to adopt a position in this respect. So in the (principally descriptive) articles, one will most frequently find an inventory of the image of women and men, without it being specified whether this image could be deemed discriminatory or not. The lack of delimitation and operationalisation of concepts makes it difficult to assess the validity of these works with regard to the treatment of gender in the media, and difficult to make a comparison with the legal application. In this sense, various authors (Furnham & Paltzer, 2010: 223; Paek, Nelson & Vilela, 2011: 193) all declare that the research on the subject matter lacks a theoretical framework.

The analysis of gender biases in advertising discourse is subtly different in the Spanish case, in terms of medium. In Spain, there is a greater fondness for observing television, either on academic grounds –television is the medium which reaches the highest percentage of individuals (Spanish Association for Media Research, 2012), enjoys the greatest investment in advertising[9] and is the most influential medium in terms of gender socialisation (Espinar, 2006)– or due to the influence of the legal framework.

In effect, over the past 15-plus years in Spain (since the incorporation of European Council Directive 89/552/CEE on the Coordination of Certain Provisions Laid Down by Law, Regulation or Administrative Action in Member States Concerning the Pursuit of Television Broadcasting Activities was incorporated into Spanish Law in 1994), the government regulations which restrict sexual discrimination in advertising generically (the 1988 General Advertising Act, the 2004 Law Against Gender-Based Violence, and the 2007 Equal Opportunities Act) have existed alongside specific legislation which holds television broadcasters jointly responsible for the broadcasting of illegal content.

Specifically, it is our belief that it is the establishment of a series of regulations and controls in various spheres (such as the climate of social awareness of the importance of the media in building up sexual equality) which has paved the way for studies evaluating the application of the regulations in Spain.

Finally, it should be noted that the principal limitation of this study is the selection of only scientific articles for analysis, which has meant the rejection of other important sources of information. Despite this restriction, and with a focus on gender, this paper contributes to broadening scientific knowledge regarding differences in the study of press advertising and television advertising. While the data handled may not have enabled the establishment of a causal relation, future studies might wish to question whether these peculiarities have been favoured by Spain's specific legal framework and/or vice versa. It would also be interesting to explore whether the same perception of sexism in advertising exists among viewers, academics and the judges responsible for deciding whether or not an advertisement contains sexual discrimination.

Notes

1 Sexism is the portrayal of men and women in a manner inferior to their abilities and potential (Plakoyiannaki & Zotos, 2009: 1.411).

2 A summary of the principal regulations governing this subject at national (constitutions, national legislation, regional law), European (community directives) and international level (Declaration of Athens, Beijing Conference and the Conference of New Delhi) can be found in Balaguer (2008).

3 The Spanish Law of Information Society Services and Electronic Commerce (Ley de Servicios de la Sociedad de la Información y de Comercio Electrónico) (2002: 25.391) has been omitted from this analysis as it only makes one reference to sexual discrimination with regard to the provision of information society services in general and not to advertising in particular, and is closer to the principles of the Spanish Constitution than to the General Advertising Act in its call for respect for personal dignity and for the principle of non-discrimination on the grounds of race, gender, religion, opinion, nationality, disability or any other personal or social circumstance.

4 The print media have been bundled together as one entity due to the lack of information provided by a large part of the documents analysed. In terms of the broadcast mass media, only television has been taken into account, as only one work was found that dealt with film and three with radio. The Internet, meanwhile, has its own regulations which were not considered in this study.

5 The passing of this Act was the first time that sexist advertisements were considered illegal in Spain, as the Act ruled that advertising which offends personal dignity or undermines the values and rights recognised in the Constitution, especially with regard to children, young people and women were outlawed (General Advertising Act, 1988: 32.465).

6 To select the multidisciplinary and international database, exploratory searches were made of the two leading databases: Web Of Science and Scopus. The number of articles retrieved from the former was 936, while the latter returned 1,339 articles from the fields of Medicine (640), Social Sciences (383), Psychology (210), Business, Administration and Accounting (201), Nursing (74), Arts and Humanities (60), Economics, Econometrics and Finance (59), Agriculture and Biological Sciences (56), Healthcare Professions (48), Biochemistry, Genetics and Molecular Biology (29), Neuroscience (22), Materials Sciences (21), Pharmacology, Toxicology and Pharmacy (17), Engineering (16), Computer Sciences (14), Environmental Sciences (10), Immunology and Microbiology (8), Earth and Planetary Sciences (5), Chemical Engineering (4), Decision Sciences (4), Dentistry (2), Physics and Astronomy (2) and Mathematics (2), plus 2 multidisciplinary texts and 101 which were not classified.

The decision was made to use Scopus not only for quantitative reasons but also for its qualitative features. While Web of Science contains leading journals with the highest quality and impact factor, with regard to our topic of study it suffers from biases in terms of geography (focusing on the USA) and subjects (gathering mostly journals relating to the Sciences).

The Social Sciences are modestly represented on Scopus so, to get around this problem, we included the Sociological Abstract database. PubMed was used due to the large number of medical-related articles found on Scopus and we resorted to Eric with the aim of observing the studies conducted from the field of Education, since the Spanish Equal Opportunities Act (2007) lends great importance to this field. Dialnet, Compludoc and Isoc, meanwhile, were selected to index the academic literature published in Spanish.

7 When the complete text was not available on a database, it was searched for via the University of Alicante's print and electronic subscriptions (journals, abstracts and databases). If the text was not found using this method, an email requesting the text was sent to the authors themselves, with the final option being inter-library lending.

8 We consider differences to be statistically significant when $p<0.05$.

9 Of all the conventional media, television is the mass media with the greatest volume of advertising sales (Sánchez, 2012: 8).

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Informal Learning through Facebook among Slovenian Pupils

Aprendizaje informal a través de Facebook entre alumnos eslovenos

ABSTRACT
Since existing research has failed to consider how primary school pupils use Facebook for informal learning and to enhancing social capital, we attempted to fill this research gap by conducting 60 in-depth interviews and think-aloud sessions with Slovenian primary school pupils. Furthermore, we used content analysis to evaluate their Facebook profiles. The results of the study show that Slovenian pupils regularly use Facebook for informal learning. Pupils are aware that they use Facebook for learning and they use it primarily as social support, which is seen as exchanging practical information, learning about technology, evaluation of their own and other people's work, emotional support, organising group work and communicating with teachers. In using Facebook, pupils acquire bridging and bonding social capital; they maintain an extensive network of weak ties that are a source of bridging capital, and deeper relationships that provide them with emotional support and a source of bonding capital. Key differences between the participants were found in the expression of emotional support. Female participants are more likely to use Facebook for this purpose, and more explicitly express their emotions. This study also showed that our participants saw a connection between the use of Facebook and the knowledge and skills they believed their teachers valued in school.

RESUMEN
Teniendo en cuenta que la investigación ha descuidado el estudio de cómo los alumnos de primaria hacen uso de Facebook para el aprendizaje informal y cómo potencia el capital social, el presente trabajo intenta llenar dicho vacío con sesenta entrevistas en profundidad y el protocolo de pensamientos en voz alta con alumnos de escuelas primarias eslovenas. Para analizar el perfil de Facebook también incluimos un análisis de contenido. Los resultados del estudio demuestran que los alumnos eslovenos con frecuencia utilizan Facebook para el aprendizaje informal. El estudio no solo muestra que los estudiantes son conscientes del uso de Facebook para el aprendizaje y lo utilizan en primer lugar como apoyo social, sino también ofrece muestras de intercambio práctico de información, aprendizaje de tecnología, (auto)evaluación, apoyo emocional, organización de grupo de trabajo y comunicación con los profesores. Con el uso de Facebook, los estudiantes adquieren competencias relacionales y vinculación de capital social, pues mantienen una amplia red de lazos débiles, capaz de generar relaciones más profundas con apoyo emocional y fuentes de unión. Las principales diferencias entre los participantes se refieren a la expresión del apoyo emocional. Las participantes femeninas prefieren Facebook para dichos fines y expresan con más habilidad sus emociones. El estudio muestra además que nuestros participantes perciben una conexión entre el uso de Facebook y el conocimiento y destrezas que ellos pensaban que sus profesores valoraban en la escuela.

KEYWORDS / PALABRAS CLAVE
Facebook, Internet, social network sites, informal learning, social capital, media education, pupils.
Facebook, Internet, sitios de redes sociales, aprendizaje informal, capital social, educación mediática, estudiantes.

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1. Introduction

Today, learners can learn and be taught in a variety of physical and online spaces. In this learning context, there is an increasing role for online social network sites (Valenzuela & al., 2009; Greenhow, 2011). Many pupils have created their own profile on at least one of the many online social network sites. For example, more than half of Slovenian learners (13-24 years) have created their own profile on social network sites (Slovenia Facebook Statistics, 2012).This is not a Slovenian specificity, as a number of international studies have shown (Bosch, 2009; Rideout & al., 2010) that the use of social network sites is the most common extra-curricular activity of young people. The most visited social network is Facebook (Slovenia Facebook Statistics, 2012).

Online social network sites allow individuals to: a) create a public and semi-public profile within a coherent system; b) develop a list of users they are linked to and; c) review one's own list of users and lists of other users within the system (Boyd & Ellison, 2008). Existing studies emphasise the advantages of using social network sites (Boase & al., 2011; Ellison & al., 2007; Scearce & al., 2010) such as: an easier, faster and cheaper form of communication and networking between individuals and groups that are geographically remote; easier communication for those young people who have difficulty in establishing and maintaining relationships; providing an overview of the individual's social network; providing social support in distress; and building communities and mobilising people. On the other hand, other studies stress the disadvantages and risks of their use (Boyd, 2007; Ule, 2009; Scearce & al., 2010) such as: impersonality, which can lead to alienation and lack of personal contact; the social isolation of adolescents; a false sense of anonymity; false identity; lower level of grammar, articulation and writing skills; exposure to online offenders and criminals; problems with processing large amounts of information; and the posting of inappropriate information, which could harm school children. The impact assessments of online social network sites on learning and school success are divided. On the one hand, the popular media predominantly label the use of such sites as extracurricular activities that have a negative impact on academic performance (Hamilton, 2009; Karpinski, 2009), and which are responsible for the drop in literacy standards (Thurlow, 2006; Carr, 2008; Bauerlein, 2009) and a threat to social values (Herring, 2007). On the other hand, the number of experts who argue that the use of online social network sites promotes cognitive development is growing (Gladwell, 2005; Shirky, 2010). Recent studies suggest that many learners are increasingly turning to information and communication technologies as learning tools outside of school. Livingstone and Bober (2004) reported that the majority of learners (9-19 years old) regarded the internet as an information gathering tool that could be useful in school work, but appeared «far more excited» by its communication and participation possibilities (Livingstone & Bober, 2004), which they seemed to employ largely outside of school, despite half of students having received little or no formal instruction on how to use the internet (ibid.). Greenhow and Robelia (2009b) studied high school students' from urban low-income families in the USA and their use of MySpace for identity formation and informal learning. They found that social network sites used outside of school allowed students to formulate and explore various dimensions of their identity; however, students did not perceive a connection between their online activities and learning in classrooms. Students used various socio-technical features, such as photo-sharing, graphic design and multiple communication channels within MySpace to convey who they were at a given moment and to learn about the changing lives of others in the network. While engaging in identity work, students were also gaining technological fluency and beginning to consider their roles and responsibilities as digital citizens. Their study was focused on informal learning, known as occasional learning, which is a spontaneous, experimental, unplanned, disorganised and unpredictable form of learning without set standards, and its results are implicit (Hager, 2001; Jefkins, 2006). No previous studies have focused on the use of Facebook for informal learning among high school students.

Existing studies have examined the available use of online social network sites for learning among undergraduate students or high school students, and have neglected analysis of the use of online social network sites for learning among primary school pupils. Furthermore, existing research into the use of online social network sites for learning (e.g. Schwarzer & Knoll, 2007; Madge & al., 2008, Greenhow & Robelia, 2009a, 2009b; Greenhow, 2011; Teclehaimanot & Hickman, 2011) shows that students use such sites for direct or indirect educational assistance, especially for peer support, maintaining relationships, self-representation and self-expression. Greenhow and Robelia (2009b) emphasised the use of social network sites to deal with learning stresses and the importance of «social capital »as a set of horizontal relationships between people, including social network sites and the associated norms, which have an impact on the productivity and welfare of the community (Putnam, 2000). Research in the field of education and social capital focuses on two types of social capital among young people: bridging capital, which is based on weak alliances, enabling diverse perspectives and new information, and bonding capital, which is based on strong alliances of close friends and family who provide comfort (Putnam, 2000). The presence of social capital in social network sites is associated with numerous educational and psychosocial outcomes (Dike & Singh, 2002). In other words, learners tend to do better and persist in educational settings when they feel a strong sense of social belonging and connectedness. In studying predominantly white, middle-class, college students' use of Facebook, Ellison & al. (2007) found that intensive use of the site was associated with higher levels of bridging capital and, to a lesser extent, bonding capital and maintained social capital, a concept the researchers developed to describe the ability to mobilise resources from a previously inhabited network, such as one's high school (Ellison & al., 2007). Using online social network sites can help deepen the relationships that would otherwise remain short and encourages users to enhance latent ties and maintain relationships with old friends. Therefore, using these sites enables people to stay connected even when in the physical world they move from one community to another, for example moving from high school to college (ibid.). Steinfield and colleagues 2008) found that the use of online social network sites allowed students with low self-esteem to gain more bridging capital than students with higher levels of self-esteem. Facebook provides stigmatised learners with low self-esteem more control over their (self-) presentation than direct interpersonal communications (Elison & al., 2007). Since existing studies failed to research how primary school pupils use Facebook for informal learning, we attempted to fill this research gap and answer the research questions of how Slovenian primary school pupils use Facebook for informal learning and what kind of social capital they enhance.

The popular media predominantly label the use of such sites as extracurricular activities that have a negative impact on academic performance, and which are responsible for the drop in literacy standards and a threat to social values . On the other hand, the number of experts who argue that the use of online social network sites promotes cognitive development is growing. Recent studies suggest that many learners are increasingly turning to information and communication technologies as learning tools outside of school.

2. Methods

The objective of this study was to establish how pupils use Facebook for informal learning and enhancing bridging and bonding social capital. We published an invitation to participate in the study on all Slovenian primary school (450) internet pages, and 246 pupils responded. We selected the first 60 pupils who meet our requirements in terms of demographic data (age, grades, location, income, use of Facebook and gender). The respondents were aged between 13 and 14 years (i.e. in the last two classes of primary school) and approximately equally distributed based on gender, low and middle income families, rural and urban locations, low and good grades and «active» users of Facebook (use it every day for at least 30 minutes) and «less active» users (use it at least twice a week for at least 30 minutes). All participants had a home computer connected to the internet and had used Facebook for at least a year.

Attempting to understand the nature of pupils' use of Facebook for informal learning merited a qualitative research design that focused on the data collection process, maintained design flexibility to allow inductive hypothesis generation and considered the validity of the young people's experiences and narratives (Maxwell, 1996). We triangulated multiple data sources including: 1) semi-structured interviews (Walker, 1998); 2) think-alouds (Clark, 1997); 3) content analyses of informants' Facebook profiles (Jones & al., 2008). First, we used a very simple form of content analysis, adapted from Jonese & al. (2008).We tried to establish what messages the participants posted on their Facebook profiles and how their messages differed by grades, location, income, use of Facebook and gender. The participants temporarily placed us on their list of friends, but we tried to minimise our impact on informants' behaviour by never posting, commenting or otherwise indicating our presence as observers.

Second, we used in-depth interviews, which were appropriate for our purposes because they allowed us access to clear and accurate opinions based on personal experiences (Walker, 1988). We tried to discover how pupils use Facebook for informal learning by asking: 1) General questions about Facebook use (e.g. On a typical day, when you login to your Facebook profile, what do you usually do there? Why? Can you give me an example of some of the ways you get your ideas, interests or emotions across on these sites, if at all? Do you see any problems or difficulties with using Facebook? Any benefits to using Facebook?); 2) Questions focusing on learning (e.g. What do you think you are learning, if anything, in using this site as you do?); 3) Individual questions based on the previously conducted content analysis.

Third, participants engaged in a think-aloud, a technique that involves asking them to report thoughts related to performing a task as it is unfolding (Clark, 1997). We asked our participants to talk-aloud as they engaged with their Facebook profile, prompting them with questions about what they were doing, why, how and what next in relation to learning, in an attempt to understand their experiences.

We conducted the study in the first half of 2012 using locations chosen by the participants, most often coffee-houses. The interviews and think-aloud sessions together lasted between 90 and 120 minutes, during which we recorded the information to transcribe later. To check the accuracy of the published data, we compared the results of the content analysis with the in-depth interviews and think-alouds. Finally, because the participants only spoke to us on the condition of their anonymity, their names were changed, and words that could identify them were replaced by X.

3. Results

3.1. Connection between Facebook and school

The majority of participants saw a connection between their use of Facebook and the knowledge and skills they believed their teachers valued in school. They expressed that at first sight there is no connection, since the use of Facebook is related to entertainment and school to work, but the connection exists, it is «supportive» and carried out on a daily basis, such as the use of Facebook to support school learning, especially in completing school assignments. This is a typical example: «At a glance Facebook is the opposite of what we are doing in school... from what teachers want from us. It's true; it's like night and day. See... Facebook is fun, school is so intense... I have to be serious. However, the connection between the school and Facebook use is that through Facebook use I'm better at school. Of

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course, I do not use it only for school, but ALSO for school-related issues. And now the answer to your question about how I see the relationship between the school and Facebook: I can say that it is supportive. Facebook basically helps me to do things for the school better. Yes, it helps me every day» (Rok). The participants identified several ways in which they used Facebook to vent about, or get help on, school-related issues or assignments.

3.2. Exchange of practical information

All participants mentioned that the most common support they received from their Facebook «friends» was an exchange of practical information on school-related issues or assignments. This practical support included help in acquiring learning materials such as textbooks, books, notes and other learning materials. The participants regularly share information about these materials and provide learning materials such as notes. This is a typical example: «I have to admit something. Because I'm lazy, but also when I'm sick and I don't have the text written in school, then I ask classmates for this material... or I ask them where to get the books that we have to read» (Zoki).

The participants are aware of embedded resources in their social structure, i.e. «friends» can be helpful, and they use these resources in purposeful action. In doing so, they also learn solidarity and reciprocity; they help their «friends» because they will help them. This is a typical example: «Sometimes I really do not feel like to scanning my workbooks for my friends, but I am aware that I will also need help. Because of my frequent musical performances I'm often absent from school. And then I always get a copy of what they did in school» (Mira).

Content analysis showed that male participants mainly ask for learning materials and rarely help others in terms of providing materials, while female participants do both. This analysis also showed that at least half of the practical information included information about the work and personal characteristics of individual teachers. Most of the pupils had failed to disclose this information, and they spoke about it after we asked them. Some justified the suppression of this information with emphasizing that this practice rarely used, while others admitted that they did not tell us because they were afraid that we could tell their teachers and cause them problems. This is a typical example:

• Interviewer: You also wrote some information about the teacher?

• Jernej: What do you think? I don't understand?

• Interviewer: Look, most of you wrote about the teacher–if I understand well–of mathematics? TeacherX?

• Jernej: Yes, indeed, we have written about X, because he is... strange.

• Interviewer: Do you have problems speaking about this?

• Jernej: Well... to tell you the truth, for me it is a little risky, because... you could tell this X.

• Interviewer: We give you anonymity and I will not give your information to X. So, what's the problem?

• Jernej: Well... I think it's fair to warn friends of what was happening in mathematics and about X's crazy mood today and not to go to his class.

The participants do not exchange practical information only by request, but also based on concern for friends' school assignments. These «friends» are not only classmates as described above, but also other acquaintances and family members. This is a typical example:

• Mateja: I feel very good when my friend sends me some advice or even a solution to my school problem. Because I have a feeling that someone is thinking of me.

• Interviewer: What do you mean?

• Mateja: Let me tell you the last example. I had homework about genetically modified plants and I had not found literature on the cultivation of genetically modified maize in Slovenia. And then Nataša, my distant relative, I think she is my mother's cousin, sent me a link to the article, in which it is written that Slovenia doesn't cultivate genetically modified maize. Do you see, I didn't find the information because it doesn't exist. She saved me. And so I solved the problem, but I felt... how I can tell you... I felt nice and connected with her and others... I realised that I'm not alone with my problems.

3.3. Learning about technology

Analysis of content and participants' answers shows that pupils use Facebook to learn about the technology with which they support formal learning. With the help of «friends» they have learned to use programs to complete specific assignments, e.g. create posters, use multimedia programs to design photos and videos, design photos using Photoshop and present their school work using Prezi. This is a typical answer: «My friends taught me about Prezi, which is the best program for presentation work at school. Without this knowledge my presentations would be boring. I would still use traditional PowerPoint» (Ana).

Content analysis showed that the participants use legally purchased programs, but also, and mainly, use illegally distributed programs. Since they argue that all internet programs should be free, because multinational corporations only maximise profits at their expense, the participants do not see the illegal distribution of programs as a problem. This is a typical answer:

• Interviewer: I saw that you all distributed programs illegally.

• Urban: Yeah, so what?

• Interviewer: You do not find it problematic?

• Urban: No, I think everything on the Internet should be free. Now they just make profit at our expense.

• Interviewer: But the use of Facebook is also based on profit.

• Urban: Yes, but this is different, because we do not have to pay.

3.4. Obtaining validation and appreciation of creative work

The participants use Facebook to obtain validation and appreciation of creative work through feedback on their profiles and assess other profiles with commentaries. In doing that, they also learn the social skills of empathy and behaving respectfully towards each other. This is a typical example: «Yes, yesterday my friend Sašo put up a new photo, we criticised it... My opinion is that it is horrible... for me... Of course, I can't write that, because then he can get to me when I post some new photo... And I think that sucks, if someone is ruined in such a way, because it hurts. And, sooner or later I will need Sašo. So, I tried to explain to him why it is a bad photo» (Urban).

They also obtain validation regarding school assignments. More than half of the participants said that they published their work at least occasionally and asked their friends for their assessment and suggestions regarding continuation and improvement.

• Maša: Sometimes when you do not know, or I'm not sure if I've written well, I put something up and ask for comment.

• Interviewer: Please, tell me in detail.

• Maša: Last week I put up an essay for history.

• Interviewer: And what happened?

• Maša: I got three comments, but only one was useful. It was from my school friend, but this has really helped me, because Nina showed me what was missing in my essay.

3.5. Emotional support

Facebook also provides emotional peer support. This is the only form of analysed support where a difference exists between the participants. Namely, only female participants openly described their negative emotional state, such as frustration, anger, helplessness or disappointment, associated with their school assignments. Peers, especially female classmates, responded with supportive messages, which helped improve their emotional state. For example, in the following statement Sarah explains how Facebook use provides her emotional support: «When I'm down then I usually whine a little on Facebook... You know, to decrease my frustration... then I'm better. And sometimes when I get a low score in school, my classmates write to me on Facebook, Sara don't worry, you're not alone in your suffering, sustain a just a little bit more and it's over... Yes, I'm better. Of course, I do the same for my best school friends».

For male participants, emotional support is interaction with «friends» in a various ways. This is a typical example: «When I'm angry, I mean when I'm in a bad mood, for example, when I can no longer learn or do my homework, it helps me that I go on Facebook. Then it depends on who's up and what's new. After such a break I feel much better» (Igor).

3.6. Organisation of team work

A third of the participants said that they used Facebook to contact other pupils with the intention of organising group meetings for project work. This is a typical example: «I and my friends often do group project work. Well... in the courses where we can do project work. So far it's three courses. Usually I ask classmates on Facebook who wants to take part in this project with me or also with others. Then we work with each other on Facebook or at school… I once responded to such call» (Simona).

On Facebook, the participants also assign tasks to individual team members, checking progress and explaining work instructions. This is a typical example: «I find it a good practice when we are on Facebook to coordinate our school work. We can be on Facebook and promptly see how our work is progressing, how my friends are doing and I can comment on ongoing work» (Ariana).

Content analysis revealed that the participants generally coordinate their collective school assignment, before individual participants write their part of it alone and then post it on Facebook. Members of the working groups validate each other's work. It is at this stage that conflicts usually occur. According to informants, the advantage of organising the work on Facebook compared to face-to-face communication is that rules are written and conflicts are quickly resolved.

• Interviewer: I read about your fight with Niko. What was that?

• Jan: I was angry, because Niko had not fulfilled his obligations. We did all done what had agreed; only Niko didn't. And I was right, because it was all written on Niko's profile. And this is nice because everything was written. So, Niko now has to do the assignment again, as we agreed. I was just pissed off because we lost a week because of Niko (Klemen).

3.7. Better knowledge of teachers

Only quarter of participants responded positively to the question of whether their high school teachers created a profile on Facebook and whether they interacted with them. The majority of them emphasised that teachers can only be asked questions related to school activities. A typical statement came from Sabina: «Only a few teachers have created their own profile on Facebook. Our teacher for computers has her own profile and she allows us to ask her anything about her course». The participants also stated similar arguments already revealed by other researchers (Hewitt & Forte, 2006; Teclehaimanot & Hickman, 2011): pupils would get the opportunity to get to know their teachers better if teachers used Facebook. This is a typical example: «Teachers who have a profile that we can see… I find different and more progressive... I do not know how to tell you. However, I find this good» (Karmina).

Content analysis revealed that among 15 participants who have access to teachers' profiles only two communicate with them. In both cases, the participants ask the teachers about their assignments. However, not to lose their good image among friends, the participants communicate with teachers only when they get no useful information from their classmates.

• Interviewer: I saw that you wrote a message to your history teacher. Why?

• Peter: Last week I was sick, but no one could tell me what I had to do until Monday, when it was my turn to present a school project. So I didn't have any other option. I had to ask this teacher.

• Interviewer: And how did the teacher respond to your question?

• Peter: OK. He wrote back to tell me what I needed to do on the same day.

• Interviewer: What do your friends think about your communication with the teacher?

• Peter: Nothing, because they know that I had no other options. A different situation would be if I hadn't asked them before.

More than half of the participants said that their teachers have created a Facebook profile, but that they do not have access to them. Some participants (11) emphasised that they have access to some teachers' profiles; they regularly visit them, but do not interact with them because of social pressure from classmates and fear of a negative reaction from teachers. They have a better opinion about those teachers who on their Facebook profile include details of their different leisure activities, especially in the fields of sports, technology and art. For some participants, those teachers are also a role model. This is a typical example: «Look, I visit the profiles of some teachers because I found that they are in fact quite different than in school. For example, the English teacher, who presents herself in the school as very strict, in her leisure time plays the guitar. And she plays it very well as I've seen in her video. Yes, she is good and I also try to be good. She inspires me in some way» (Rebeka).

Eleven pupils did not even state whether their teachers have a profile because this does not interest them and they do not want to communicate with them in their spare time.

Facebook also provides emotional peer support. This is the only form of analysed support where a difference exists between the participants. Namely, only female participants openly described their negative emotional state, such as frustration, anger, helplessness or disappointment, associated with their school assignments. Peers, especially female classmates, responded with supportive messages, which helped improve their emotional state.

4. Discussion and conclusion

The results of the study show that Slovenian pupils regularly use Facebook for complementary and supplement to classroom learning, i.e. informal learning. Thus, the use of Facebook serves as support for learning, such as providing emotional support for school-related stress, validation of creative work, peer-alumni support for school-life transitions, and help with school-related tasks. Facebook offers an informal context as support for formal education. Facebook is also part of the «social glue» (Madge & al., 2008) that allows learners to be part of a community that helps them overcome learning difficulties. However, pupils do not use Facebook intentionally for learning, they just try to accomplish their school assignments or/and reduce emotional tension.

By using Facebook, pupils enhance social capital by stimulating resources embedded in their social structure and mobilizing them in purposeful actions. Thus, this study shows that pupils benefit from investment in class network and cultivation of trust, reciprocity and social cohesion (Putnam, 2000). We found out that social capital serves as pupils' support structures in different ways. By using Facebook, pupils maintain an extensive network of weak ties that are a source of bridging capital, and deeper relationships that provide them with emotional support and a source of bonding capital. All the participants emphasised the importance of the emotional support they receive from friends on Facebook, resulting in the creation of bonding capital. All the participants also stressed the importance of providing pupils with practical information regarding school assignments, obtaining validation and appreciation of creative work through feedback on their profile pages and learning about technology, resulting in the creation of bridging capital. Thus, bonding social capital serves to create a lens through which group members (in our case classmates) affiliate with group members (classmates) inside the group (class) by using Facebook. On the other hand, the bridging social capital serves to create bridges or links by using Facebook that allow pupils to share information regarding school and other resources.

These findings do not support the popular view that Facebook users are isolated and not connected. The study shows that the opposite holds true, a finding that concurs with the recent literature on the effects of informational, social interaction and identity-construction uses of social network sites (Greenhow & Robelia, 2009a, 2009b; Greenhow2011; Valenzuela & al., 2009). Overall, the findings of the study should ease the concerns of those who fear that Facebook has mostly negative effects on primary school pupils' social capital. However, the participants reported communication with their «weak ties» (Granovetter, 1973) or maintain bridging social capital. This is confirmed by other studies (Steinfield & al., 2008; Stefanone & al.,2012), which discovered that people are using Facebook to maintain large, diffuse networks of friends, with a positive impact on their accumulation of bridging social capital. Facebook networks appear to be a collection of weak ties well-suited to providing new information, and also useful for learning.

The study also showed that in Slovenian formal education Facebook is not used for education. As pupils regularly and actively use Facebook, schools must help them to use it ethically, responsibly, safely and to take advantage of its benefits. It is therefore necessary to implement media education within the curriculum (Slovenian language, Ethics and society), but this depends on the willingness of individual teachers.

Key differences between the participants were found in the expression of emotional support. Female participants are more likely to use Facebook for this purpose, and more explicitly express their emotions. This can be explained by socialisation patterns, in which girls are still raised in a way that means in public they can more freely express emotions in public more than boys (Ule, 2009).

This study also showed that in contrast to the previous study on the use of social network sites for informal learning (Greenhow & Robelia, 2009b), our participants saw a connection between the use of Facebook and the knowledge and skills they believed their teachers valued in school. This can be explained by the prolonged use of Facebook, which also penetrates into the area of learning.

Since this is the first study in this area, it is limited both in qualitative and quantitative terms. Since our research was limited to six months and we were unable to identify changes in the use of Facebook, in the future a longitudinal study should be carried out. Further study would be necessary to carry out quantitative research to generalise the findings. Since we analysed only Slovenian participants, in the future it would be necessary to carry out international comparative research. The study also shows the need for additional research to reveal how Facebook and other social network sites support learning objectives and, in terms of substance, encourages the development of new forms of learning. Studies in education and the media should encourage the exploration of personal social network sites and pupils to determine the link between online and offline activities.

The study also showed that in Slovenian formal education Facebook is not used for education. As pupils regularly and actively use Facebook, schools must help them to use it ethically, responsibly, safely and to take advantage of its benefits. It is therefore necessary to implement media education within the curriculum (Slovenian language, Ethics and society), but this depends on the willingness of individual teachers (Erjavec, 2010).

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Ethos, Pathos and Logos in Facebook. User Networking: New «Rhetor» of the 21st Century

Ethos, pathos y logos en Facebook. El usuario de redes: nuevo «rétor» del siglo XXI

ABSTRACT
One of the «black holes» of academic research in Communication is the shallowness of reflections on the classic origins of Communication, its aims and points of entry. In this respect, the study of communicative processes on the Internet becomes particularly relevant (specifically the social networks processes) when observed from the classic rhetorical perspective. We focus on the use of persuasion strategies (ethos, pathos, logos) as well as the abundant use of rhetorical figures. Such parameters, along with the resources that emergent technologies offer, unleash creativity and afford humanist aspects to network communication. These give on-line platforms an extremely persuasive strength. Thus, we may speak of the network user of the 21st century as the new «Rhetorician». Our research on Facebook addresses the presence of rhetoric in online social network communication: the user of these platforms applies communicative strategies described by the Rhetoricians dating back to Greco-Roman antiquity. The methodology in this work (the study of three typified cases and the content analysis of conversations generated on Facebook walls) allows us to intertwine rhetoric and communication today, mediated by the emergence of online networks. We propose the retrieval of certain parameters of deep, critical thought to the benefit of a more human communication.

RESUMEN
Uno de los «agujeros negros» de la investigación en comunicación tiene que ver con una carencia de profundización en los orígenes clásicos de nuestros estudios, de sus objetos y de los acercamientos a estos. En este sentido, cobraría especial relevancia el estudio de los procesos comunicativos en Internet (en concreto a través de las redes sociales) bajo el prisma de la Retórica clásica. Especialmente, nos referimos al uso de las estrategias de persuasión (ethos, pathos, logos) así como al abundante uso de figuras retóricas. Tales parámetros unidos a los recursos que ofertan las tecnologías emergentes otorgan una enorme creatividad y aportan aspectos humanistas a la comunicación en red, claves de la fuerza persuasiva que caracteriza a estas plataformas on-line. De esta forma podemos hablar del usuario de redes como el nuevo «rétor» del siglo XXI. Nuestra investigación sobre Facebook aborda la presencia de la ciencia retórica en la comunicación generada en las redes sociales on-line: el usuario de estas plataformas utiliza las estrategias comunicativas descritas por la disciplina retórica desde sus comienzos en la antigüedad grecolatina. La metodología empleada (el estudio de tres casos tipificados y el análisis de contenidos de las conversaciones generadas en los muros de Facebook) nos permite entrelazar la Retórica y nuestro presente comunicativo mediado por la emergencia de las redes. Proponemos así recuperar unos parámetros que devuelvan el pensamiento profundo y crítico en favor de una comunicación más humana.

KEYWORDS / PALABRAS CLAVE
Social networks, rhetoric, communication, Internet, Facebook, user, interface, persuasion, interdisciplinarity.
Redes sociales, retórica, comunicación, Internet, Facebook, usuario, interfaz, persuasión, interdisciplinariedad.

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1. Introduction and state of the art

This article tackles the presence of rhetoric in communication in online social networks. Specifically, the research intends to show how the user of these platforms makes use of communication strategies described by rhetoricians since its origins in Greco-Roman antiquity. The use of «ethos, logos and pathos», and –notably– the abundant use of rhetorical figures, anticipates the presence of humanist aspects in network communication, endowing it with a great deal of creativity. Such parameters, along with the resources that emergent technologies offer, shape these platforms' typical persuasive strength, because of so-called collective intelligence (Flores, 2009: 78; Aguaded & al., 2009). In a very short time, an «all-communication» society became established, one in which information circulates mainly through social networks, connecting millions of people all over the world. Social networks prevail, playing a significant part in our personal, social and work life (Boyld & Ellison, 2008). By getting closer to social network discourse –technology-mediated Communication– it is easy to observe deep epistemological changes within the Communications field. The authors of this study think, along with Cuadras (2009: 23), an expert in Semiotics, that one of the theoretical paradoxes of our time lies in that «together with the great techno-scientific mutations which redefine the communication phenomenon, the models which try to explain it are logo-centric and literary-based». We therefore share the need to review the communication phenomenon from a techno-generated communication theory. This phenomenon has proved difficult to apprehend with the usual models, i.e. communication theory models, which have been the guidelines for communication thought –, and now appear likely to undergo revision in order to reveal their limitations and, therefore, open them up to new constructions of their elements.

Within this changing process, classic rhetorical elements and strategies are still clearly recognizable, and now reinforced by the possibilities which emergent technologies offer.

Faced with the shift of the above-mentioned models, we need to study and look for new standards in order to critically these models. Thus, St. Amant (2002) states the need to compare computer-mediated communication models with intercultural communication in order to find convergences. Along this line, the presence of rhetoric on the Internet is at the origin of many interesting academic articles (Albaladejo, 2007; Warnick, 2011; Berlanga & Alberich 2012: 143-144); Internet is a rhetorical space in its configuration (Barbules, 2002) and in its interface, due to the presence of rhetorical figures (Clément, 1995; Gamonal, 2004). Nevertheless, mutual transferences between rhetoric and the social network appear to be an innovative field of study with no concluding results so far. Within this changing process and concept replacement, the present study contributes to the current research trend by looking into its widening scope and possibilities.

In the same way, and being active within the communication field, we consider it apt to shift our view to the classics. This is not only due to one obvious reason: that the art of persuasion was born and structured precisely in Greco-Roman culture through discourse based on principles that are still valid today. It is also timely and convenient to go back to classic principles, original –there is nothing more original than going back to the origins– in a historic moment such as ours, characterized by such vibration, immediacy and information surplus, which makes us head willy-nilly towards a depersonalized and superficial communication. In contrast, this research is framed within a generic line of humanism and classic anthropology recovery in the field of technological communication (Sanderson, 1989; Victoria, Gómez & Arjona, 2012).

1.1. Communication on the Internet, a new paradigm

When analyzing communicative processes on the Internet, we face certain theoretical problems which stem from online communication's own features. This communication is interpersonal and collective, synchronous or asynchronous –in combination of both modalities for social network interactions–, which breaks with linearity and requires, based on its virtuality, new approaches for its constitutive elements. The communication subject, or in this context the user, becomes relevant in the face of the traditional model: interpersonal communication shows important differences in the structure of sending-receiving. By user, we mean someone taking an active part in the Web, as sender or receiver, as actor or mere spectator. Some authors are very critical of the user: «As a new Ulysses of the twenty-first century, net users navigate this virtual ocean, it being a network, a crossroads word for: being nobody» (Cuadras, 2009: 22-32). However, it is true that the user is open to new suggestions through possibilities for interaction (Rintell, Mulholland & Pittam, 2001).

Kiss and Castro (2004: 227-231) explain the construction process of the subject of enunciation. The possibility we have for creating real or invented worlds on the Internet begins with the construction of the individual referent: the subject of enunciation elaborates a self-image to communicate. In turn, we may only think of the network functionalist model as a multipolar whole of integrated nodes through which flows of messages occur according to Web-based codes and languages. Interaction participants are no longer required to share the same reference frame or the sociocultural paradigm, as required in communication described by traditional models. Referentiality is displaced by the concept of virtual «trans-contexts: digital constructs which act as devices in the communicational space. These contexts «set up beyond progression taken as «calendar time and cardinality»: we face an unhistorical and territorialized space» (Cuadras, 2009: 26).

1.2. Convergence of classical rhetoric and online social networks

We perceive deep, underlying changes in this type of communication, a clear-cut analogy and convergence between the social network format and the resources of persuasion, such as the creators of rhetoric conceived them. Each user intervening in the social networks acts in order to communicate with diverse persuasive aims (convince, seduce, please, move, be interesting, etc.); rarely do the users just «share their life», and when they do, it is with the aim of prompting certain responses amongst friends-users within the social network, an intention with a certain degree of persuasion. In order to attain these persuasive aims, social network users turn to –most probably unconscious of it– several rhetorical strategies. We may even establish that they follow a similar process in discourse construction to that of classical orators (inventio, dispositio, elocutio, actio and memoria): they look for ideas and arguments (inventio) which they then somehow organize, even though not in the typical discursive order (dispositio). The users express them according to certain elocution strategies, and finally they represent these strategies using new forms of pronunciation (actio). Thus, such discourses give feedback to the treasure of contents within the social network (memoria) once they belong to it by having been «spoken out». By contrast, social networks allow for the inclusion of multiple text variants (text, fixed image, video, multimedia, etc.). These widen their expressive potential and support discourse to achieve their persuasive aim. Thus, with a short message one may say a lot. In other words, these are all typical aspects of rhetoric, well suited for written communications and interpersonal communication.

Along these lines, network users display the typical features of the classical orators, those persuasive techniques passed down without interruption throughout history, now evidently reinforced by technology. We hereby refer to the frequent use of literary figures such as creative language deviations, and specifically, to the use of ethical, logical and pathetical strategies (Aristotle, 1991), and thus we can call this user the new 21st century rhetorician.

> **Rhetoric has found new channels and unsuspected dimensions on this social network (in fact on all social networks). We offer as examples, firstly, dialogue enhancing with the interaction of all instances sharing communication; ease of the speaker's productive activity; ease of the receiver's interpretative ability; opportunity to lead the discourse along other lines because of acceptance or rejection by users; possibility of rational storage of information; and finally, ease of linking information and documentary sources.**

2. Materials and methods

We formulate our initial research question as follows: H1 – social networks may be referred to as the new rhetorical space or the 21st century agora. Rhetoric has a long-standing presence in audiovisual communication generated on social networks. To this hypothesis can be added: H1a) the discourse of social network users is full of rhetorical figures; H1b) rhetorical figures employed on social networks generate thought, dialogue and more efficient communication.

Our research objectives are: to underline the presence of rhetoric in social network discourse, specifically the use of persuasive strategies by the user.

Following on from this, we will present our interpretations of the studied phenomenon looking at the specific features of the various selected profiles. Finally, as an operational objective, we will evaluate research results and put forward theoretical and practical applications.

The research mainly follows the case study method. According to Stake (1995: 28-29), we need to study and look for new standards in order to understand these models from a critical viewpoint. Case studies are welcome in underdeveloped fields of knowledge in which new theories should be stated. We believe that using this methodology in the rhetorical study of a social network, Facebook, may prove interesting, since it is a seldom-used point of entry. We also use data collected in the content analysis (Berelson, 1952) of discourses on users' walls to extract data about the rhetorical figures employed. This quantitative content analysis stems from a prior research work (Berlanga & Alberich, 2012: 146): wall discourses were studied across 16 micro-networks, with 200 intervening users. Following a rigorous selection rule, daily screen shots were taken of the users' wall over 3-4 weeks: with just a few screen shots we already perceived an enormous quantity of rhetorical figures so it was deemed unnecessary to continue taking shots for any longer. The users did not know about the screen shots, in order not to influence their activity. Obviously, those finally selected to take part in the research were informed about the project and we asked them for permission to use personal data. For the present research work, we extract percentages and the use of different rhetorical figures, and three profiles are analyzed in depth.

The study uses as its sample social network users from among the Spanish population in 2011-12. Three subjects, Facebook users, make up the sample; each of them represents one typified profile in the fourth report of the Social Networks Observatory, «The Cocktail Analysis» (2012)[2]. We chose these users as we needed easy access to their user wall. Therefore, it is an incidental sampling method. We selected conversations over a period of 30 days throughout February-March 2011. We chose Facebook because of the data supplied by that report, and because Facebook absolutely predominates, reaching 85% of net users, whereas Tuenti has a 36% share, and Twitter (32%) is developing fast to become the third social network by penetration.

In each case in the analysis, the following aspects have been taken into account: personal profile data, one question of the survey undertaken by each user on the conscious use (or not) of rhetoric; wall content: discourse, conversations and interventions; and finally, the rhetorical density/intensity of their discourses. We understand by density the ratio of total rhetorical figures by space. Diversity is the ratio of different rhetorical figures by space, and intensity defines the relationship between the figure and its strength (García, 2000: 29-60).

3. Analysis and results

3.1. Profiles on Facebook

The three cases studied in this research correspond to three types of social network user profile listed by the Social Networks Observatory, in their 2012 «The Cocktail Analysis» report.

• Case 1: Female, 59, teacher. The user responds to a profile called «Social Controller» (40%). This is the oldest profile age, 43% are over 36. It represents a user segment, which already has significant network usage experience, but needs to be in «control» of their use. To the questions: Do you consider that classic rhetoric, specifically the use of figures, is present in Facebook wall conversations? And particularly in your conversations? Have you ever thought that your discourse on Facebook may be following rhetorical strategies? The subject answers: «I love rhetoric, and I think that it is a creative way of expressing feelings. To do so, helps me to de-dramatize, it is a way to say something more indirectly; or it helps me to exaggerate things I want to emphasize, I find it very amusing. I think I use rhetoric each time I want to express something more about me on Facebook».

• Case 2: Male, 34, lawyer. The user responds to the «Social Media Addict» profile (25%). This is a particularly male profile and the average age is 31. Although «hooked on» social networks, the subjects do not feel this to be a problematic. In response to the question about the intentional use of rhetoric, the subject answered: «Hum, it never occurred to me... I usually make sure I write properly because there are many people reading your stuff and I guess the use of those figures is implied. However, getting to it is another question». Case 3: Male, 16, high school student. The user responds to the «Youth in Search» profile (35%). This is the youngest profile, more than half of its components are 25 or younger. The profile is quite heterogeneous: some «hooked on» subjects coexist with others who are less active. To the question about the intentional use of rhetoric, the subject answered: «Rhetoric? On Facebook? No. Absolutely. I don't think we spend our time making metaphors, ha, ha, the Spanish teacher would be thrilled!».

3.2. Discourse rhetoric

Each of the users analyzed in the study has employed persuasion to «share their lives» but also with the aim of generating a particular response among their friends-relatives-users of the same social network. A hint of persuasion may be present in this particular aim. The users turn to different rhetorical strategies in a particular way, and make frequent use of rhetorical figures. The following wall excerpt is an example: the user uses figures such as metaphor, rhetorical interrogation, synecdoque, pleonasm, hyperbaton, epanalepsis and personification.

The authors have noticed that user postings have different objectives (to inform about a certain matter, show support, congratulate…). But often the senders only wanted to express their mood when posting, and by doing so, they expect a certain reaction from their audience by using an essentially emotional argumentation. No matter how short the message is, it can still be rhetorical, for this modality of influence may become persuasion. Thus, in most cases, the interventions consist of short sentences, which are the most appropriate to this modality of persuasion. This is particularly clear in Case 3, the prototype of an adolescent user deploying typical resources of cyber language (Paolillo, 1999).

One of the social networks' advantages when configuring rhetorical discourse, is particularly clear on these users' walls: the availability of multiple textual variants (writing, fixed image, video, multimedia, etc.) which considerably increase the expressive potentiality of discourse and support it to enable the discourse to reach its persuasive objective. This advantage also means that a short message can convey a lot of information. We are, therefore, dealing with synthetic language frequently dominated by image. In Case 2, the user writes on the wall to talk about politics, generate debate and criticize the government. The wall was also used to campaign for votes when there were elections at a certain lawyers' association. In the two remaining cases, we noticed references to social topics that were generating public opinion at the time. As in the old agora, there is now a public space which allows for communication without hindrance or censorship (Dahlberg, 2001: 617).

The scarce participation of User 3 and the tone of his communication messages correspond to the profile

Image 1. Screen shot of user wall. Case 1.

type: on the one hand, these users are mainly active on Tuenti, a social network: on the other hand, the language used by this age range is usually poor and full of grammatical mistakes. Oral speech infects this kind of written communication (Yus, 2011). Looking at the rest of his wall activity, User 3 seems to have used this social network to keep in contact (accepting friendships, profile cataloguing, or video uploading).

3.3. Rhetorical strategies of discourse

Each of the wall conversations analyzed in this study presents one objective (to inform, convince, move or attract attention to something), and in order to reach these persuasive goals social network users have turned, perhaps unknowingly, to ethical, pathetical or logical reasoning. The Web displays those three communication strategies –already described by Aristotle— in every discourse. The logic lies in conceiving Internet as an extension of personal and professional relations. Facebook, in particular, is structured in such a way that enables the use of these strategies.

Ethos. We know the speaker through the posts generated by the user, whose use of written information, pictures or links reveals tastes and preferences... Thus, the user acquires a certain prestige (ethos). Most certainly, an idea of all «authority» survives in the user's discourse. The relationship one maintains or has established in the real world remains in the virtual world.

This is indeed the reason why the relation is added as «friend». It is true that on many other occasions contacts are added only to increase the number

Image 2. Screen shot of user wall. Case 2.

of friends, in order to create a better reputation within the social network (this is so among younger profile users or among those who use the social network as an extension of their professional lives). Many conversations revolve around the same person, reinforced by image (different, changing profiles photos).

Logos as rhetorical strategy very rarely appears on this social network; it depends on the other two strategies. Most of the time, topics and messages per se are secondary for persuasion; they may be qualified as irrelevant or trivial, for what becomes essential in each micro-network is the fact that the user relates to friends-relatives. The profile 3 user, who also uses Facebook as an extension of his professional field, is the only one in which the content of «what is said» takes on a more central role.

As far as pathos is concerned, Facebook's very nature makes it the dominant factor within the social network. Facebook walls are clearly oriented towards empathy and affective relationships. That is the reason for naming them «friends» (along with all the semantic depth of the term) all those who enter the micro-network even briefly. Pathos mainly supports communication: adhesion feelings or happiness, congratulations, and is much accentuated by smileys (emoticons). Image and video reinforce text. These stimulate receivers, prompting plenty of adhesion gestures: «like», congratulations, sentences expressing admiration, which constantly underline the reaction provoked, and which indicate the sender as the true persuader: the user has decided to include such images that initiate and reinforce the discourse.

3.4. Figure usage

Conversation flows on social networks are not particularly suited to more elaborate discourse; «ornatus», in addition to knowledge, requires pause and re-elaboration. Nevertheless, the most outstanding characteristic when analyzing these networks from a rhetorical point of view is the strong presence of figures and tropes in all profiles, regardless of age or education. As we predicted, and these subjects have confirmed, figures and tropes are used in two of the three cases, the sender being unaware of it when writing messages. Average rhetorical density in all three cases is 3.2 figures per intervention. It is a very high average in all cases except for Case 3, an adolescent user who scores 1.5 per intervention. Distribution by figure type is similar across cases: figures of substitution abound, reaching almost 50% of total use, followed by figures of addition (around 25%) and of suppression (around 25%). Cases 1 and 2 are the only ones to use figures of permutation, using hyperbaton on two-three occasions respectively. Regarding figure usage the following stand out in this particular order: metaphor, synecdoque and ellipsis appear in all three cases; only the youngest user exhibits symbols. We may conclude that this particular use of figures adds expressivity, creativity and depth to communication, as displayed below.

As an example, we present a visual representation of the users' discourse. The graph is shaped as a network, with nodes and edges. The particular user's

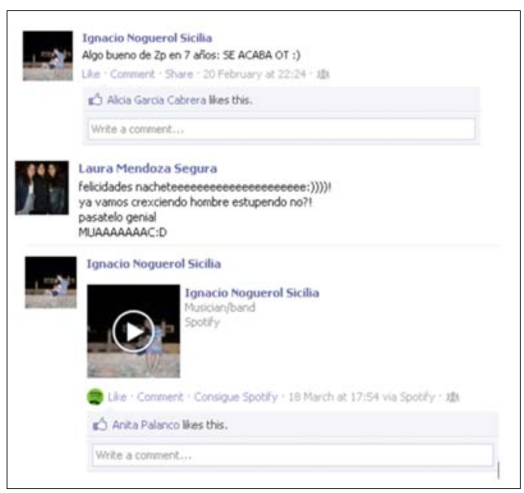

Image 3. Screen shot of user wall. Case 3.

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interventions (3c) are in green; his contacts' interventions (indicated by their initials) are in orange. In each box, we show the rhetorical figures used in the particular wall intervention.

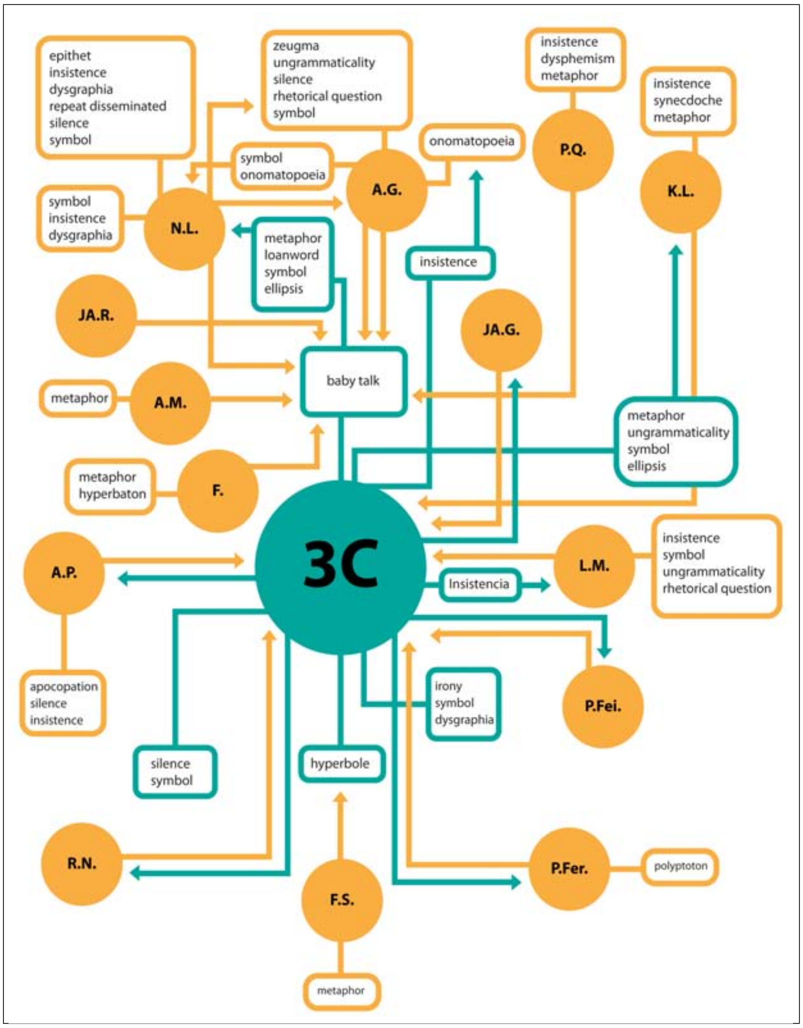

Image 4. Graph representing rhetorical discourse as network. Case 3.

4. Discussion and conclusions

After analyzing the wall conversations of three specific users, each representing a social network profile typified for Spain by The Cocktail Analysis report of 2012, we maintain that there is a rhetorical component in the communication taking place within these platforms, especially on Facebook. We reach our objective by showing the rhetorical nature of the conversations, because users employ rhetorical strategies, operations, and figures.

The results point to the use of rhetoric by social network users in the way that rhetoric has been used throughout history: as a social tool. Rhetoric has found new channels and unsuspected dimensions on this social network (in fact on all social networks). We offer as examples, firstly, dialogue enhancing with the interaction of all instances sharing communication; ease of the speaker's productive activity; ease of the receiver's interpretative ability; opportunity to lead the discourse along other lines because of acceptance or rejection by users; possibility of rational storage of information; and finally, ease of linking information and documentary sources. Thus, the micro-network shaped by the Facebook users' wall provides a better fit between discourse, speaker, receiver, and context.

In particular, the Facebook user applies strategies common to all discourses, which Aristotle described as: «ethos, pathos, and logos»[1]. Facebook has a structure that enables these strategies to function. Regarding «ethos», an idea of all «authority» can be clearly seen in the users' discourse. The relationship one maintains or has established in the real world, still remains in the virtual world. This is indeed the reason why the user confirms that particular relation as «friend». «Logos» as rhetorical strategy hardly appears on Facebook; it depends on the other two strategies. Topics and messages per se are secondary for persuasion; they may be qualified as irrelevant or trivial, for what becomes essential in each micro-network is the fact that the user relates to friends-relatives. Nevertheless, in other social networks (such the professionally oriented LinkedIn), logos takes on a predominant role. As for «pathos», Facebook's very nature places it as the dominant factor within the social network. Facebook walls are clearly oriented towards empathy and affective relationships. That is the reason why all are called «friends» (along with all the semantic depth of the term), even those who only enter the micro-network briefly. The rhetorical nature of Facebook walls becomes more important because of the dialogic nature of the Web. Dialogue and consent are at the root of joining a social network such as Facebook. Many interventions on user walls prompt an interactive expression: «like». The message senders who participated in our research looked for a reaction from the receivers; that is to say, that the receivers agree with the message content (clicking on this expression), or rather, that the receivers open a debate and write something on the space allowed for comments.

Facebook users employ certain rhetorical parameters, although they are unaware of this fact in most cases. Therefore, it is not really off-topic to conclude that rhetoric has as an inherently human dimension –humans being social and open to dialogue–. Studying rhetoric coincides with human discourse itself, and therefore affects all human activities. According to our results, plotted on a social network image, the use of rhetoric contributes to communication and generates responses.

The abundant use of rhetorical figures enables the listener's active participation in the discourse. This stimulates imagination, avoids the mere passive reception of messages and wraps the conversational partner up in such a personal way that the reply has a touch of originality and creativity. In short, this social network provides persuasion and communication with supporting elements hitherto unseen. All of these particular aspects shape the Facebook user as the new rhetorician of our time. As we predicted, the initial hypotheses in this research are confirmed: the social network can be considered a new rhetorical space or agora of the 21st century. Rhetoric has a strong presence in the audiovisual communication emerging from social networks. Social network users' discourse contains plenty of rhetorical figures which prompt thought, dialogue and a more efficient communication.

We would like to open up new ways of thinking in pedagogy-communication research based on these results. Thus, future research would include a transversal field –rhetoric– whose principles offer many possibilities for achieving a more efficient, humane and creative communication; in short, we provide the opportunity to read a reality that is breaking up, with parameters that belong to just one standpoint. We offer the opportunity to transcend immediacy, making use of a very different kind of knowledge, theories and experiences. Terence's saying, «I am a human being, I consider nothing that is human alien to me», is very much needed in the present scientific model, where pragmatism imposes itself as the only value. Such pragmatism also floods the social realm and, accordingly, the point of entry to communication studies. However, with our results in hand, we believe that rhetorical discourse intensity, that is, the ratio between figures used and their strength, could have been deeper and more direct. This point is hampered by the limitations of written conversation analysis and by having contacted with the wall owner only. In order to provide more conclusive evidence, we believe it necessary to include the remaining participants of wall conversation focus groups. Thus, this research work remains unfinished. The research object evolves and demands constant updating and methodological reformulation. Therefore, future lines of research should focus on the rhetorical component in emerging communication media.

Notes

[1] Aristotle in chapters I-III, Book I of his «Rhetoric» explains the three types of arguments which are offered in every discourse (1356a): «Ethos», which lies in the behaviors and authority of the speaker; «Logos», when the speaker convinces the audience by the discourse; Pathos, which persuades through emotions aroused in the audience.

[2] «The Cocktail Analysis» is a market research and strategy consultant agency, specialized in consumer trends, communication, and new technologies. Its social network observatory has published several reports in 2008, 2010, 2011, and 2012 (http://tcanalysis.com).

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The Reasons for Non-Use of Social Networking Websites by University Students

Razones por las que los alumnos universitarios no utilizan las redes sociales

ABSTRACT

Although social networking websites (SNSs, especially Facebook) have become highly popular with youths, some university students do not want to participate in such sites. This study explores the underlying reasons for high-tech university students' non-use of social networking websites. The study group (n=20) consisted of 18 to 25-year-old undergraduate students, who were selected by the purposive sampling method. Data were collected from two large state universities in Turkey. Facebook, as one of the most popular social networking websites, was selected as a study context. Qualitative research methods were used in the data collection and analysis processes. The primary reasons for not using social networking websites were that they were perceived to be a waste of time, or an unnecessary tool; that they might lead to an addiction; that they might violate privacy concerns or share unnecessary information; and that they might invoke family concerns. Additionally, the findings indicated that most of the students did not trust virtual friendships, and did not like sharing photographs and political views online. This identification of non-user students' attitudes about SNSs will help us to better understand individual perceptions and experiences relating to these social services.

RESUMEN

Aunque las redes sociales (los SRS, especialmente Facebook) se han popularizado entre la juventud, hay algunos alumnos universitarios que no desean participar en ellas. Esta investigación explora las razones subyacentes por las cuales los alumnos universitarios no utilizan las redes sociales. El grupo experimental (n=20) estuvo formado por alumnos de licenciatura de entre 18 y 25 años, seleccionados mediante muestreo intencional. Se recogieron los datos en dos grandes universidades estatales de Turquía. Facebook fue seleccionado para contextualizar esta investigación, por ser una de las redes sociales más populares. Los métodos de investigación cualitativa se emplearon en la recogida y análisis de los datos. Entre las razones principales por las que no utilizan las redes sociales se encuentran su percepción como una pérdida de tiempo, o una herramienta innecesaria; las posibilidades de poder conllevar una adicción; violar las normas de privacidad, compartir información excesiva; e invocar la preocupación parental. Adicionalmente, los resultados indicaron que la mayoría de los alumnos no confió en sus amistades virtuales y que no les gustaba compartir fotografías ni opiniones políticas en línea. El haber identificado las actitudes hacia los SRS de los alumnos no-usuarios nos ayudará a entender mejor las percepciones y experiencias individuales relacionadas con estos servicios sociales.

KEYWORDS / PALABRAS CLAVE

Social networking websites, Facebook, university students, dilemmas, social media, social services.
Sitios web, redes sociales, Facebook, universitarios, dilemas, medios sociales, servicios sociales.

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1. Introduction

The Internet is now very popular, and it has powerfully affected almost every aspect of our world, from commerce to education. It has even changed many people's daily lifestyles (Martin, Diaz, Sancristobal, Gil, Castro & Peire, 2011; Ceyhan, 2008). Some of the biggest Internet effects involve communications among people. Social networking websites (SNSs) offer a new way to understand, connect with, and learn information about other people (Carpenter, Green & LaFlam, 2011). SNSs are now often used for communications, to build relationships and to make new friends (Pew, 2009; Raacke & Bonds-Raacke, 2008).

Social networking on the Internet has increased rapidly in both prevalence and popularity in recent years, especially among university students (Pempek, Yermolayeva & Calvert, 2009; Vrocharidou & Efthymiou, 2012). The current generation of young people has grown up with access to computers and the Internet, and thus, many appear to have a natural ability and high skill levels when using new technologies. This is actually because a large portion of their daily lives is spent using the Internet, SNSs, digital tools, computer games, e-mail, mobile phones and instant messaging (Prensky, 2001). They frequently have computer and Internet access in their houses, dormitories and schools (Ahn, 2011). Hargittai (2008) reported that when students have access to the Internet at a friend's or family member's house, this increases the likelihood of their use of both Facebook and MySpace. However, an interesting fact is that, among high-tech students who can easily access and use technological devices – and who are very interested in computers and the Internet generally, a considerable number of students do not use SNSs (Harper, 2006). This study employs the term «non-user» to refer to people who do not use any social networking sites or to those who do not use a specific site.

The social networking website Facebook was selected for use in this study, because it is the most popular and most frequently visited social networking website among university students (eBizMBA, 2012). Facebook's statistics (March, 2012) report that there are 901 million monthly active users who create profiles, interact with Facebook objects, leave comments for friends, upload photos, and/or connect to community pages, groups, and events. These figures also attest to the popularity of Facebook. Recent studies have reported that a large proportion of students claimed they spent between 10 and 60 minutes on Facebook per day (Ross, Orr, Sisic & Arsen, 2009; Stern & Taylor, 2007). However, despite the widespread use of Facebook among young people, there are many deliberate non-users of Facebook in this age category.

Given the prevalence of SNSs and their importance in young people's lives, it is important to understand the factors which influence SNS use. The popularity of Facebook among young people has attracted the attention of many researchers, and several studies have examined the use of Facebook from different perspectives (Cheung, Chiu & Lee, 2011; Hew, 2011; Green & Bailey, 2010; Pempek, Yermolayeva & Calvert, 2009). Among the discovered reasons for student participation in Facebook are communicating with friends, looking at or posting photos, entertainment, finding out about or planning events, sending or receiving messages, creating or reading wall posts, getting to know people better, getting contact information and presenting oneself to others through the content in one's profile (Pempek, Yermolayeva & Calvert, 2009; Cheung, Chiu & Lee, 2011). These reasons might explain why social networking sites are being rapidly integrated to people's daily lives (Ajjan & Hartshorne, 2008). Similarly, educational uses of SNSs (Cheung, Chiu & Lee, 2011; Green & Bailey, 2010; Roblyer, McDaniel, Webb, Herman & Witty, 2010; Teclehaimanot & Hickman, 2011) and individual differences in using SNSs (Carpenter, Green & LaFlam, 2011; Ross & al., 2009) are currently popular subjects in research. Although these areas of inquiry are all important and worthy of exploration, a significant question has been largely ignored. Why do some university students deliberately not use SNSs? One study by Baker and White (2011), which examined the reasons offered by 9-10 year-old students at an Australian secondary school for their non-use of SNSs, reported that the primary reasons were lack of motivation, that it was a poor use of time, and that the students preferred other forms of communication. Secondary reasons were limited access, parental concerns, and the influence of friends.

This study will examine the reasons for non-use of SNSs (specifically Facebook) among high-tech university students, and their attitudes about SNS usage. To provide a specific methodological contribution, this study will focus on identifying variations in the reasons that high-tech students provide for not using Facebook. The study will be useful to different groups, including schools, governments, parents, corporations, and webmasters (Baker & White, 2011). With the increasing number of SNSs, many academicians are now considering their use as an effective way to reach students (Kabilan, Ahmad, & Abidin, 2010). Thus, this study will be helpful to those who want to develop educational tools to employ in SNSs. The research questions examined were:

1) What are the underlying reasons for the non-use of Facebook among high-tech university students?

2) What are the non-user high-tech university students' perceptions about the use of SNSs more generally?

3) What are the non-user high-tech university students' perceptions about online friendships and sharing ideas in virtual environments?

2. Methods

2.1. Overview

This is a descriptive case study, which focuses on why high-tech university students do not use social networking sites, even though they have access to the Internet and related technologies. A qualitative method was used during the data collection, to obtain in-depth information. The study focused on twenty university students, who were all deliberate non-users of Facebook.

2.2. Participants

The data were collected from 20 undergraduate students from Computer Education and Instructional Technology (CEIT) departments in two different universities in Turkey. One of the universities is in eastern Turkey, and the other is in northeastern Turkey. All of the students participated in the research voluntarily and received a CD-Pen for their participation. The participants were selected by the purposive sampling method, which is widespread in qualitative research (Patton, 1990). As table 1 shows, this study group was aged 18 to 25, and consisted of 11 female and 9 male students.

2.3. Data Collection Tools and Procedure

The data were collected by means of semi-structured interviews, using a method developed by the researchers. In order to ensure the validity of the data collection tool, two expert reviews and four peer reviews were consulted. According to their feedback, the interview schedule was modified and finalized. The interviews typically lasted 15-20 minutes and were conducted by the one of the researchers.

Table 1. Frequency distribution of gender by universities

	Universities		
Gender	U1	U2	Total (N)
Male	5	4	**9**
Female	7	4	**11**
Total	12	8	**20**

2.4. Data analyses

The interviews were transcribed and coded. Then, the transcriptions were analyzed by means of content analysis. Initially, the researchers conducted an analysis of single transcriptions to create a set of categories and subcategories related to the research questions. Themes derived from each participant's responses were shared and discussed among the r-searchers.

3. Results

3.1. The underlying reasons stated by non-users of Facebook

None of the participants (n=20) were using Facebook during the data collection. The students were asked which factors caused them to be non-users of this SNS. The findings are presented in table

Table 2. The underlying reasons stated by the non-users of Facebook

	Frequency distribution of themes				
	Female (N)		Male (N)		
Themes	Previous user	Always a non-user	Previous user	Always a non-user	Total (N)
Excessive time spent online	4	2	5	1	**12**
Lack of interest	4	5	1	0	**10**
Preference for other communication tools	1	5	0	0	**6**
Addiction	1	1	1	1	**4**
Dislike of self-presentation	1	0	3	0	**4**
Deviation from purposes of SNS	1	1	1	0	**3**
Being unsociable	1	1	0	0	**2**
Fear of academic failure	1	0	1	0	**2**
Prejudiced about the use of SNSs	0	1	0	1	**2**
Privacy concerns	0	0	1	0	**1**
Parents' concerns	1	0	0	0	**1**
Preference for using other SNSs	0	0	0	1	**1**
Friends' influence	0	1	0	0	**1**
Cyber-bullying	1	0	0	0	**1**

2. The participants were coded as P-numbers (P1, P2… P20). The frequency distribution of responses to this question is also presented in table 2.

Spending excessive time on Facebook was the most common factor which kept the students from using the site (n=12; 6 females, 6 males). They stated that the use of Facebook was too time-consuming and distracting. Examples of the responses included, «Firstly, time is very important for me, and I don't want to lose it» (P1, Female). «I conclude that, too much of my time passes on Facebook, so I have suspended my account» (P6, Male).

The second-most reported reason for their non-use was «Lack of interest» (n=10; 9 females, 1 male). Some students stated that they had no interest or motivation to use Facebook, and they thought it was meaningless and unnecessary. For example, one student said, «I see Facebook as an unnecessary tool. I think I can do whatever I might want to do on Facebook anywhere else» (P13, Female).

Six students (n=6; 6 females) said that if they want to communicate with other people, there are a lot of other tools with similar applications, such as MSN messenger, which allow calling and messaging via a mobile phone. In short, they prefer other communication tools for communicating with people. One student reported, «I am using a mobile phone for speaking and short messages for contacting» (P8, Female). Similarly, another student reported, «Obviously, I don't need to use SNSs. I can contact people with whom I want to communicate by mobile phone. Frankly, I have never felt a need to use Facebook» (P19, Female).

One of the reasons for not using Facebook is the addiction factor. Some students (n=4; 2 females, 2 males) were afraid of developing a SNS addiction. For example, one student said, «I got a Facebook account for playing games. My intent was only to play a game, Poker. I was playing Poker, and later I became a Poker addict» (P14, Male).

The non-user students also did not like the idea of self-presentation on this site. One reported, «Since I believed I shared too much of my private life, I suspended my account» (P12, Male). Another complained that, «Eventually, people do not engage in beneficial activities for society. Everyone is sharing their private lives, and I am not interested in their lives. Since I don't want to present myself, I don't find it necessary» (P4, Female).

Some students (n=3, 2 female, 1 male) reported that they started to use Facebook to contact and communicate with people, but later this purpose changed to a useless time-consuming activity. One student said, «I stopped using Facebook, because I noticed that I used it outside of my intentions. In my opinion, the purpose of Facebook is to keep in touch with people that are far away. I realized that on Facebook I was talking nonsense with people who are sitting next to my computer» (P7, Female). Similarly, another student said, «I think Facebook started as a good site, but later it developed very bad points. For example: Originally, it was put forward as a social network, but afterwards, games appeared. How should I know? Hundreds of comments were made on many of the articles. So I decided not to use Facebook» (P3, Male).

Another reason for not using this SNS was being unsociable (n=2, 2 females). One of the female students reported, «I don't think I will use Facebook again, because it decreases the quality of my communication with my friends» (P7, Female).

Academic failure was stated as another reason for not using Facebook. Two of the students remarked that they failed their exams when they used Facebook. One student reported, «Last year I had final exams, and I played Facebook games until morning. I went to my exams with two hours of sleep, and I regretted that very much. Since then I have not been using Facebook» (P14, Male). One female student also reported that she liked to use Facebook, but was scared of experiencing failures. She said, «I was afraid to use my Facebook account during my courses» (P10, Female).

Two of the students expressed that they had a prejudice against SNSs, due to encountering unpleasant experiences on Facebook or another SNS. They said that, if they were to use an SNS again, they might have the same unpleasant experiences. One female student had such an experience on MSN. She reported, «Use of MSN changed all of my habits. Particularly, it affected my grades in school when I was fifteen years old. After eliminating it, I cut completely off from the computer» (P9, Female). One student also reported that he already had a game addiction, and Facebook games could create another avenue for that addiction. He said, «I think that Facebook distracts me a lot, because I am addicted to games, and it has lots of games» (P16, Male).

One male student said that SNSs threatened his security and the confidentiality of his personal information. When one of the participants was asked why he thinks that his confidentiality was at risk on Facebook, he answered, «I didn't experience any unpleasant event, I just heard them from the news… So I have suspended my account» (P11, Male).

One of the female students expressed that her family prohibited her use of Facebook. She wanted to use SNSs, but her family's prohibition prevented her. She said, «My parents reacted and asked me to shut down my account. I want to re-activate it, but my parents will not allow me to do that now» (P10, Female).

The three least commonly reported reasons for not using Facebook were preference for using other SNSs, friends' influence, and cyber-bullying. One student stated, «The reason for deactivating my Facebook account is tending to use Twitter more than Facebook» (P6, Male). Another student said, «I suspended my account, because nonsense messages are coming consistently. I felt depressed. I am very comfortable right now» (P8, Female).

3.2. Perceptions of the non-users about the use of SNSs generally

The students were asked what they think about the use of SNSs. The majority of the participants (n=14) reported that they use MSN messenger. Additionally, five of them reported that Twitter is better than Facebook, because Twitter doesn't have many tools as like Facebook which makes it easier to use. Five reported that they use Formspring, which «asks people original questions in anticipation of their entertaining or revealing responses...» (Formspring.me, 2012). But six students reported that they do not use any SNS. Two of these reported that they only use e-mail. Only one female student said that Facebook is the best among the SNSs. She stated, «Facebook is the best among the social networking sites. Twitter… No… I don't have an account on it. But most of my friends use it. But I don't know. I think it is very senseless. They only share words. Facebook is much more beautiful than other SNSs» (P2, Female).

3.3. Students' thoughts on virtual friendships

Table 3 presents a frequency distribution of the students' thoughts about virtual friendships. The themes which emerged were Dangerous, Fake, Meaningless, and Partial safety. A majority of the participants (n=17) reported that they do not believe in or rely on virtual friendships, and they think virtual friendships are dangerous. One student reported, «I think virtual friendships aren't a real friendship. Because you can easily send a friendship request. Obviously I don't endorse virtual friendships» (P11, Male). Another student said, «I think, if I talking with a friend who was known before in real life, it is a communication. But some people build friendships in virtual environments with people who aren't known in real life. Who is she/he? How old is she/he? You never know whether she/he is real person. I think, it is an environment which is extremely unsafe and open to lots of dangers» (P15, Female).

Eleven of the students said that virtual friendships are fake. For example, one student stated, «It is not suitable for me. I think too many things in there are incorrect» (P2, Female). Another student said, «It is normal, if people knew each other before. But I didn't find any suitable other friendships. Most of users' alleged friendships are fake…» (P14, Male).

Four participants reported that virtual friendships are nonsense and meaningless. For example, one student stated, «Virtual friendships are nonsense. When you don't know people who are around you, the effort to know people who are in the virtual world is very abnormal» (P18, Female).

3.4. The students' thoughts on sharing ideas in virtual environments

The two most popular student responses regarding their thoughts on sharing ideas, personal information, and photographs were negative concerning «photo sharing» (n=8) and positive concerning «personal information sharing» (n=8). Other commonly reported opinions were negative concerning «sharing political views» (n=7), and that the site either «reflects [their] partially real personality» (n=8) or it «reflects [their] real personality» (n=3).

The frequency distribution of the responses to this question is presented in table 4. One student said, «I think photograph sharing is a normal situation... But political opinions shouldn't be discussed on this site» (P16, Male). Conversely, another student said, «I don't see any problem sharing political thoughts, but sharing personal information can injure other people» (P7, Female).

Table 3: The opinions of non-users on virtual friendships

	Frequency distribution of themes				
	Female (N)		Male (N)		
Themes	previous user	always a non-user	previous user	always a non-user	Total (N)
Dangerous	5	4	7	1	**17**
Fake	4	3	4	0	**11**
Meaningless	2	2	0	0	**4**

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Table 4. Opinions on sharing ideas in virtual environments

	Frequency distribution of themes				
	Female (N)		Male (N)		
Themes	Previous user	Always a non-user	Previous user	Always a non-user	Total (N)
Photograph sharing negative	3	3	2	0	**8**
Personal information sharing positive	1	3	3	1	**8**
Photograph sharing positive	1	2	2	1	**6**
Personal information sharing negative	3	1	2	0	**6**
Political views sharing positive	2	1	2	0	**5**
Political views sharing negative	1	2	3	1	**7**
Reflecting partially real personality	1	4	2	1	**8**
Reflecting unreal personality	0	2	5	0	**7**
Reflecting real personality	3	0	0	0	**3**

3.5. Underlying factors that encourage SNS use

When asked to predict what factors encourage people to use an SNS, the two most popular responses were «Spending time» (n=10) and «Communication» (n=10). The frequency distribution of responses to this question is presented in table 5. One student reported, «I think Facebook users use [the site] to increase enjoyable time with friends and to have a good time in their free time» (P16, Male). Another student said, «Curiosity and entertainment… I think they use [the site] for them» (P13, Female).

3.6. The underlying reasons for SNS invitations

When asked to predict why people invite students to use Facebook, the two most popular responses were «to keep in touch with friends (n=12)» and «information sharing (n=6)». Table 6 shows the frequency distribution of invitation reasons.

4. Conclusion and discussion

This study investigated the underlying reasons that explain why high-tech university students chose not to use Facebook, as an example of a social networking site, and analyses are presented regarding the non-users' perceptions about SNSs generally. Although high-tech students use the Internet frequently, the main findings indicate that the top reason for non-use of Facebook was excessive time spent online. This may be because students are very busy with their academic/professional development, and so have little time to engage in an online SNS (Kirschner & Karpinski, 2010). Alternatively, online social networking may not be a priority for students (Kirschner & Karpinski, 2010). Similarly, in the study that examined the reasons for non-use of SNSs among Australian secondary school students (n=69), Baker and White (2011) found that students also considered SNS use to be too-time consuming and distracting.

Lack of interest was also one of the prominent reasons for the non-use of Facebook. This is likewise similar to the perspective proposed by both Baker and White (2011) and Tufekci (2008), that non-users are less interested in the activities on SNSs, which can be conceptualized as social grooming. Despite the popularity of SNSs all over the world, these findings indicate dilemmas regarding the use of SNSs for a certain subset of people. Because the non-users are neither

Table 5. Underlying factors that encourage SNS use

	Frequency distribution of themes				
	Female (N)		Male (N)		
Themes	Previous user	Always a non-user	Previous user	Always a non-user	Total (N)
Spending time	3	2	4	1	**10**
Communication	4	2	4	0	**10**
Loneliness	2	2	1	0	**5**
Entertainment	0	2	3	0	**5**
Game	0	1	3	0	**4**
Education	1	1	1	0	**3**
Meeting new people	1	0	2	0	**3**
Curiosity	1	1	1	0	**3**
Watching videos	0	0	2	0	**2**
Information sharing	1	1	0	0	**2**
Drawing attention	0	1	0	0	**1**
Flirting	0	0	1	0	**1**
Popular culture	2	0	0	0	**2**
Relaxing	1	0	0	0	**1**

socially isolated nor fearful of Internet (Tufekci, 2008), we might instead surmise that this technology failed to capture the curiosity and attention of these students.

The results further indicate that the students in this study prefer other communication tools. Some even stated that SNSs are not good communication tools. This finding is consistent with the Baker and White's (2011) study, which found that students prefer other forms of communication, like the telephone, e-mail, and MSN, to SNSs. While these are the resulting reasons for non-use of Facebook in this case, other studies have described the same factors as the purpose of using SNSs. Cheung, Chiu, and Lee (2011), Roblyer & al. (2010), and Bosch (2009) all reported that students use SNSs for communicating with people and friends, for making new friends, and for maintaining relationships. This difference could be related the fact that certain students encounter problematic events, such as cyber-bullying, or are affected by bad news about SNSs in the media. Another interesting item which the students reported was that they did not use Facebook, because they have several concerns about online self-presentation, such as photographs and sharing political views. Tufekci (2008) also reported that non-users disliked self-presentation on these websites. In contrast to the literature, this reason was usually reported by male students in this study. Conversely, Mazman and Usluel (2011) found that females tended to hide their identities and personal information to keep their privacy in the Internet environment.

Table 6. The underlying reasons for SNS invitations

Themes	Frequency distribution of themes				
	Female (N)		Male (N)		
	Previous user	Always a non-user	Previous user	Always a non-user	Total (N)
Keeping in touch with friends	3	4	1	1	**9**
Information sharing	3	2	1	0	**6**
Feeling alone	0	0	1	0	**2**
Playing game	0	1	0	0	**1**
Sharing funny elements	0	0	1	0	**1**

These students were also afraid of becoming an Internet addict if they used Facebook, and they believed that Facebook had moved away from its original main purpose. Other than keeping in touch with friends or establishing friendships on Facebook, the participants notified that they would spend too much time with playing games on Facebook or using other Facebook applications (Joinson, 2008; Pempek & al., 2009; Sheldon, 2008a; Stern & Taylor, 2007). In particular, this study also found that the non-user students believe Facebook usage is damaging to their social skills, especially to their relationships with their friends. In line with this finding, Rosen (2011) reported that people who use Facebook frequently show more narcissistic tendencies and higher than average signs of other psychological disorders, including antisocial behaviors, mania, and aggressive tendencies.

Kirschner & Karpinski (2010) pointed at the significant distinction between the academic achievement of users and non-users, and reported that users' GPAs were lower than those of the non-users. Karpinski & Duberstein (2009) also reported a negative relationship between Facebook use and academic achievement. Similarly, in this study, the findings showed that some students feared academic failure if they used Facebook. Therefore, if the educators want to integrate Facebook into their instructional activities, they should overcome their students' concerns initially.

Among the reasons for non-use of Facebook, prejudice against the use of SNSs generally or preference for using other SNSs, concerns about privacy and parents, friends' influence, and cyber-bullying were reported less often by these students. Baker and White (2011) suggested that parents' concerns and friends' influence are less declared than other reasons, and concluded that personal rather than socially-based reasons were more influential in the decision not to use SNSs. Privacy concerns and cyber-bullying may lead to the perception that SNSs are dangerous environments. These findings must be considered, perhaps especially by academics, to better understand university students, so as to develop more appropriate materials and environments for them.

The majority of these students believed that virtual friendships are either dangerous or fake. Further, they sometimes stated that virtual friendships are meaningless and only partially safe. Similarly, Tufekci (2008) found that non-users generally think that keeping in touch with existing friends on SNSs is nonsensical and meaningless. Researchers have found that some teens prefer interacting directly through the telephone or with face-to-face encounters rather than by online communication (McCown, Fischer, Page, & Homant, 2001; Wolak, Mitchell, & Finkelhor, 2002). This is important when considering uses of SNSs for making new friends and expanding one's social environment. Therefore, it can be concluded that, for these students, SNSs are not only an unimportant resource for friendships, but also a meaningless and dangerous medium for such interactions.

When the non-user students offered possible factors that encourage people to use SNSs, the top suggestions were spending time and communication with others. Similarly, many studies have concluded that people use social networking sites mostly to stay in touch with friends or to make new friends (Joinson, 2008; Lampe, Ellison, & Steinfield, 2006; 2008; Lenhart, 2009; Lewis & West, 2009; Pempek & al., 2009; Sheldon, 2008a; Stern & Taylor, 2007; Young & Quan-Haase, 2009). This finding revealed that the non-user students perceived SNSs as social environments, but interestingly, they chose not to rely on virtual friendships or on Facebook for communicating with people. Loneliness, entertainment, games, education, and meeting new people were all middling popular responses. It can be concluded that non-user students do not think that SNSs are a suitable educational environment.

In conclusion, this study presents a variety of reasons for the non-use of SNSs by a group of selected high-tech university students, and their perceptions about the use of SNSs generally. The main reasons for their non-use of SNSs are «excessive time spent online», «lack of interest», «preference for other communication tools», «fear of addiction», and «dislike of self-presentation». Additionally, non-users think virtual friendships are unreliable and dangerous. And, they have several anxieties about Facebook. Therefore, these disadvantages must be considered by designers and developers of SNSs in order to reach a wider user group. Application developers and website developers should pay attention to saving time, and should develop more reliable systems to address cyber-safety concerns and to minimize cyber-bullying problems. Educational institutions, academics, and teachers should also pay attention to these student-expressed reasons for their non-use of SNSs. Non-user students' concerns must not be ignored when educational systems are developed for use in SNSs.

Limitations of current study include small sample of students examined and being a qualitative study. Qualitative studies often investigate the research problem in-depth. Therefore, small samples (less than 20) facilitate the researcher's job that to establish close contact with the participants (Crouch & McKenzie, 2006). Also considering the small number of nonusers of social networking, this should be no problem. Thus, the results may not be generalizable to students at other universities or all people. Based on these findings, future research should investigate the reasons for non-use of SNSs with the different samples and age groups.

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The Role of the Internet and Social Networks in the Arab Uprisings - An Alternative to Official Press Censorship

El papel de Internet y de las redes sociales en las revueltas árabes: una alternativa a la censura de la prensa oficial

ABSTRACT
This research analyzes the power of the Internet and social networks in the Arab uprisings. We are interested in learning about the contribution of communication technology in low advanced societies in conflict situations and the value of the network as a link between young people who supported the changes from abroad and those who were directly involved in protests. On the importance of technology as a virtual communication tool we have conducted a series of online interviews with 30 young people from Tunisia, Egypt and Libya living in Barcelona, Madrid and Santiago de Compostela during the development of the conflicts and who were involved in the Arab Spring though the network. The research findings in this study prove that virtual support for uprisings were not based on coordinated actions, and that it was simply a confluence of similar acts coinciding in time and on the same platforms. The Internet and social networks served as elements for supporting the process and as a counter-balance to official censorship and to government-supportive media, and were useful for overcoming the isolation of Arab society, in order to make the conflicts visible and to attract relevant support from abroad. But it also showed that the network had constraints in the face of the consolidated propaganda infrastructure which existed in each country.

RESUMEN
Esta investigación analiza el papel de Internet y de las redes sociales en las revueltas árabes. Interesa conocer la contribución de la tecnología a la comunicación en sociedades poco avanzadas en situaciones de conflicto y el valor de la Red como enlace entre los jóvenes que apoyaban los cambios desde el exterior y los que participaban directamente en las manifestaciones. Para conocer la importancia de la tecnología como instrumento de comunicación virtual se ha realizado una serie de entrevistas on-line a 30 jóvenes de Túnez, Egipto y Libia que vivían en Barcelona, Madrid y Santiago de Compostela durante el desarrollo de los conflictos y que han participado en la primavera árabe a través de la Red. Los resultados de esta investigación demuestran que los apoyos virtuales a las revueltas no estaban basados en acciones coordinadas, simplemente se trataba de una confluencia de actos similares que coincidían en el tiempo y en las mismas plataformas. Internet y las redes sociales funcionaron como elementos de apoyo al proceso y como contrapeso a la censura oficial y a los medios afines al régimen, y fueron útiles para superar el aislamiento de la sociedad árabe, para hacer visibles los conflictos y para conseguir apoyos relevantes en el exterior. Pero también se demostró que la Red tenía limitaciones frente a la consolidada infraestructura de propaganda que existía en cada país.

KEYWORDS / PALABRAS CLAVE
Internet, social networks, Arab spring, censorship, virtual communication, political conflict, citizen protest.
Internet, redes sociales, primavera árabe, censura, comunicación virtual, conflicto político, protestas ciudadanas.

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1. Introduction and overview

In the spring of 2011 a series of uprisings broke out in a number of Arab countries, causing regimes that had been in power for decades to collapse, in some cases with incredible speed. The first protests began in Tunisia, but quickly spread to other key points in the area, wasting no time in reaching Egypt and Libya (Fernández 2011). But these political and social changes, having no contemporary precedents in the Arab World, were not purely coincidental, but rather had been discreetly cultivated and strengthened over the years (Majdoubi, 2011). The only missing ingredient was a detonator; a trigger event to force the people to take to the streets, since all the necessary conditions for unleashing these protests were already dormant in the general population: significant social differences, political corruption and abuse of power, lack of freedom, continuous repression and restriction of basic civil rights, and ostentatious government employee privileges, etc. (Izquierdo, 2009).

The isolation that Arab countries had traditionally been subjected to ended when globalization and technology made official geographic boundaries obsolete (Lago & Marotias, 2006). Then, virtual relations became normalized, making it possible to contact any corner of the globe without needing to travel (Esteinou, 2003). The unstoppable advance of the Internet and social networks revolutionized old modes of communication and produced a massive information exchange with the outside world (Roces, 2011). In this new scenario, Arab society, especially its youth, now has the means to avoid censorship and regime control within its reach for the first time in history (George-Cosh, 2010), along with the ability to organize and share opinions with foreign communities. They also have at their disposal the necessary tools to denounce their government on a world stage, and are able to receive all kinds of international support, from advice on topics of strategic interest and general logistics to guarantee the success of their protests to solidarity movements that lend visibility and prominence to the cause.

Officially, media in the Arab world was controlled either by the State or the military (Warda, 2012), and social networking through the Internet has not only facilitated more open access to information, but also freedom of expression and the right to express opinions and to associate freely, albeit in a virtual sense.

International communication allows one to understand other realities and to compare and contrast different social models, and it was in this context that the Arab youth saw the chance to demonstrate their long-latent non-conformity and to fight for comprehensive political reform (Majdoubi, 2011). The constant virtual calls to revolution were able to draw thousands of citizens onto the streets. The massive crowds gathered in Tahrir Square now serve as a point of reference, an example of the power of this proclamation (Schechter, 2011). The Internet and social networks were useful during the initial stages of the uprisings and also later, as the conflicts developed, because they encouraged a close monitoring of how the events were unfolding (Roces, 2011). In spite of the imposed censorship and the constant information blockades, these media platforms made it possible for anyone to find out what was happening in the Arab world, which served to sensitize the international community.

The media has always been considered a strategic weapon in any conflict, and proof of this is found in the fact that state-sponsored television and radio stations were among the first places to be protected by the regimes when uprisings broke out in Tunisia, Egypt and Libya (Castillo, 2012). Because no free and independent press existed, the information was disseminated to the citizens through media channels contaminated by government propaganda. During the protests, access to foreign media was limited, complicated or obstructed leaving journalists to work in repressive conditions, with no real way to corroborate their stories. The governments hid sensitive and strategic locations from journalists, keeping them from reporting information or images about the strength of the rebel troops or the weaknesses of the regime (Raoof, 2010). Other times they tried to discredit international media outlets, accusing them of bias. Journalists have been a target in the majority of the conflicts, and in these specific uprisings, many suffered physical attacks while attempting to get information, especially during the actual protests. They tried to prevent access to qualified witnesses of the events (Rodríguez, 1999). But the Internet had completely changed the traditional map of how information is spread. And in this new scenario, efforts to maintain control over the media and the dissemination of information were increasingly difficult and complex to carry out (Etling, Kelly, Faris & Palfrey, 2009). The most substantial difference between the Arab Spring of 2011 and prior conflicts is that, when protests broke out in Tunisia, Egypt and Libya, the Internet and other social networks were already established and consolidated in society, composing an important alternative to traditional media and communication infrastructures. Even though it has different characteristics and objectives, the Internet is able to perform tasks similar to those of print media, radio or television, sometimes even outperforming them, an occurrence that had up until that point not been thought possible (De-Rivera, 2011).

Since journalists were not permitted access to all the protests, in many cases the only images and proof that came out of the uprisings were those found on the Internet and social networks, obtained and distributed by anonymous citizens who, lacking the appropriate knowledge of professional journalism standards, were unable to verify their data and offer objective and verified information (Gómez-Diago, 2005), a process which is called unfiltered journalism. Because of this, a number of authors, including Canga (2001), agree that the information that circulates on the Internet does not have the same value or adhere to the same quality standards as traditional media, from a journalistic perspective. It was precisely this argument that the Arab governments favored time and again to discredit any unfavorable reports found on the Internet. They claimed that these reports had been taken out of context or worse, that they were completely untrue. But there is another important factor to consider: many citizens attribute similar levels of credibility to all media formats because they do not differentiate between the specific roles that each one should have. For these people, the images that circulate on the Internet are documents whose very existence supports the veracity of the events they are supposedly documenting, and they do not question other details that a professional would in a similar situation (González, 1989). In this context, the Internet and social network sites had a distinct advantage over the technical limitations and informational control that other Arab media networks were forced to endure, which facilitated both the reach and the impact of the content as it spread around the Internet.

From a theoretical standpoint, much has been written about the role, the importance and the possibilities of technology in the field of information gathering and communication, but the phenomenon of how the Internet and social networks were used during the Arab uprisings also underscores the importance of reflecting on the risks involved if these technological tools are not used or regulated correctly. One of the most controversial aspects is the uncontrolled dissemination of sensitive or inappropriate information on the Internet, which can be especially dangerous for those who do not have the necessary education to decipher and process it. At the same time, it should not be forgotten that technology makes it possible to control communication and the flow of information. The same elements that keep information from being censored can be converted into tools of repression, just as Arab governments did during the uprisings, blocking Internet access to impede the free flow of information. Another potential risk factor is that technology could be used to create propaganda (Belaali, 2011). It has been proven that these same governments infiltrated the Internet to plant false information with the end goal of sabotaging the rebels. The universe of information technologies and communication is large enough to allow for the coexistence of various phenomena, from a direct and high-speed connection with the source of information to the immediate reception of news from any corner of the world. But this universal access to the Internet can also lead to chaotic and disorganized information. This is considered one of the primary risk factors associated with the so-called

Many citizens attribute similar levels of credibility to all media formats because they do not differentiate between the specific roles that each one should have. For these people, the images that circulate on the Internet are documents whose very existence supports the veracity of the events they are supposedly documenting, and they do not question other details that a professional would in a similar situation. In this context, the Internet and social network sites had a distinct advantage over the technical limitations and informational control that other Arab media networks were forced to endure, which facilitated both the reach and the impact of the content as it spread around the Internet.

journalism without filters. Additionally, the sheer volume and variety of information that circulates on the Internet must be taken into account (Canga, 2001), a determining factor that can complicate or even prevent an effective management of content and affect the utility of the messages.

2. Materials and methods

In order to understand the role of the Internet and social networks in the Arab uprisings and to confirm the effects and the efficacy of technology as a communication tool in underdeveloped societies that have been subjected to repressive regimes for decades, a series of on-line surveys were distributed to 30 young people from Tunisia, Egypt and Libya, countries that best represent the general characteristics and overall scope of the 2011 Arab Spring revolutions. Ten people from each of these three countries were interviewed, each between the ages of 19 and 25 years old, and who were either living, studying or working in Barcelona, Madrid or Santiago de Compostela from the time when the uprisings broke out to when the regimes were overthrown. These young people are representative of the user profile that dominated virtual media formats during the uprisings, a feature which clarifies how technology was used to participate in the conflicts and to support the cause from abroad, along with highlighting how the Internet and social networks influenced how events developed, which is the primary objective of this study. The 30 interviewees were supporters of a regime change in their respective countries, and were all asked about the following topics: motives for why they became involved in the protests, strategies and types of communication used, characteristics and changes in the content of both sent and received messages, profiles of the people with whom they virtually interacted and how they perceive support for the uprisings from an international perspective.

The results of these interviews have been compared with information about the political and social situations in Tunisia, Egypt and Libya found in three Spanish media outlets («TVE», «El País» and «El Mundo») during the same time period. The goal of this comparison is to verify if general-interest media provides a reference point and a source of information for users of the Internet and other social networks.

While the protests were taking place in each of the above-mentioned countries, the activities of the 30 interviewees were monitored by means of a monthly on-line survey, in order to obtain precise data that would permit a qualitative and quantitative analysis of the different phases of the conflicts, and also to know if the same level of support was maintained throughout the entire period or if there were fluctuations in attitudes during the process. Additionally, in the final interview, the subjects were asked to assess, from their point of view, the role that the Internet and social network sites played in the entire process, along with an appraisal of the changes produced in their countries, specifying the factors that they believe had contributed decisively to the fall of the regimes.

The concepts and ideas used as primary reference points for this study are as follows: usefulness of information, design of communications strategies and plans, joint actions, coordinated actions, and informational and communicative opportunities originating from

> **There remains the impression that the virtual support for the Arab uprisings was based on coordinated actions, but an analysis of the reality, as has been demonstrated in the data from this investigation, shows that this was not the case; there was simply a confluence of similar activity which, by chance, coincided in time and platform. However, there was also an important mimetic effect, emerging from the first international declarations of solidarity, which transformed into a massive phenomenon as a consequence of the summoning power of the Internet and its word-of-mouth effect. This caused the support base to grow progressively from the very beginning.**

Internet usage during times of conflict, all while remembering the organizational capacity that technology possesses to promote social cohesion, along with its communicative properties.

3. Analysis and results

Of the Arab youth interviewed, 92% believe that the Internet and social networks made the protests and conflicts in their home countries more visible to an international audience, and support the belief that these technologies partially made up for the informational embargoes and censorship that local media in the region experienced. But when it came time to provide a more precise assessment of the role of technology in the protests, 45% stated that the Internet affected the development of events and the successful outcome of each conflict, with only 32% categorizing virtual media as crucial. These 32% of respondents feel that the old regimes fell faster because the Internet gave those living abroad a better understanding of the significance of the abuses that were being committed by the government, which gave rise to an international solidarity movement with the rebel forces, contributing to the further isolation of the regimes. For 81% of the subjects, the sudden and generalized outbreak of the revolts was surprising; even though they had been aware of social unrest and were hoping that a citizen uprising would occur, they did not expect it to be so drastic or immediate. They assumed that any conflict would carry on silently for years, with 56% estimating that change would eventually arrive, but only with the natural dissolution of the old regime.

Amongst participants, 89% recognize the lack of a unifying strategy that would have permitted the development of a joint and effective effort, and admitted that the majority of their Internet activities were spontaneous, individual actions that were in response to a general feeling of solidarity with those that were working to improve social conditions in their country. Within this group, 75% are of the opinion that the lack of coordination and advising was one of the most significant problems of the entire process, and that the overall success of the Internet and social networks would have been much greater if there had been a well-designed plan in place from the beginning, instead of losing out on all that the Internet has to offer by focusing on useless information. For these young people, a more coordinated effort would have optimized resources, establishing filters that could have avoided the dissemination of fraudulent information and allowing for a centralized management of all communications. Directly related to this, one of the problems that Arab activists endured on a daily basis was the reception and categorization of the extraordinary volumes of data that flooded communication channels and thereby became less effective simply by being unmanageable. They also admit that there were certain messages that were constantly being repeated, above all summaries of articles announcing foreign government support for the rebels, information about solidarity movements with the Arab Spring being celebrated in countries around the world, and a large amount of irrelevant data.

But at the same time, 62% affirm that a strategy designed with professional criteria and standards is unrealistic because it would require adequate infrastructures and would involve a great deal of prior organization and preparation, all of which were not feasible at the time, due to a scarcity of resources and free time. Moreover, 47% sustain that the lack of homogeneous criteria and common guidelines in the events carried out during the Arab Spring is actually what defines the philosophy of using the Internet and social networks to support a cause, however chaotic and dysfunctional it may seem. The interviewees agree that these actions are based on solidarity, spontaneity and individual freedom, all of which must prevail in active and passive use of the Internet.

After analyzing the interviews, it can be deduced that these young Arab residents of Barcelona, Madrid and Santiago de Compostela rarely communicated with each other or with other friends or acquaintances, except on rare occasions such as selected weekends when they would meet and discuss issues that they considered to be sensitive or important. Only 11% admit to having consulted an expert at any given moment. Of these, the advice being sought was almost always in relation to possible strategies to make the protests more effective and impactful, to find international funding and support or to ask legal questions about protecting friends and family members. But 38% bemoan the fact that the recommendations that were passed on were not always accurate because circumstances were constantly changing due to unforeseeable developments in the conflicts. Furthermore, they admit that imprudent advice has been shared on the Internet, advice that carries the risk of resulting in reckless actions. In retrospect, it has been proven that a good deal of the information shared on the Internet was not appropriately researched, having been based on desires, emotions, commentary and rumors rather than on real events.

For 82%, the primary objective was the greatest possible diffusion of images of protests happening daily in the streets of Tunisia, Egypt and Libya, along with the publication of data and testimonies of the atrocities being committed against citizens. In this way, they were able to destroy the regime's credibility and internationally publicize each country's reality, especially related to acts of repression. And for 63%, the next priority was to make sure that their fellow citizens were kept informed about international support, impact and opinion about the conflicts, since they were distrustful of the local press, which had been conditioned to accept governmental censorship and propaganda. This group of interviewees felt that the information provided on the Internet, in spite of inaccurate reporting on certain events, as detailed earlier, helped them to configure a more realistic opinion about the conflicts, and above all to lift the spirits of the those who were directly involved in the protests to ensure that they felt morally supported.

Some 78% confirm that the intrinsic possibilities of new technologies were influential in increasing the visibility of the Arab uprisings. In fact, 59% claim that they had very little prior knowledge of information management in virtual scenarios, and just by having used the Internet to participate in the conflicts of their home country they have a better understanding of information and communication technologies. For 23%, the experience of the uprisings has made them reflect on the potential and risks of the Internet and social networks.

Despite recognizing the benefits of some of the actions undertaken, 89% acknowledged the lack of a unifying strategy, just as they did earlier in the report, and felt that a large part of the potential of the Internet had been squandered due to the fact that many of the transmitted messages were simply testimonies of solidarity with and support for the young Arab combatants, and rarely contained any useful information. The self-criticisms of the participants regarding their virtual participation in the process increased greatly from the beginning stages of the conflict to the end. In the first wave of interviews, 79% believed that they were acting correctly, but the level of satisfaction fell to 34% in the last interview, when a complete regime change had already occurred in each of the three countries. The most critical subjects found the actions at the beginning of the conflict to be appropriate, but when analyzed later, the efficiency of these achievements was put into perspective.

The information collected during the interviews reflects both qualitative and quantitative changes in the use of the Internet and social networks while the uprisings were taking place, and 90% of the interview subjects recognize that the intensity, frequency and content-sharing capabilities of communications during the conflict evolved a great deal from beginning to end. Initially, communication occurred within a small group of friends and acquaintances, but this group continued to expand as the conflict progressed. Moreover, the exceptional circumstances conditioned the kinds of messages that were received. In early communications, people were more interested in anecdotes, but later, the level of involvement deepened. As the conflicts evolved and worsened, so too did the concern felt for family members and friends.

On being asked about the motives behind their decision to actively participate in the uprisings in their countries of origin from abroad via the Internet, 86% of the interviewed youths say that they have seen themselves caught up in a new and unexpected phenomenon and that they initially participated, as previously mentioned, out of solidarity, then found themselves collaborating for a variety of causes. Most coincide in highlighting two: 61% felt a moral obligation to do something for their country, and 74% joined the virtual process not only to show solidarity but also because of ideological convictions, as this presented a unique opportunity to influence a political change which would improve conditions in their country and assure freedom and democracy in the future. Only 10% were convinced by friends, and the rest participated for other reasons.

Apart from the exchanges of information with friends and acquaintances, 83% maintained constant contact with a family member through social networks, almost always with young people as older members rarely use such technology, but the frequency and the content of the messages were very different in each case. During the period analyzed, 87% of the communication between friends was centred on political questions or matters related to the development of the protests, whilst 95% of messages sent to the family worried about their well-being.

Although the basis of the communication between Arab residents in Barcelona, Madrid and Santiago de Compostela and their countrymen from Tunisia, Egypt and Libya was the Internet and social networks, 71% also used digital versions of the popular press- both from Spain and abroad- as a source of information (30% on a daily basis, 19% once or twice a week, and 22% very occasionally) above all to gauge the international reaction to the conflicts. 65% trusted the reliability of this popular press because they considered it to be a guarantee of objectivity and neutrality, since it came from countries not directly involved in the conflicts (Gómez-Diago, 2005).

This information helped them to verify and corroborate the magnitude of the confrontations, and provided them with details to allow them to evaluate the strengths, weaknesses and strategies of the regime with criteria which was, in their opinion, fairly objective, thus enabling them to calculate the rebels' capacity for resistance. Then they would transmit their impressions via social networks. Consequently, news stories from Spanish and foreign press would often become a trigger which influenced the volume and intensity of the messages, both when levels of concern became heightened and when people sensed the expectation of triumph.

Comparing the results of the interviews with information about the Arab uprisings which appeared on «TVE», «El País» and «El Mundo»in the same period, one observes that news reports about the most intense incidents that took place during the protests coincide with the dates the interviewees associate with peaks in the traffic of online information, a parallel which is also visible in the content of the messages. The interviewees admit that the popular press was for them a source of information and a habitual reference point, and that often they would rely on such reports to keep their countrymen updated and informed about the international reaction to the development of the conflict, and the external support they could count on at each moment. For 73% of the youths, the information about the Arab uprisings published by the Spanish press gave them a certain confidence because, according to them, it boasts adequate infrastructure and human resources to be able to obtain reliable information, a privilege not available to all countries. Despite this, for 55%, not all media outlets show the same sensitivity with regard to problems facing Arab countries, something which could affect their focus, their attitude about the conflicts and the processing of information.

Of the youths interviewed, 64% are extremely critical of the development of the revolutionary process in Tunisia, Egypt and Libya as they believe that it has not been well organized, and for 52% the achievements of the revolutions are neither solid nor sufficient enough to guarantee a stable democracy and full freedom in the future. In spite of the apparent triumphs, 43% do not expect great progress, because for them a regime change does not necessarily imply profound social change. Only 26% declared themselves satisfied with the current situation.

4. Conclusions

The political and social changes which have occurred in the Arab world in the last two years cannot be attributed to one singular event. They are the result of various factors: an inevitable social evolution, sped up thanks to regular contact with the outside world, a generalized discontent due to their precarious economic condition, in large part brought about by government corruption, and the desire to improve their living conditions and obtain a larger share of freedoms. In

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There remains the impression that the virtual support for the Arab uprisings was based on coordinated actions, but an analysis of the reality, as has been demonstrated in the data from this investigation, shows that this was not the case; there was simply a confluence of similar activity which, by chance, coincided in time and platform. However, there was also an important mimetic effect, emerging from the first international declarations of solidarity, which transformed into a massive phenomenon as a consequence of the summoning power of the Internet and its word-of-mouth effect. This caused the support base to grow progressively from the very beginning.

In the development of the conflicts the factors of commitment and solidarity have played an extremely important role, and these values have had a decisive influence in the participation of the youth in activities supporting the uprisings which have been carried out online.

Arab citizens, both those residing in their country and those living abroad, for the first time were able to take advantage of a possibility which, until then, had been rarely used in such a direct, popular way: individual actions focused towards group communication, personal suggestions and ideas working for a common goal. This communicative flow derived from combined but uncoordinated action which could be defined as communication of the masses based on the virtual relationships which are possible thanks to the Internet. This demonstrates that technology can act as a tool of action associated with the phenomenon of a localized protest, allowing it to acquire a global dimension.

The popular press is a source of information for users of the Internet. However, as well as having all the functions which correspond with classic methods of communication, the Internet and social networks offer alternative services which are out of the reach of the printed press, the radio and the television, and which, in under-developed societies, as in the case of the Arab world, where the uprisings took place, play a key role: keeping the citizens informed and well-communicated at all times, both domestically and abroad, at extremely low cost and with almost instant feedback. Thanks to these possibilities an unprecedented communicative phenomenon was developed which facilitated the communication and the virtual relationship between people with very different profiles, a plural communicative exchange, but with a common objective: the concern for the development of the social and political conflicts taking place in various Arab countries.

These services are responsible for part of the success (or the importance) of the Internet in the Arab uprisings because, although there was no professional coordination between the activists, the fact that it makes contact between citizens possible means it improves conditions to organize combined actions, something essential in the planning and development of protests. These opportunities are one of the new features of the uprisings because both the Internet and social networks are, from a historical point of view, and compared with the trajectory of classic methods of communication, extremely recent. Until the time in question there had never been the opportunity to demonstrate their potential in such a peculiar and complex situation, thus understanding their communicative possibilities and capacity to influence.

The role of the Internet, its efficiency and the intensity of the communications, has differed at various points in the conflicts. The Internet and social networks were useful to overcome the isolation of Arab society, making the revolutions visible and forging relevant support abroad. However, the interviewed youth recognize that the advantages were greater at the beginning because, over time, difficulties began to appear which could not be solved through technology, and they soon realised the illusion that they were under. Furthermore, they discovered the limitations of the Internet when faced with the infrastructure of propaganda that the regime had set up throughout the country. Fighting against such powerful resources was a complicated matter.

The Internet also serves a testimonial and legalizing function. The messages sent remain registered, and are a detailed accounting of the development of the events and the emotional states of those involved, since outpourings of euphoria varied depending on the triumphs and failures in the different phases of the uprisings.

The interviewed youth recognize that the conflicts have brought about significant change and relevant and necessary progress, yet the majority are skeptical about the permanence of the victories and believe that, in the short term, there will not be an all-encompassing evolution involving all facets of society which allows the development of a modern, free society. They consider that many of the achievements are not sufficiently consolidated and deep-rooted to be considered irreversible and definitive, and think that in some aspects there is the risk of regression. Furthermore, they distinguish between those changes which are important and those that are influential. Thus, when asking them to specify in which aspects or sectors they notice most important advances and in which there has been least evolution, or less democratization, they maintain that, apparently, there is more individual freedom but, on the other hand, neither state structures nor the most repressive laws affecting the essence of democracy have been modified, meaning many of the achievements have had little or no effect. They also maintain that the political reforms must be accompanied by economic reform to ensure that they are viable and sustainable.

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Masking as a Persuasive Strategy in Advertising for Young

El enmascaramiento como estrategia persuasiva en la publicidad para jóvenes

ABSTRACT
Young people today live in a media culture where the content they access and circulate through by means of different audiovisual technological devices is part of their informal education. In this context, the traditional advertising inserted into these media is giving way to new strategies through which advertising is masked within other content consumed by young people. They believe they are sufficiently well-informed to consider advertising's influence on them to be relative, and claim to be equipped with effective strategies that immunize them against it. However, as argued in this article, current advertising is implementing new persuasive forms that go unnoticed. We present an empirical investigation involving 154 students. Through an interactive computing device, the students processed a total of 223 stimuli corresponding to a graphic communication medium. The dependent variables include the degree of success in identifying the presence of advertising in the stimuli and reaction time. The results show how new masking strategies in advertising hinder young people's awareness that they are receiving advertising messages. This facilitates a failure to create counter-arguments. The results of this work open up the discussion of whether it is relevant to make known to young people, as part of their education and training, these current effective advertising strategies deriving from informal education systems.

RESUMEN
Los jóvenes viven hoy en una cultura multimedia donde los contenidos a los que acceden y hacen circular a través de diferentes dispositivos tecnológicos audiovisuales, forman parte de su educación informal. En ese contexto, la publicidad clásica inserta en esos medios de comunicación está dando paso a nuevas estrategias en las que la publicidad se enmascara en otros contenidos dirigidos a los jóvenes. Estos creen estar suficientemente bien informados para considerar que la influencia de la publicidad sobre ellos es relativa y afirman estar dotados de eficaces estrategias que les inmunizan contra ella. Sin embargo, como se argumenta en el presente artículo, la actual publicidad está implementando nuevas formas persuasivas que no perciben. Se presenta una investigación empírica en la que participan 154 estudiantes. Mediante un dispositivo informático interactivo procesan un total de 223 estímulos correspondientes a un medio de comunicación gráfico. Como variables dependientes se recoge el grado de acierto en la identificación de la presencia de publicidad en los estímulos y el tiempo de reacción. Los resultados muestran cómo las nuevas estrategias de enmascaramiento en publicidad evitan la toma de conciencia de los jóvenes de estar recibiendo mensajes publicitarios. Ello favorece que éstos no contraargumenten. Estos resultados abren la discusión de la pertinencia de dar a conocer a los jóvenes, en su proceso educativo, estas actuales estrategias publicitarias eficaces provenientes de los sistemas de educación informal.

KEYWORDS / PALABRAS CLAVE
Masking, attention, informal education, advertising, persuasion, youth, cognitive hyperstimulation.
Enmascaramiento, atención, educación informal, publicidad, persuasión, juventud, hiperestimulación cognitiva.

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1. Introduction: from traditional advertising to masked advertising

At the beginning of the 21st century, it seemed that advertising had been sufficiently unmasked by young people. Its explicit messages, located in spaces that were perfectly defined in the media, were sufficiently well-known and identifiable by young people, given the informal learning about its codes they had received since infancy. Knowing where the advertising was allowed them to develop their counter-arguments to thus attempt to deflect any possible persuasive influence. As Kapferer (1985: 34) concluded, from a review of empirical studies, «the child acquires, from the age of three, the codes that allow it to differentiate what advertising is from what it is not». However, things have been changing at an accelerated pace in the last few years. Advertising is modifying the way it targets young people. Its renewed efficiency is enhanced by the current context of young people's relationship with technical and technological devices. In this multi-screen cultural environment (Pérez-Tornero, 2008), with bidirectional and multidirectional communication, certain features stand out which contribute to configuring their informal education. In the first place, young people's lives are immersed in a culture of audiovisual entertainment (Martínez, 2011). They use the media to get information, but especially for entertainment, acting with confidence as, in general, they consider that the content serves for enjoyment, not for persuasion (Shrum, 2004; Nabi & Beth, 2009; Sayre & King, 2010). In the second place, and fostered by new technologies, there is a framework of cognitive hyperstimulation (Klingberg, 2009). It is enough to imagine the stimuli received by a passer-by today in a city in comparison with those he or she would have received at the beginning of the last century (Bermejo, 2011a). Thirdly, the aforementioned phenomenon of cognitive hyperstimulation is accompanied by an increase in multitasking or dual-tasking. One of the consequences of being online often is that the amount of stimuli reaching young people today is greater than it was a few years ago (Klingberg, 2009). At the current time, it is not unusual to see young people focusing on their mobiles while they do other school activities or being interrupted by the sudden arrival of a message on their telephones, or to see university students who are attending their classes and at the same time consulting their computers in front of them, connected to the Internet (Jeong & Fishbein, 2007). This set of phenomena has introduced into the lives of young people new ways to mobilise different types of attention. The duration of voluntary or controlled periods of attention, which depends on a conscious effort to carry out a task (for example, paying attention in class or studying) is reduced by the arrival of external stimuli, which are increasingly abundant, which interrupt this period and give rise to stimulus-driven attention. This latter situation leads us to change our current focus of attention to another focus which breaks into our receptive stimuli field. Given that our processing abilities are limited, the working memory has to share its scant resources among several stimulations, thus diminishing its capacity to process with total relevance all the stimuli it is dealing with simultaneously. One detail provided by this current research is that the fuller the working memory, through having to deal with several stimuli at the same time, the greater the difficulty involved in concentrating through controlled attention, and the greater the chances of becoming distracted and of processing in a superficial manner the stimuli that are competing among themselves to get our attention (Ophir & al., 2009; Heylighen, 2008). This multi-stimulation cultural context creates attention-related habits that later affect the attention-related processes required by formal education at school, and explains in part the observations of certain teachers who complain about the current inattention levels of their students over prolonged periods.

Within this cultural framework, advertising, which has seen how the attention paid to its messages has been decreasing in conventional media, has been searching for new ways to attract the attention of consumers (Heath, 2012). It is directing its greatest efforts and attention towards new media, particularly the Internet, in so-called post-advertising society (Solana, 2010). These new marketing strategies have drawn the attention of researchers, partly due to the innovative aspect of these strategies and also because young people are exposed to them through the Internet, social networks (Sanagustin, 2009) and new activities consisting of audiovisual virtual entertainment (Martí, 2010). This is making that fact that conventional media, which continue to feature strongly, are also evolving become forgotten. They are in pursuit of new strategies to manipulate attention and thus attract their targets through renewed forms of persuasion. Please remember that traditional, or classic, advertising, inserted into conventional media, has used, throughout the 20th century, a persuasive strategy aimed at grabbing the conscious, voluntary attention of its targets. It considered that once it had managed to attract their attention to its message, the content thereof could persuade them. This type of advertising, which is still chiefly in force today, has certain well-defined features. One of the most characteristic features is its clear demarcation of genre. Its insertion in a restricted space in the media that contains them means that there is no mixing of genre. In the press, on the page there is a framed space for advertising which is thus separated from the news and reports. On the radio or television, there are also blocks for advertising with well-established codes that are learnt from the earliest years of childhood (Minot & Laurent, 2002; Dagnaud, 2003, Gunter & al., 2005). A second feature of classic advertising is that it simulates a two-way or dialogic process (Bajtin, 1991; Linell, 1998, Adam & Bonhomme, 2000). Dialogue in daily life implies two-way communication between those speaking and the participants in the dialogue. However, advertising can only send one-way messages through conventional media and therefore cannot establish, in the strictest sense, two-way communication and, therefore, real dialogue. Nonetheless, this has not prevented advertising from simulating direct dialogue with its public as if there were really bidirectional communication (Bermejo, 2013a).Together with this classic advertising, a new type of advertising is currently appearing. Recently we have been able to identify a new persuasive advertising strategy in current graphic communication media, which we have called «masking» and which until now had not been detected (Bermejo & al., 2011). Masking implicates our attention in a different manner to the manner which advertising had been using thus far, by targeting involuntary attention as opposed to voluntary attention. This strategy is characterised by the deletion of genre codes, by the hybridisation of genre by inserting and concealing advertising in other communicational genres, and, in third place, by the staging of a new dialogism (Bermejo, 2013a). In this initial research, we have identified the presence of three types of new graphic advertising in the written media in Spain which comprise three manifestations of this persuasive strategy of masking. We have named them embedded advertising, neoadvertorials and self-referent advertising.

These three modalities of masking advertising are characterised in this manner because the subject accesses an informative text incorporating an advertising message which, since that message is not highlighted or demarcated by codes which establish it as an independent text, is concealed within the text containing it. An example of embedded advertising can be found in interviews with celebrities and public figures. In the article, as the interviewee answers the questions posed by the interviewer, the celebrity recounts aspects of his or her life which include, in these cases, him or her alluding to using specific products and brands. Secondly, although advertorials were already being used in below-the-line advertising, there are two features of neoadvertorials that differentiate them from advertorials. One is that the genre-identifying code, which is found in the heading of the page or within the frame for the advertising text («special promotional feature», etc.) and which warns the reader about the content, disappears. A second feature is that neoadvertorials present themselves to the reader under the appearance of real articles attempting to inform the reader about a specific issue of their interest (e.g. how to make a festive meal, what presents to give or how to fight hair loss, etc.). Throughout the text, allusions are be made to products and brands that can help the reader to solve their problem or meet their need for information. Therefore, the advertising message appears in this type of text at a precise moment and by way of a suggestion that will serve the reader when deciding on the issue that led him or her to read the article. Finally, as in the previous case, self-referent advertising erases the codes that allow the reader to perceive and immediately classify the text as belonging to the promotional genre or as conventional self-promotional texts. While in traditional or classic advertising self-promotion meant an explicit text which invited the reader to consume the product or service, in this new, self-referent advertising a text is offered that is of interest to the reader into which self-promoting

This multi-stimulation cultural context creates attention-related habits that later affect the attention-related processes required by formal education at school, and explains in part the observations of certain teachers who complain about the current inattention levels of their students over prolonged periods.

messages, through icons or text, have been slipped. For example, in «Cosmopolitan» magazine (nº 243; pages 82-93), which has been included in the empirical research detailed later on in this text, the reader finds photographs and descriptions of a party attended by numerous public figures, singers and actors, among others. As a background to several of the photographs where the celebrities are posing for the cameras, the logotype of the organiser of the event can be clearly seen, i.e. Cosmopolitan magazine, as well as explicit references to the brand. Even though the accent in the article is placed on the glamorous aspects of the event and on satisfying the possible curiosity of the reader as to, among other things, the dresses and attire of the guests, the party is subtly accompanied throughout by the sponsoring brand which made the event possible (Bermejo, 2013a).

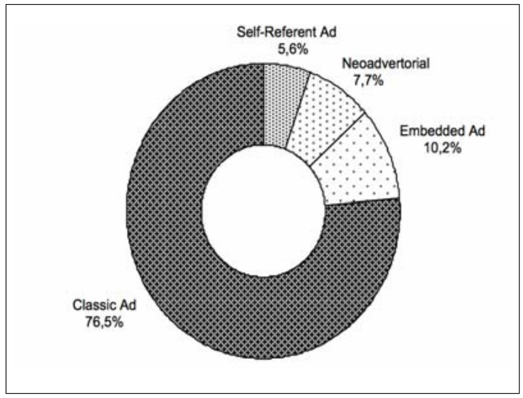

Figure 1. Types of advertising in the corpus of graphic advertising.

This new strategy of masking advertising, through these three modalities we have been able to identify, targets involuntary attention, unlike traditional advertising which targets voluntary attention. The question arises as to how young people react to this type of advertising strategy and the potential persuasive influence it can have on them. In this article, we present the results of a study which investigates for the first time, taking an empirical approach, the influence on young people of this new advertising strategy.

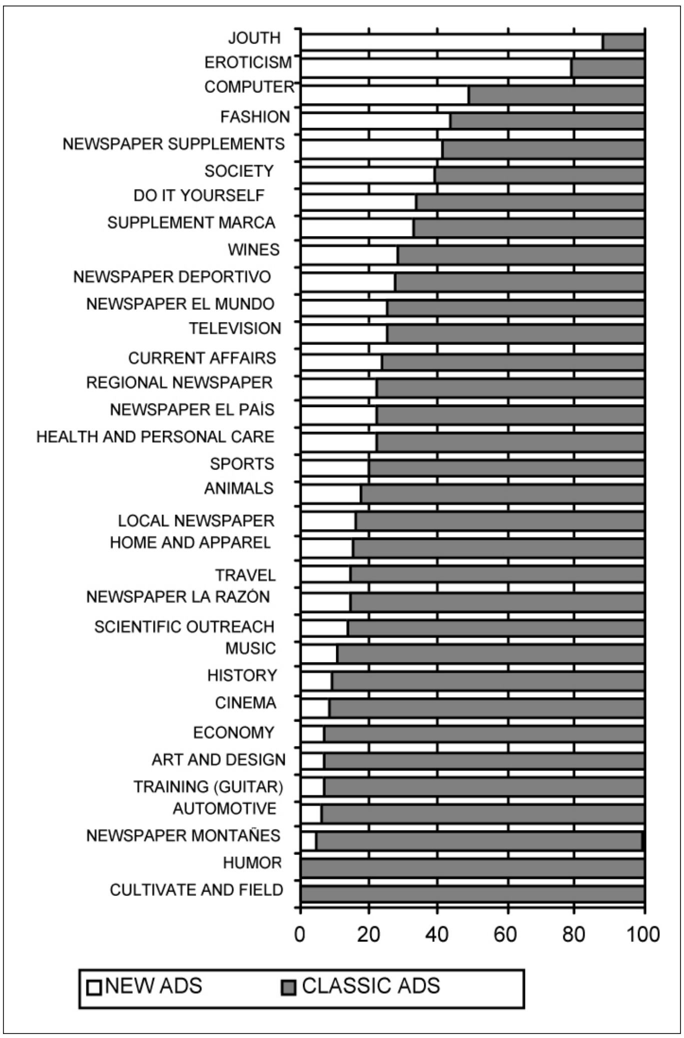

Figure 2. Types of advertising in the different categories of publications.

2. Experimental study of masking advertising

2.1. Material and methods

In a previous study, in 2011, we investigated the presence of new, graphic advertising within advertising in Spain as a whole. Having analysed all the types and categories of publications in the Spanish market which insert advertising and which can be bought at newsagents and bookshops, a representative corpus was selected that covered 232 publications, with a total of 26,930 pages, of which 7,183 included advertising, making a total of 7,771 adverts (Bermejo, 2011d). Analysing this corpus of adverts revealed that this new strategy of masking advertising is already present to a certain extent in the press and represents a quarter of the total, adding together the three manifestations of the strategy (embedded advertising, neoadvertorials and self-referent advertising) (Bermejo, 2011c).

As can be seen in Figure 2, even when the three new advertising modalities (neoadvertising) appear in the majority of the publication categories, it is interesting to observe that they are concentrated above all in certain categories with common elements: Youth (which includes magazines such as «Loka Magazine», «Super Pop», «Ragazza», «Bravo por Ti», etc.) reaching 87.9% of the total number of adverts in the publications included in this category, Eroticism (79%), Fashion (with publications such as «Elle», «Tendencias», «Glamour», «Vogue», «Telva», etc.), representing 43.6%; Newspaper Fashion, such as «Dona», representing 41.1%, and Society (with over twenty publications including «Lecturas», «Cosmopolitan», «Pronto», «Hola») reaching 39.2%. These five categories of publications have to do with relations among individuals in a social setting, with trends, values and social uses. Many of these include patterns of conduct, values and social actions with which the advertising is associated, in accordance with the camouflaged style of the three modalities of new advertising described above.

Therefore, this new persuasive strategy already has a significant presence in graphic advertising and is found in practically all publication categories. An interesting conclusion arising from this study is that masked advertising appears significantly in publications read by young people. A general aim suggested by this result is to find out if this new type of advertising influences them.

2.2. Objectives

The overarching objective of the study is to assess if the subjects, after being asked to look at a magazine (on sale at newsagents and bookshops) which inserts advertising, perceive and identify with the same degree of difficulty the four types of advertising, namely classic advertising, embedded advertising, neoadvertorials and self-referent advertising. It concerns finding out it the factor of masking, which is missing in classic advertising and present through different forms of expression in the other three types of advertising, has any influence on their ability to identify the presence of advertising in those pages. The masking has been used as an experimental technique to differentiate the conscious and unconscious processing of stimuli (Froufe & al., 2009). In our case, we understand masking to be that process used not in the laboratory but in the social environment by a new type of advertising, which consists of erasing genre markers, including the advertising message within the text of another informative genre which contains it and, thirdly, establishing a type of specific dialogism, described above in this text.

For this study, the «Cosmopolitan» magazine was selected as stimulatory material. This magazine belongs to the category of publications about society and was chosen because it contains abundant examples of classic advertising and new advertising and, in addition, because it is part of a general category of publications, together with publications for young people, that young people today read on a regular basis.

2.3. Experimental procedure

A total of 154 university students in the final year of their degrees in advertising and public relations, aged between 21 and 23 years old, took part in the study. The sample, made up of young men (24.7%) and young women (75.3%), was selected as it was deemed an expert group that is familiar with advertising messages in the media. Therefore it was to be expected that they would have no difficulty identifying advertising in conventional written media.

In the experimental situation, the participants performed the task individually on a computer onto which the program SuperLab 4.1, had been loaded, allowing the user's responses to be recorded. During the session, the subject visualised 224 screens corresponding to each of the pages, including the cover and back cover, of issue number 243 of the society magazine known as «Cosmopolitan». The task indicated in relation to this independent variable is that the subject presses the letter «S» key if the page being viewed contains advertising or the letter «N» key if the page does not contain advertising. When a response is entered, the program moves on to the next screen, and so on. Before starting, and in relation to the dependent variables taken into consideration, the subject was informed that both the accuracy of the response in identifying the presence of advertising on the page and the time taken to respond (Reaction Time in milliseconds, recorded by the software installed on the computer) will be taken into account.

A prior selection and classification of the advertising in the magazine found a total of 155 advertising stimuli (i.e. 155 of the 224 screens contained advertising). Those 155 stimuli were classified under 7 typologies or modalities of advertising, resulting from taking into consideration two variables of the stimulus: a) type of advertising and b) amount of space taken up by the advert on the page. Table 1 contains the breakdown of the 224 pages of the magazine based on those two criteria. Categories T2, T3 y T4 correspond to stimuli including classic advertising. The following four categories (T5 to T8) correspond to the three types of new advertising. These four types include self-referent advertising, advertorials, embedded advertising within full-page text and, finally, embed-

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ded advertising partially within the text occupying half or a quarter of a page.

To keep the experimental design balanced with respect to the number of stimuli, seven pages corresponding to each of the seven categories of advertising stimuli were used in the statistical analysis, with the exception of the category of a page including a quarter with five items.

Table 1. Classification of typologies of advertising stimuli		
Typologies of advertising stimuli	Nº stimuli (pages)	% total
T1. page without ads	69	30,8
T2. Classic advertising (full page)	64	28,6
T3. Several classic advertising on the same page	7	3,1
T4 Several classic advertising on a fraction of the page	7	3,1
T5. Self-referent ad (full page)	17	7,6
T6. Neoadvertorial (full page)	41	18,3
T7. Ad embedded (full page)	12	5,4
T8. Ad embedded occupying half or a quarter of the page	7	3,1

2.4. Hypothesis

The general hypothesis is that there is a differential perception between the four types of advertising described above.

H1: Classic advertising is noticed better that new advertising (self-referent advertising, neoadvertorials and embedded advertising), that is, accuracy in identifying classic advertising is greater than that of identifying masked advertising. This implies that, as the accuracy rate for identifying classic advertising is greater, part of the new advertising goes unnoticed.

H2: The subject takes less time to identify classic advertising than he/she does with new advertising. This second, supplementary entry illustrates the difficulty experienced by the subject in perceiving the masked advertising in the graphic text.

3. Results: the efficiency of persuasion of masked advertising in relation to young people

The first analysis has been done on the proportion of skill in correctly identifying the pages containing advertising. The advertising method shows clear differences in the proportion of people who correctly identify the presence of advertising in the pages of the magazine. The first two typologies of advertising, T2 and T3, are correctly identified in 99.1% and 90.2% of the cases (table 2). With a slightly lower rate of correct answers is the advertising that occupies a fraction of the page, which obtained an 87.2% correct identification rate. Therefore, these are advertising categories that cause us no type of trouble in classifying them as advertising, and they could be called classic advertising. The other four categories of stimuli, which correspond with masking ads, show a proportion of correct responses that is appreciably lower, as can be seen in the table. Self-referent advertising has a 66.7% correct identification rate, neoadvertorials obtain 57.9%, and advertising embedded in the text obtains 64.1% and 62.6% respectively. The four typologies represent advertising stimuli in formats or manners of presentation that are less evident in the classification of advertising. To create a record of the differences, a within-subjects analysis of variance (ANOVA) has been carried out and it has been verified that these differences are statistically significant (F=150.85, sig.=.000). Therefore, hypothesis 1 is confirmed and brings up a different perception between the two types of advertising.

The reaction time is the second variable recorded in the analysis and reflects the degree of processing required to give a response for each stimulus. In table 2, the results obtained are shown for each type of stimulus. An increase can be seen in the average time devoted to the processing of the image before giving a response as the stimulus passes from classic advertising to new advertising. In the full-page adverts the average time was 9.26 seconds, the category that contains several adverts on the same page obtained a slightly longer average processing time (15.26 seconds), and this was somewhat higher in the following category (16.40 seconds). The other four types of remaining stimuli, which corresponds with new advertising or masking ads, show a substantial increase in the time devoted to the processing, given that the average reaction time was situated between 22.2 and 24.64 seconds. Once again, a within-subjects analysis of variance, ANOVA, has been carried out and it has been discovered that the differences between the seven categories are statistically significant (F=189.3; sig.=.000). In fact, a second within-subjects analysis of variance carried out on the last four advertising categories does not show statistically significant differences (F=2.687; sig.=.055). Therefore, the analysis of this second variable shows that the decrease in the rate of correct responses for the advertising categories called neo-advertising is not due to a lack of attention, given that clearly the subjects have spent more time in giving a response. Therefore, it can be deduced that the difficulty of classifying these pages has required greater cognitive resources from the participants in the study.

Table 2. Proportion of skill in correctly identifying the correctly pages containing advertising and reaction time by typology of advertising stimuli

Typologies of advertising stimuli	Proportion of skill		Reaction time (seconds)	
	Mean	σ	Mean	σ
T2. Classic advertising (full page)	,991	,05	9,26	4,46
T3. Several classic advertising on the same page	,902	,27	15,26	11,27
T4. Several classic advertising on a fraction of the page	,872	,19	16,40	8,05
T5. Self-referent ad (full page)	,667	,27	23,95	10,90
T6. Neoadvertorial (full page)	,579	,22	24,38	15,14
T7. Ad embedded (full page)	,641	,25	24,64	13,08
T8. Ad embedded occupying half or a quarter of the page	,626	,29	22,22	14,40

4. Discussion and conclusions

The results of this study give rise to a debate about four issues. The first issue refers to the shift in persuasive strategies used by advertising to communicate with young people and which would be changing from targeting the conscious to targeting the subconscious. It is necessary to remember that subconscious is not the same as subliminal. The latter type of stimulation operates under the level of sensitive processing and, as is apparent in the study and meta-analysis, the influence of subliminal advertising on consumer decisions is not significant (Moore, 1982; Trappey, 1996). However, a subconscious process takes place when the advertising can be seen or heard, even if it does not attract the attention of the subject (Heath, 2007: 22). Unlike subliminal advertising, studies like that of Shapiro, Macinnis and Heckler (1997) have empirically confirmed that the subconscious processing of advertising can influence purchasing decisions.

Until recently, there was a notion that we assimilated only that which had passed through our conscious minds. This meant that advertising strategy sought to attract the conscious attention of its public. It was thought that what was retained through this channel could be recovered from memory and thus have an influence on favourable attitudes towards the brand, whereas that which was not processed by this voluntary channel was lost and did not influence our subsequent behaviour. According to this model, the interpretation of the results of this study would be that masked advertising would not be efficient, that is, would not influence the reader's mind, given that it had not been perceived in a conscious manner. However, recent breakthroughs in psychology and neuroscience have demonstrated that there are three forms of processing the stimuli that can later influence our behaviour (Klingberg, 2009; Heath, 2012). There is active learning, which occurs through high-attention, fully-conscious thinking, which commonly uses the foveal system. Secondly, there is passive learning, occurring through a low-attention focus, which uses above all the parafovea. Lastly, a third type of peripheral attention, which leads to so-called implicit learning, which occurs without the subject paying attention to the stimulus of any of the other two forms of attention. According to this third type of learning, the subject may not be aware of having perceived a stimulus and, despite this, may have assimilated it both sensorially and conceptually (Shapiro & al., 1997). In the light of these advances in knowledge about attention and learning processes, which indicate that implicit learning can occur through low attention and peripheral attention, the interpretation of the results of this study can be addressed from the perspective of possible future persuasive effects on young people. Given the context of exposure, where the subject is explicitly invited to look at images on a screen and make decisions regarding these, we have a task where the requirements for general processing are conscious and voluntary, requiring high attention in top-down processing controlled by the objectives (Eysenk & Keane, 2000: 2). However, the interesting thing is that, despite this particular context, a significant part of the subjects process the stimuli with low attention levels. It is as if, in fact, the effective processing had followed a bottom-up processing strategy in which the learning occurs unnoticed and is controlled by the stimuli and not by the subject's objectives. This explains errors committed by the subjects which, if their level of attention had been increased, would not have occurred given their prior level of expertise in advertising. The incorrect verbal response given by our subjects indicates that they have not sufficiently processed the presence in the stimulus of a considerable part of the masked advertising. However, this does not mean to say that they have not processed it. That would have occurred either with a low attention level or even at a subconscious level, through peripheral attention. As scientific literature, through the study of the priming effect, has been able to show, stimuli processed through implicit learning can have a subsequent effect on behaviour, although this does not manifest itself through a conscious effort to recover the information (Harris & al., 2009). Therefore, this shift in strategy experienced in advertising, which is leading it to change from using strategies targeting the conscious mind to using strategies aimed at the subconscious mind and implicit learning, can be highly efficient as regards advertising since, as we have demonstrated here, these strategies go unnoticed by our subjects.

The second issue that arises from these results is that they reveal a new type of relationship with the reader. The dialogism of classic advertising has been using a process of direct dialogue. Once the reader's attention has been grabbed, from then on classic advertising deploys argumentative strategies focusing on the source and the message, where the enunciator offers a promise about a brand/product (Bermejo, 2011 b). Conversely, the type of masked advertising we have identified uses another form of dialogism. Within it, communication is undertaken around a matter or subject of information that interests the reader. In this process, this being the centrepiece of the communication, the product or brand is shifted, although not absent. Simulated dialogue in traditional advertising is replaced in masked advertising by a dialogic meeting around content attracting the reader (Bermejo, 2013a).

At the same time, in this new communication context, the rational-emotional dichotomous axis fades into the background in favour of attention processes and conditioning processes, according to the mechanism already described by Paulov and reaffirmed by contemporary psychology and neuroscience (Health, 2012). As Health has demonstrated experimentally, the issue is no longer about advertising being more rational or emotional, but about the perceptive context in which exposure to advertising which induces a specific degree of processing and counterarguing (Heath & al., 2009).

In third place, if, as these results indicate, the masking strategy means that advertising in the media passes unnoticed to the conscience, individuals can end up with the impression that advertising, which was extremely invasive in the last years of the 20th century, is beginning to move beyond the media. However this, as we have seen, would be nothing but an illusion as it continues to be present. One of the consequences of this lack of perception is that the individual relaxes and does not become defensive or create counterarguments against the masked advertising messages. As we have known for some time, counter-argumentation is a powerful mediating variable in the message acceptance response (Wright, 1980; Knowles & Linn, 2004; Petrova & al., 2012). When the subject uses a counterargument, the likelihood of being persuaded is reduced as the subject's cognitive response runs contrary to the arguments offered by the advertising message. The deployment of the masking stratagem in other media can, paradoxically, lead to advertising persuasion becoming even more efficient in the future than nowadays since the subject, as he or she does not perceive the stimuli consciously, does not see the need to counterargue.

Fourthly and finally, and no less importantly, a reflection emerges from this study about the media literacy of young people in this new era of multichannel communication. The rediscovery of the so-called cognitive unconscious (Hassin & al., 2005; Froufe & al., 2009) has made us see that we are also capable of processing information presented peripherally, without being aware of it. If this study is an illustration of that phenomenon, this new knowledge about our capabilities, already used by advertising, suggests the possible need of making known to young people these sales procedures, which target not conscious attention but peripheral attention, so that they can, based on this knowledge, make their own individual decisions with a greater degree of freedom. This heightened awareness would thus begin to form part of their personal education process.

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Connecting Generations. A Research and Learning Approach for Media Education and Audience Studies

Conectando generaciones: investigación y aprendizaje en educación en medios y estudios de audiencia

ABSTRACT
Based on theoretical and methodological orientations from authors' previous research on media and generations, this article presents a research and learning process involving supervised field work conducted by graduate students from a Master Seminar on Media Studies at FCSH, New University of Lisbon. Acting as facilitators of focus groups composed of older participants, exploring intergenerational and intragenerational differences and similarities that emerge from different age cohorts, and critically reflecting on this experience on their individual essays, students were able to build a contextual knowledge of media uses among their grand-parents' and parents' generation in Portugal. The choice of focus groups as a tool for research and the topic of generations to be investigated within Media Studies proved to be very productive. The article argues on the potentialities of this intergenerational relation between facilitator and focus groups' respondents as a way of activating the interactions inside the groups, leading –for instance– the participants to assume an «explaining» attitude in self-accounting. Final notes are presented about the educational gains of this methodology for Media Education and for different branches of Media Studies, such as media and social history, journalism and the news or political participation.

RESUMEN
A partir de orientaciones teóricas y metodológicas previas sobre medios de comunicación y generaciones, este artículo presenta un proceso de investigación y aprendizaje a partir de la supervisión del trabajo de campo desempeñado por estudiantes licenciados en el Seminario del Máster en Medios de Comunicación en la Facultad de Ciencias Sociales y Humanas de la Universidad Nueva de Lisboa. Los estudiantes implicados lograron construir conocimiento contextual sobre el uso de los medios en la generación de sus abuelos y en la de sus padres en Portugal, actuando como facilitadores en los grupos de discusión, formados siempre por participantes de mayor edad, explorando las diferencias y similitudes intrageneracionales que emergen en grupos de diferente edad y llevando a cabo una reflexión crítica sobre la experiencia en sus informes individuales. La elección de los grupos de discusión como herramienta para la investigación y la elección del tema en el marco del Estudio de los Medios de Comunicación resultó muy eficaz. Este artículo pretende defender la potencialidad de esta relación intergeneracional entre los facilitadores y los miembros de los grupos de discusión como forma de activar la interacción entre grupos, permitiendo, por ejemplo, que los participantes asuman una actitud explicativa en sus propias respuestas. Las notas finales que se presentan contemplan las ventajas de esta metodología para la Educación en Medios y para diferentes ramas del Estudio de los Medios, como la historia de los medios de comunicación e historia social, el periodismo o la participación política.

KEYWORDS / PALABRAS CLAVE
Audience, media education, media studies, media and generations, qualitative methodology, interview, focus groups.
Audiencia, educación en medios, estudio de los medios de comunicación, medios y nuevas generaciones, metodología cualitativa, entrevista, grupos de discusión.

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1. Introduction

The paper reflects on the potentialities for media education and for audience studies that emerge from a research and learning approach involving intergenerational relations between graduate students and mature adults, inspired by the authors' previous research in the projects «Media and Generations in Italian Society» (2006-09) and «Digital Inclusion and Participation» (2009-11).

The project Media and Generations in Italian Society (Colombo & al., 2012) was rooted in a theoretical framework that considers «generation» as «an age cohort that comes to have social significance by virtue of constituting itself as cultural identity» (Edmunds & Turner, 2002: 7). Biographical traits coexist alongside historical and cultural characteristics, and one's belonging to an age group is connected to specific historical experiences (Elder, 1974), to the development of particular consumption habits (Volkmer, 2006) or to the occupation of certain positions in the family chain (Bertaux & Thompson, 1993). These biographical factors involve distinctive social levels: one's position in the life-cycle, media biography, contexts provided by families and friendship networks as environments for the elaboration of media experience (Aroldi, 2011), the belonging to a world of values shared with other members of the same generation (Edmunds & Turner 2005), the historical development of the media system and the different phases of technological innovation (Corsten, 2011), the processes of mastering and assimilating technologies and media products (Buckingham & Willet, 2006; Bolin & Westlund, 2009), and the wider structural changes affecting the social and cultural system (Hardey, 2011).

The project «Digital Inclusion and Participation» (2009-2011) funded by the UTAustin/Portugal program aimed to understand practices of users and non-users of digital media, focusing on deprived social groups in Portugal and the US. Generations emerged as a critical issue, since it was difficult to compare digital practices as far as mature adults and the elderly were concerned. Definitions on the US generations from the American Pew Institute have distinguished seven age cohorts since the 1930s, based on the relation between adolescence and traumatic events or the media: «Millenials», born in the last decade of the twentieth century; «Y Generation, the digital natives»; «Generation X» and «Young Boomers, the digital settlers»; «Old Boomers, the Vietnam generation»; «Silent Generation, contemporary of the economic boom in the 1950s»; «Greatest Generation», who experienced the traumatic times of the Second World War. Although popular and internationally disseminated, these definitions did not work in Portugal for adults and the elderly, due to significant historical differences and this acknowledge stimulated research on media and generations (Ponte, 2011a; Ponte, 2012).

Participating in the COST network «Transforming Audiences, Transforming Societies», we identified common grounds in the above research projects, both related to the media's role in the definition of generation. A key concept was Mannheim's (1927) seminal distinction of generation as social location, actuality and unit. Social location refers to the strata of experience provided by being born and growing up at the same time, and it is equivalent to the concept of birth cohorts; generation as actuality refers to the collective self-interpretation of people who belong to the same generation, a common view of the 'historical new' during their biographical period of adolescence; generational units emerge from concrete groups of people of the same age, who not only define their situation in a similar way but also develop similar reactions in response to their problems and opportunities.

Both as technologies which occupy the everyday life horizon as taken-for-granted tools and as cultural institutions or communicative products, genres or texts, the media are a set of elements that contribute to shape generational identities (Aroldi & Colombo, 2003; Rossi & Stefanelli 2012). Media also constitute a sort of public arena in which different generational identities can express and question themselves. They do this by co-building each other through mutual representation and through the production of social discourses which can be ritually celebrated in front and on behalf of their peers in terms of their collective identities (Edmunds & Turner, 2002; 2005; Boccia-Artieri, 2011).

In the last decades, the global dimension of the audiovisual media and communications technology has allowed cross-national perspectives, not only exploring whether and to what extent the media experiences contribute to shape the collective identity of a generation, but also comparing collective identities developed by people who were born and grew up in the same period of time, though in different national contexts. Hence we considered that Italy and Portugal could offer an interesting case study: sharing similar cultural traditions, they experienced also different historical events and socio-economic conditions in the post Second World War. While Portugal had a dictatorship which only ended in 1974 and high levels of poverty and illiteracy, Italy lived an optimistic era of economic development and social mobility, marked by modern life-styles and consumption of private goods.

Given these two national contexts, we explored processes of socialization concerning the media, domestication of technologies and appropriation of cultural and media contents by people living their youth in the two countries in the '60s and '70s and how have they entered in the digital world of the 1990's and 2000's. Thus we questioned the concept of a «global generation» (Edmund & Turner, 2005; Volkmer, 2006; Beck & Beck-Gernsheim, 2008; Aroldi & Colombo, 2013) in these decades, as reported elsewhere Aroldi & Ponte, (2012).

Adapting the methodology used in the Italian Project, the Portuguese methodology was empowered with a new tool: the involvement of supervised students in the field work. The current article aims to stress the potentialities of this orientation for media education and audience studies.

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2. Material and methods

The potential of students' ability to learn beyond their current knowledge level through guidance from and collaboration with adults or with groups of peers has been explored in relation to concepts such as constructivist learning, communities of practice or identity development (Hunter & al., 2006). Among others, Baxter (1999; 2004) sustains that the move from absolute to contextual knowing is a shift from an externally directed view of knowing to one that is internally oriented, promotes identity development as «self-authorship» (including learning through scientific inquiry) and is better supported by a constructivist-developmental pedagogy situating learning in students' experience.

Within Media Studies, Rantanen's (2005) and Vettenranta's (2011) teaching on media and globalization using mediagraphies may be related to this perspective. Mediagraphies are reports based on biographical stories and interviews of primary sources conducted by graduate students, along with secondary sources such as newspapers, photos or history books. Students collect individual life stories from their families over four generations by interviewing family members and filling a globalisation factors table that includes the place and time of born, home country, number of siblings, education, languages spoken, the first travel abroad, changes in the lifestyle and in class, uses of media and communication, ideology and identity (Rantanen, 2005).

From a media education perspective, this approach «combines phenomenology (starting from the experiences of an individual with the outer world), hermeneutic (emphasizing the importance of interpreting the human actions by studying the deeper meaning which can only be understood in its contexts) and a socio-cultural perspective (considering the media as artefacts)» (Vettenranta, 2011: 372-373). Carrying out research on their own family, students gained an impression of how globalization had an impact on the individuals in their families. This contextualised knowledge was visible when they wrote for instance that they «had obtained thought-provoking experiences about the inadequate education of previous generations, the large number of children, the changing ideologies and the lack of access to the media» (Vettenranta, 2011: 377).

In Portugal, the project «Digital Inclusion and Participation» (2009-11) used a similar approach, stimulated by our US partner J. Straubhaar, also Professor of Global Media who has a large experience of involving students in collecting life stories concerning the media. As part of that project, at FCSH, MSc seminars on Media Research included supervised fieldwork, as reported elsewhere (Ponte, 2011b; Ponte & Simões,

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2012). In the 2011-12, following the theoretical and methodological orientations of the Italian project on media and generations, the nine students that attended this MSc seminar were oriented to collect and analyse similar data[1].

First sessions introduced the theoretical and methodological frameworks. Students read and commented literature on «media domestication» (Silverstone, Hirsch & al., 1993), Bourdieu's concepts of capital, field and habitus adapted to the digital experience (Rojas, Straubhaar & al., 2012), «generation» (Mannheim, 1927) and follow-ups such as «generational semantic» (Corsten, 1999) or generational belonging» (Aroldi, 2011). Methodologically, students were presented to qualitative methods (Bryman, 2004; Lobe & al., 2007), namely to the focus group approach, its particularities and its explicit use of group interaction to generate data (Barbour & Kitzinger, 1999). The Italian scripts were translated and discussed along with the Portuguese historical context, looking at national statistics and other documentation. A focus-group simulation allowed students not only to place themselves as participants, recalling and confronting their memories about events and their media experiences. They also become aware of the processes of generating ideas and of facilitating the discussion while following the script. Students were also instructed on ethical and transcription procedures.

Focus groups were conducted in December 2011. Their composition was based on personal relationships and snowball recruitment. In all, participants knew each other which facilitated a familiar atmosphere. For the purpose of this article we will analyse six focus groups in which participants were older than the students-facilitators. The one with elderly people was held in a day-care center, the others occurred at home, on the week-end, after a dinner or around the afternoon tea. At the end of the discussion, all participants filled in a questionnaire with demographic questions as well as questions on their media uses.

In January, the seminar discussed students' transcriptions looking at generational belonging, generational units and generational semantics and the media's role in these processes. This discussion facilitated the writing of individual essays (around 4000 words), which should integrate the theoretical approaches into the analysis of the respective focus group.

Table 1. Participants by gender, education and place where the youth times were lived in

		Gender		Mothers' education				Fathers' education				Own education			Youth lived in a...	
Born in	FG	M	F	N	B4	B9-S	T	N	B4	B9-S	T	B4	B9-S	T	Metro-politan area	Other local
1940-1952	FG1	2	4	1	5	0	0	1	4	1	0	0	5	1	4	2
1953-1965	FG2	3	3	2	4	0	0	0	6	0	0	0	1	5	6	0
	FG3	3	2	3	2	0	0	3	2	0	0	0	4	1	0	5
	FG4	2	3	1	1	3	0	1	1	1	2	0	1	4	1	4
1966-1978	FG5	3	2	0	5	0	0	0	4	1	0	0	4	1	3	2
	FG6	3	2	0	3	2	0	0	2	2	1	0	4	1	5	0
Total		**16**	**16**	**7**	**20**	**5**	**0**	**5**	**19**	**5**	**3**	**0**	**19**	**13**	**19**	**13**

Legends: M=Male; F=Female; N=No level; B4=Basic, 4 years; B9-S=Basic, 9 years, Secondary; T=Tertiary.

3. Results

In this section we briefly characterize focus groups' participants, compare results by age cohorts and present information for the further discussion.

As Table 1 shows, two focus groups had six participants and four had five participants. Born between 1940 and 1978, most of these 32 participants lived their youth years in metropolitan areas (contrasting with their parents' youth lived in rural areas), almost all surpassed their parents' preparation but less than half reached tertiary education. These trends on place and education attainment translate demographic and social dynamics that crossed the 1960's and 1970's in the Portuguese society as shown elsewhere (Aroldi & Ponte, 2012).

• 1940-1952 – «We are the ones who experienced the dictatorship' s consequences»

FG1 was composed by five former bank employees living in a day care-center, and a retired judge. The student-facilitator noted the difference in their geographic origins as a point to explore generation as social actuality: «The fact that the interviewees grew up in different regions of the country enriched the discussion, because they talked of two very different realities. Some grew up in isolated regions, while others spent their formative years in large [urban] centres, which facilitated access to culture and education» (Student A).

In spite of different experiences, the national context emerged as a constraint unity. Participants commonly recalled the poverty and the high rates of illiteracy; the difficult access to secondary education for those belonging to poor families; the gender discrimination against women; the dictatorship and its repression of ideas. Broadcasting media were far from their childhood and adolescence times. Television did not cover most of the country and the radio was only present in wealthy households. Some participants associated radio with the possibility of breaking the political censorship and accessing international and national news («At home, in secret, we listened to the BBC, the Moscow Radio...»). Newspapers and classic novels (Balzac, Zola, Eça) were invoked as ways of accessing information and culture. At the present, while television is the key media for information, particularly among these women who do not access the internet, the pleasure of reading literature continues alive among all.

Gender discrimination was a key topic in a focus group quantitatively dominated by women. They were proud to recall that they had participated in social changes when they introduced practices such as having a drive-licence, smoking or wearing trousers in their morally constrained neighbourhoods. Being retired before the informatisation of their administrative jobs, they defined themselves as the «generation of the typewriter».

This session generated follow-ups. After uploading a video on the session in his blog, a participant felt proud when we was told that the video was seen in Italy; the student-facilitator decided to focus her Master dissertation on senior users and non users of digital media, which is already concluded.

• 1953-1965 – Different generational belongings

Participants in FG2, FG3 and FG4 include people that lived the end of the dictatorship in their childhood, adolescence and youth years. As these focus groups were composed of students' parents and their relatives or friends, the participants knew each other for years and had common cultural practices. Because of this composition, the sense of belonging (the generation as a unit) is more visible than in the previous group. Common references to the Carnation Revolution in 1974 provided distinctive pictures of that political transition. Besides age differentiation, the place where the adolescents and young people lived during these years revealed to be significant.

Composed by participants that were University students living in metropolitan areas in the end of the 60's and the beginning of the 70's, FG2 revealed politically and culturally engaged youth times. Coming from urban families with small business, which invested in their education, they present the biggest gap on school attainment between themselves and their parents.

Regarding the dictatorship, these participants recalled the media censorship, the political repression, gender discrimination, their desire of being connected with the international mood of their generation. All wished to talk about the precise day of the Revolution, they lively reported where they were, what they did and even how they were dressed. The media diet of their youth times (movies, music, newspapers, magazines) continue relevant nowadays, much more than TV. All are frequent internet users.

FG3 was composed by participants that were adolescents in 1974, shared a rural origin and whose parents had low school attainment. They lived their youth years in the countryside, where they continue to live. From the dictatorship, they recalled the political surveillance («In the bars we had to be careful with what we said») and a traditional local order that disconsidered poor families as their own's. The Carnation Revolution was associated with an unexpected explosion of rights («We lived in a repressed time. Suddenly came the 25th of April, there was total openness of ideas, of thoughts...»). Local memories on the end of educational discrimination («The lyceum was for the rich; the technical school for the poor») were the most recalled memories of their youth times. Radio and movies composed their media diet before the arrival of the TV in their households, by the end of the 70's. Nowadays, having undifferentiated jobs, women don't use the internet, the men are occasional users. TV is the main medium for all.

FG4 was composed by participants born by the middle of the 60's that mainly lived their childhood and youth times in a small countryside town. Their parents, younger than the previous ones had more years of school attainment. The scarce personal memories of these participants on the social change lived in 1974-1975 evidenced how the fear of repression persisted among population. A participant recalled: «One day I was playing in the balcony and singing «A Gaivota» [a popular song associated with images of the Carnation Revolution, frequently transmitted in the radios and TV] and my mother came to me, very nervous, saying 'Shush, don´t sing this'. I remember I didn´t understand the reason».

These participants seem to have grow up far from politics, within protective families even though investing in their education, equally for boys and girls. From more wealthy households than the previous FG, their media memories are dominated by turntable, radio and TV. Nowadays all are regular internet users,

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mainly for professional reasons, but their media diet continue dominated by television.

Comparing these FGs, students realised that besides age, place and educational capital also matter for the generation as social actuality. The cultural gap and the overture/distance to politics is visible in the memories of key events: while FG3 and FG4 only recalled local events related to their past, FG2 had memories about the Vietnam or Biafra wars, the May 1968 demonstrations, the academic crisis in Coimbra in 1969, the robbery of the National Bank for political reasons, in 1970. The media diet also diverges: television was almost ignored in the media memories of the most engaged group, while the others define TV as their «magic box». While going to the cinema was a common experience, the movies and the associated audience experience were clearly different, as shown in table 2.

Table 2: Memories of the movies in the 1970's.

FG2	FG3
Male 1. We went to Quarteto [a four-room cinema placed in a modern/intellectual neighbourhood of Lisbon], to the midnight double-features... Male 2. Yeah, and you know what I liked to watch with my friends at the time? Woody Allen movies! Female 1. And Bergman! Female 2. In those I'd fall asleep! I fell asleep watching Wild Strawberries in Quarteto. Female 1. That one I really liked! I'm sorry, but we all had nice discussions, drinking coffee, after a Bergman movie...	Male 1. Because I didn't have a TV I went to the movies a lot. At that time, there was a big boom of westerns. It was almost sacred to go on Tuesdays and Saturdays... Female 1. Not me... I stayed at the village. Female 2. I used to go. Male 2. The cinema street might have a hundred and something parked motorcycles. Those couples... people from the villages. And there were people who, when westerns were playing, would come dressed as cowboys. There was one who would come with a gunbelt with guns and a cowboy hat...

• 1966-1978 – «We are the generation which gave the world what the world has today...».

The ten participants of FG5 and FG6 lived their adolescence and youth in the 1980's, the decade that started in Portugal with an economic crisis and the IMF presence, ended with the arrival of European funds and was followed by the 1990's boom of credit cards and consumption. Most of the participants grew up in metropolitan spaces but only two entered into the University.

Illustrating the influence of the audio-visual media, their historical memories include international and national events such as the fall of the Berlin wall and the end of the «Soviet Empire» (1988-91), the first Golf war (1991), the Columbia disaster (1985), the Pope visiting Fátima (1982), the first Portuguese test-tube baby (1984), the earthquake in Azores and the arrival of colour TV (1980). Although historical memories were charged by TV screens, students were surprised by participants' memories associated with outdoors, surpassing their expectable focus on the media in a decade marked by changes in the global, national and local landscape: «Memories of street games drew my attention due to their intensity. I was expecting those accounts, because of previous research on the background of the 1980s [reference to the contextualisation of the decade]. However, I thought that street games would be referenced together with the phenomenon of video games, for example, which got children and youth to play at home as well» (Student B).

In their comments, students noted the relevance of local radio channels providing updated international musical trends and exploring an informal language targeted to youth. This happened before the arrival of private TV channels, in the beginning of the 90's: «This generation saw colour television enter its home, so I thought that they would already be attracted by its fascination, placing it as media protagonist. However, while media memories were embedded in their talks, in most accounts, the dominant discourse was that TV was never quite arresting... there were many accounts about television programmes, but without the level of fascination or enjoyment as in the case of radio...» (Student B). «I was surprised by the intensity with which TV and radio shows marked their adolescence in particular, through music and humour. Music hits, in particular, wrapped important moments of their lives, bringing back memories: friendships, dating, marriage, the birth of children, recollections of parents and siblings» (Student C).

In spite of the common interests of these two focus groups, students identified two generational units defined by their ways of evaluating past and present times. FG5 associated their youth with a relaxed and happy atmosphere where «everything was easy to do» and «there was respect for the elderly», replicating the mythical idea of a lost paradise of order and joy. By contrast, FG6 portrayed their generational identity as marked by the idea of change at all levels: «We are the generation of the innovation and freedom. Everything changed: the media, politics, social life, the food... The generation of change!!».

Two notes before the discussion of these results: Initially students did not consider the generational gap between themselves and the participants had affected the focus-group dynamics. They stressed the friendly environment, the participants' involvement in the discussion, the pleasure of remembering together moments of adolescence and youth spent in the same historical context. However, highly contextualised descriptions could reflect the will to better transmit experiences and knowledge to a younger person – in most cases, from their inner personal circle. An example is the question asked by a senior to the student-facilitator, «do you know what the Marshall Plan was?» in his talk on the difficulties experienced after the Second World War.

The second note goes to the reflexive exchange of ideas activated by the four groups' discussion. In fact, frequently made participants linked past times and personal biography with present times of economic and social crisis, as it is visible in this dialogue:

• Male 1 – «It [the 80's] was also the time of the highways, of the tar...».

• Female 1 – «At the level of communications, in fact, it was a good investment. Although with the usual deviation in the budget...».

• Male 2 – «For me, the investment in highways is good and bad at the same time. They put an end to the railway. Nowadays, we have to save money. The railway is far less expensive but there are no trains. We cannot use the train anymore...».

4. Discussion

On the background of the description of the research process and its main results, and integrating results from the Italian project on media and generations in which this research is based on, it is possible to draw some methodological remarks in relation to the dynamics of recruitment and leading of focus groups, in terms of students' involvement and also in terms of the role of intergenerational relations for media research and education.

Students' involvement as field researchers proved to be a relevant approach to teaching sociology of media and communication research by doing; not only because «such an approach will greatly enhance the sociology major by providing the student[s] with «hands on» research experience» (Takata & Leiting, 1987: 144), but also because this kind of experience empowered their sociological imagination and self-reflexivity. By this point of view, the choice of both the focus groups as a tool for research and the topic of generations to be investigated have been very productive.

It is worth noting, in fact, that the peculiar object of investigation –the generational identity and its relationship with the media– results in purely, objective, socio-demographic data (the age of the participants) and –at the same time– a subjective disposition to self-history within the frame of a collective, generational «we-Sense» (Corsten, 1999; Aroldi, 2011). First of all, this leads to work on groups consistent in composition that are easier to conduct for students; as Lunt and Livingstone (1996: 15) noted, «the group establishes confidence more quickly, it moves more readily beyond platitudes towards analysis».

Furthermore, generational consciousness and the general mood of the evocation of the past (purely nostalgic, for example, or future-oriented), are directly affected by the degree of affinity, mutual understanding and intimacy of the participants. The choice to realize the three focus groups with the age-cohort between 1953 and 1966 recruiting students' parents and their relatives or friends produced a greater homogeneity of discourses that stressed the sense of belonging to a group that shares values and interpretations. The same happened in the Italian project with a peculiar kind of in-depth interviews involving some couples of childhood friends.

This kind of recruitment –which is often justly not recommended in other kind of qualitative research– seems to be here very useful to improve some sociological skills. On the one hand, it made more visible the main research variable to be taken in account, that is the Mannheim's differentiation between generation as location, generation as actuality and generation as unit, visible in the comparative analysis. The influence of this variable –and its theoretical conceptualization– becomes quite acknowledgeable by the students involved in the study. On the other hand, the field work experience they had to conduct and critically report on media and generations contributed to a «contextual knowing», also underlined by Rantana's and Vettenranta's research on media and globalization.

The intergenerational relation between facilitator and focus group's respondents has also to be highlighted. In fact, as we have noted, the age gaps and –sometimes– the kinship between them may sound like a bias in the research design. Bearing aware of this, students had to recognize that, as well known, the researcher is always anyway situated in relation to his/her objects or respondents, namely by the points of view of gender, nationality, age and generation. The researcher's age

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and age gaps with respondents matter in a meaningful way in activating the interactions inside the groups, leading –for instance– the participants to assume a «pedagogical» and «explaining» attitude in self-accounting.

Since the focus group as a tool in Audience research is to be understood «not by analogy to the survey, as a convenient aggregate of individual opinion, but as a simulation of these routine but relatively inaccessible communicative contexts which can help us discover the processes by which meaning is socially constructed through everyday talk» (Lunt & Livingstone, 1996: 9), this kind of dynamic is not to be seen as a methodological bias. On the opposite, they may be seen as a reproduction –in the research field– of the same social dynamics developed in both the intra-generational and inter-generational relations, which are parts of the processes of generational identities building.

In other words, in the focus group as well as in the everyday life, generational identities are produced through discursive performances happening «in front of» the other generations, to highlight differences and sometime oppositions toward previous or following cohorts. Therefore focus groups do not limit to record some data, but reproduce the process from which those data emerge, positioning the student-as-a-researcher in him/her proper relation with the informants. Remembering Gouldner – «knowledge about social worlds is also contingent upon the knower's self-awareness. To know others he cannot simply study them, but must also listen to and confront himself» (Gouldner, 1970: 493) – this kind of exercise could improve the students' reflexivity (Jenkins, 1995).

This methodological framework opens room to other suggestions for research in generation. Inter- and intra-generational dynamics could, in fact, be emphasized adopting different combinations of age cohorts of participants and facilitators: for instance involving young students in researching the elders and their memories, so to reproduce the grandparents/grandchildren attitude in self-accounting; or, on the other side, designing interviews with couple of grandparents and grandchildren, mediate by adults. Some innovative research tools could be thus developed. As Huisman (2010) says: «Hearing real stories […] brings the readings to life. Students apply the sociological imagination by focusing on an individual's life story or biography and situating that story within a larger structural context. When students hear over and over again how individual lives are shaped by larger structural forces, it drives home the inextricable connection between history and biography. This experience deepens students' comprehension of social structure and agency and results in a majority of students reflecting about their own social locations and family histories» (Huisman, 2010: 114).

In addition, we cannot forget that the research processes are situated in well-defined historical moments, and are affected by this; especially, our present times affect our memories of the past. As it is visible in some of these quotations, such economic or political trends as crisis or revolutions contribute to shape the gaze on the past in a really passionate way.

5. Conclusion

Some notes can be proposed about the educational gain of this kind of methodology based on the students' involvement. On the media studies side, students focused on very different branches can learn a lot by researching media memories from the voices of witnesses: not only research methodology or peculiar

Students focused on very different branches can learn a lot by researching media memories from the voices of witnesses: not only research methodology or peculiar topic such as media and globalization, as we have already seen, but also media and social history, audiences and reception, as well as journalism and news, or political and participation. This pedagogical approach confirms that students can be greatly improving by this kind of source of direct knowledge, empowered self-reflexivity and theoretical awareness.

topic such as media and globalization, as we have already seen, but also media and social history, audiences and reception, as well as journalism and news, or political and participation. This pedagogical approach confirms that students can be greatly improving by this kind of source of direct knowledge, empowered self-reflexivity and theoretical awareness.

On the media education side –both in schools and in other educational contexts– this discipline can really welcome such methodology, gaining a tool for critical, contextualized, historical knowledge, and positioning children and young people in a research perspective.

Foot Note

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Advertising Stereotypes and Gender Representation in Social Networking Sites

Estereotipos publicitarios y representaciones de género en las redes sociales

ABSTRACT

This article presents the results of a quantitative and qualitative analysis of adolescent self-presentations in Fotolog. The images which these adolescents create and share through the Net focus on the construction of the Self. Here gender and sexuality become the main structuring factors of representation. Results point to the fact adolescents self-presentations mirror some of the categories defined by Goffman in his study of gender hyperritualization in advertising. Moreover, other gender expressions are found in the sample, such as the lesbian pose or the erotization of bodies which Gill also detects in advertising. Despite the fact that the images that adolescents upload in Social Networking Sites reproduce gender stereotypes and patriarchal patterns based in advertising, it must be said that they also elaborate a relatively varied repertoire of pictures and are able to conceive original creations. These creative self-representations are the outcome of a process of negotiation of gender and sexual identity which occurs in these settings, as well as in other adolescent media practices. To avoid a thoughtless reproduction of gender stereotypes and contribute to a critical negotiation of these representations, media education is needed. This media education should take into account the way in which adolescent practices are shaped by other media consumption.

RESUMEN

Este artículo presenta los resultados del análisis cuantitativo y cualitativo de las autopresentaciones que los y las adolescentes elaboran para Fotolog. Las imágenes que dichos adolescentes crean y comparten a través de la Red están centradas en el sí mismo, y el género y la sexualidad constituyen el eje principal de la representación. Los resultados obtenidos apuntan a que algunas de las categorías que estableció Goffman en su estudio sobre la hiperritualización de la feminidad en la publicidad están presentes en las autopresentaciones analizadas. Además, aparecen otras expresiones de género como la pose lésbica o la erotización de los cuerpos que ya han sido detectadas también en los análisis de la publicidad desarrollados por autoras como Gill. Si bien estas imágenes reproducen estereotipos de género y patrones patriarcales, hay que destacar la presencia de un repertorio variado y algunas creaciones originales, resultado de la negociación identitaria que, respecto al género y a la sexualidad, tiene lugar en estos espacios y otras prácticas mediáticas adolescentes. Para evitar una reproducción irreflexiva de patrones de género estereotipados y contribuir a una negociación crítica de estas representaciones sería importante que la educación mediática tuviera en cuenta la manera en que las prácticas adolescentes en las redes sociales se están nutriendo de otros consumos mediáticos y cómo esto afecta a lo que los y las adolescentes expresan en las redes.

KEYWORDS / PALABRAS CLAVE

Social networking Sites, adolescence, interaction, identity, socialization processes, gender stereotypes, sexual stereotypes, advertising.
Redes sociales, adolescencia, interacción, identidad, procesos de socialización, estereotipos de género, estereotipos sexuales, publicidad.

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1. Introduction

In a survey by the Pfizer Foundation (2009), it was found that 92.6 percent of young people aged 11-20 participate in social networking sites (SNS). Tuenti, Facebook and Fotolog were the first, second and third sites most used by the interviewees. From other studies we get very similar figures, except for Catalonia, where Fotolog is the second SNS with the most users, with Facebook as third choice (Sánchez & Fernández, 2010). For Sánchez and Fernández (2010), SNS use is highly intensive: 66 percent of those surveyed use such sites on a daily basis, while 18 percent do so more than once per week. Genderwise, 42.9 percent of girls and 34.5 percent of boys log on to these networking sites several times a day. Given the pervasiveness of SNS in teenagers' lives, it is worth looking into some of the practices in which adolescents (Spanish adolescents in this case) engage in such spaces, and more specifically, into those more closely connected to their own self-presentation.

Insofar as, in social networking sites, identities are largely created as display identities, it makes sense that we focus an analysis of such spaces on the ritualization that takes place in self-presentation processes. In a sense, teenagers end up engaging in a kind of praxis not dissimilar to that of advertisers, who, according to Goffman (1979), ritualize what is already ritualized. This means they take gender manifestations that we all share socially and reshape them while exaggerating some of their traits. In their self-presentations, these youngsters seek to strike flashy, attention-seeking poses, and to that end, the gendered depictions they make of themselves tend to be modeled on those they find in advertising and in other audiovisual formats, whose gender stereotypes they often adapt and reproduce.

Our study focused on a specific social networking site, Fotolog, and analyzed the kinds of self-presentations and interactions we found in it. We performed a quantitative content analysis on a sample of 400 Spanish teenagers' photoblogs to determine what types of images are shared on this site in particular, as well as a critical and qualitative analysis (an in-depth study of the albums posted on 18 photoblogs) to understand how adolescents make sense of the pictures they post on these virtual spaces – that is how they negotiate both their gender identities and the meaning of attractiveness (to themselves and to others). The analysis shows how these teens engage in hyper-ritualization, what resources they use for self-presentations, what similarities these share with gender representations in advertising, and how adolescents' gender identities are shaped through their interactions in these spaces.

2. Theoretical background

2.1. Social networking sites, image and gender identity

In recent years, several studies have sustained that both personal web pages and SNS provide a significant environment for identity exploration (Stern, 2004; Manago & al., 2008), for teenagers' self-presentation (Stern, 2004), and for the social comparison and expression of idealized aspects of what one is and would like to be (Manago & al., 2008); some of such works have also suggested that social networking sites have a remarkable bearing on socialization and, more specifically, on the construction of gender identity (García-Gómez, 2010; Huffaker & Calvert, 2005; Sevick-Bortree, 2005; Sveningsson, 2008; Thelwall, 2008).

For Livingstone (2009), identity and on-line relations are jointly determined by the technical possibilities of SNS and by teenage peer culture (both on- and off-line). Other authors have also demonstrated a reciprocal influence among different spaces in which adolescents take part (Sevick-Bortree, 2005) and have pointed out the existence of a series of conventions that make these teens' web pages look much alike (Stern, 2002).

The sites young users create acquire meaning from the connections they establish in them as they create them, update them and post comments in them. Teenagers are keener on sharing their privacy, so to speak –that is, on creating spaces for intimacy that, building on the links they establish to their peers, allow them to be themselves– than on protecting that privacy per se. They thus redefine privacy, as it is no longer about what information one reveals, but about controlling who gets to know what and what one tells about oneself (Livingstone, 2009).

Girls create their personal pages intentionally and strategically and make decisions regarding what they want those pages to look like and what they wish their audience to know about them (Stern, 2002). Likewise, boys pay considerable attention to the images of themselves they pick for their own profiles on social sites (Siibak, 2010). In spaces such as those provided by Facebook, users seem to prefer showing rather than saying, yet, at the same time, they tend to favor implicit and mediated poses over explicit identity statements. In a sense, they build their own hoped-for possible selves – these are socially desirable selves that cybernauts present to others and are related to identities that are not fully established in off-line environments yet (Zhao, Grasmuck & Martin, 2008). What a teenager reveals about herself (or himself) can help her achieve greater social control; this is therefore a strategic act she performs in order to induce those socially desired results she is trying to obtain, to manage the impression she makes on other people, and to earn social approval (Stern, 2004).

Personal web pages allow their publishers to signal who they are and how they want to be seen by others (Stern, 2004). Nicknames usually become a major vehicle for the sharing of identity information (Subrahmanyam, Smahel & Greenfield, 2006), although the two features that page owners are especially intent on controlling are their profile pictures and their status tags. In fact, photographs are the only thing that users update regularly in their personal pages (Young, 2009). Pictures are mostly significant as a tool to manage impressions and, as such, they are very much consciously used for identity exposition purposes on social networking sites (Siiback, 2010). According to Young (2009), seven factors explain why these users choose a particular photograph; foremost among them is their wish to look good (or as good as possible) and to project a desired image of themselves. These findings agree with Sevick-Bortree's (2005): adolescents tend to represent themselves in a way they think others may like them more – in a way (that is) that they become more desirable would-be sexual/love partners.

Our study approached teenage media practice by examining how adolescents use Fotolog. This photoblogging service allows them to create a means of self-expression revolving around images – the very images teenagers are using to represent themselves and to share their own affective experiences.

2.2. Gender displays in advertising

Goffman (1979) studied gender displays, that is, the ways gender is conventionally described in advertising. Such displays (that is the ways in which male and/or female human subjects are shown) tend to be both cast and received as natural. As people in general (not only as men or as women in particular) we all have the ability to learn to project (and interpret) representations of masculinity and femininity. Rather than gender identities, people's behavior choreographs portraits of relationships and society devotes a considerable amount of its own substance to that kind of staging.

Goffman (1979; 1991) took an interest in the connection between advertising and society's need to fill social situations with ceremonial (with such ceremonies acting as a way for mutual orientation among their participants) and he found that both in advertising and in life at large we long to strike colorful poses. Something that is already a ritual can in turn become ritualized; this results in hyper-ritualization. To find an example of hyper-ritualized messages, we need to look no further than to the way advertisers use poses and attributes in their ads and commercials yielding extreme forms/levels of standardization, exaggeration and simplification. «If anything, advertisers conventionalize our conventions, stylize what is already a stylization, make frivolous use of what is already something considerably cut off from contextual controls. Their hype is hyper-ritualization» (Goffman, 1979: 84).

We performed a quantitative content analysis on a sample of 400 Spanish teenagers' photoblogs to determine what types of images are shared on this site in particular, as well as a critical and qualitative analysis (an in-depth study of the albums posted on 18 photoblogs) to understand how adolescents make sense of the pictures they post on these virtual spaces.

From such a focus on expressions of femininity and masculinity in advertising displays, Goffman infers a series of categories –corresponding to different patterns of gender representation: relative size, the feminine touch, function ranking, the family, the ritualization of subordination and licensed withdrawal– whose relevance has been highlighted in later studies by Kang (1997), and Döring & Pöschl (2006). Relative size refers to a particular advertisement/commercial set design in which women appear to be smaller and shorter than men. Similarly, we see the feminine touch when women are displayed more often than men in scenes in which they «touch» things (or themselves) with no apparently functional end – simply caressing them (or themselves) with their own hands or with other parts of their bodies as if both those hands and their owners were something particularly precious. By function ranking, Goffman meant those situations in which men are portrayed as playing the main executive role to the detriment of female co-workers, who are then displayed as merely supporting agents. In such tableaux, men tend to be shown teaching women, and women are more frequently portrayed as getting help from men. Similarly, advertising favors the ritualization of subordination, especially as women are often displayed in lying positions (on the floor or on a bed), with their knees folded or their heads more markedly bent than men's. In advertising, female figures also smile more frequently and more openly than male ones. They also tend to show themselves with their feet crossed or in childlike body positions, even clowning or playing around. We also see them more often taking men by their hands, while men tend to put their arms around women's shoulders. Finally, the licensed withdrawal is what we witness when we see women absorbed in their own thoughts, disoriented and/or in need of protection. These women's minds appear to be somewhere else as they take a look at their own hands or touch some object to which they seem to pay no attention. Women are displayed more often than men in a sort of protected participation, whether shielded by something that covers them partially or curled up – or, in more openly protective displays, being hugged for consolation. They are also shown with their hands covering their mouth or their face, or introducing one finger between their lips.

Other authors have developed new concepts to define other types of figures that show up in ads and commercials. Gill (2009) identified a series of newer representational practices in advertising –consolidated over the last ten years or so– including eroticized male bodies, heterosexual women's explicit displays of sexual desire, and sexually attractive (hot) lesbians.

Social networking sites are spaces of risk and opportunity deeply affected by gender, and are becoming arenas for negotiation in an increasingly sexualized media environment. As our study shows, self-presentations in SNS resort to the kinds of representational strategies already seen in those media environments and even contribute to spread, popularize and normalize them.

There has also been an increasing objectification of men's bodies in the media (Murnen & al., 2003; Siibak, 2010). The erotic male is a growingly pervasive figure in standard advertising representations, where men show more and more signs of sight- and touch-related objectification similar to those previously defined by Goffman for women (Rohlinger, 2002). This so-called «sixpack advertising» –or the representation of men as sex objects more generally– poses no real threat to male dominance because the female gaze at those bodies does not subvert society's preexisting gaze (Gill, 2009). Neither hegemonic masculinity nor heterosexuality as an institution are challenged by such an objectification, as several resources (e.g., the kinds of activities men carry out in those representations, the gazes they give back, or the independence they proudly display in those ads/commercials) check and balance any potential doubt that might have arisen from it. Therefore, male dominance does not seem to be incompatible with the sexualized representation of men's bodies (Gill, 2009).

Men's images may have been transformed but so have the sexualized representations of women (Gill, 2009). One of such new figures regarding the display of women as sexual subjects is the so-called midriff, a self-presentational resource used by female posers who, in fact, aim to display themselves as sex objects. Always ready for sex and trying deliberately to deploy their sexual powers, the stated intention of women represented in that way is not to seek men's approval, but their own pleasure. That is why the discourse attached to such images emphasizes choice and empowerment.

However, such representations smoothly fit an older, classical pattern of attractiveness (extolling young, pretty and heterosexual women) and highlight specific body parts (breasts, backside, hair, lips and eyes). Another one of those changes recently identified in these female sexual displays is a new figure in the representation of relations between women that might be termed as the hot lesbian (Gill, 2007; 2009). These are women who are never shown alone but in the company of some other female partner(s): all of them are attractive, all look very much alike, and we get to see them kissing, hugging or caressing each other. However, this representation seems to work much more effectively as a (rather trite) heterosexual male fantasy than as a truly homosexual female one. We have seen this figure widely reproduced in adolescent self-representations on Fotolog, and we have categorized it elsewhere as the lesbian pose (Tortajada & al., 2012). In these young users' photoblogs, such pictures usually depict girls kissing each others' lips or hugging; they seem to be trying to lead potential viewers on, but not necessarily female ones: from their statements and from other pictures in their albums one can tell that the girls posing in those photographs are plainly heterosexual.

Historically, men's and women's kinds of attractiveness have been valued differently. For Gómez (2004), patriarchal societies favor a pattern of affective and sexual relations stressing power as the utmost appealing factor men can wield, and beauty as the most valuable such resource in the case of women. As Berger says (1972), a man's social presence stands on the solidity of the promise of power it embodies (an outwardly projected power that is, as it is to be exerted on others), whereas a woman's presence expresses an external attitude towards herself – it defines what can and cannot be done to her. Both Berger (1972) and Mulvey (1975) think the sight of the female body captured by the camera (or on a canvas) has been historically aimed at a male viewer that will presumably take pleasure in such a vision. What is more, according to Mulvey (1975), women have internalized that male gaze and apply it to their own self-representations and self-assessments – this condition is what Mulvey calls to-be-looked-at-ness. Berger agrees: «Her own sense of being in herself is supplanted by a sense of being appreciated as herself by another» (Berger, 1972: 46). For Dyer (1982), this idea of gazing as a sign of power and of being gazed at as a sign of powerlessness overlaps with the dichotomy activeness-passiveness at large. He thinks one should not oversimplify looking as a concept by saying that the act of looking is active and the state of being looked at is passive. Yet even when they are not apparently active, many of these men's pictures still tend to promise some kind of activity from the way they pose—their physiques may look relaxed, but the model(s) posing tense their bodies and muscles, thus drawing attention to the body's action potential. The normalcy with which we assume such a display of brawn legitimates male power and domination. Such gender differences are also apparent when models do not look potential viewers in the eyes. Thus, while female posers normally appear in such cases to be looking somewhere else, averting the viewer's gaze while showing modesty, patience or lack of interest, male models' eyes are more generally set somewhere in the distance or aimed upwards (suggesting spirituality, rather than coyness or modesty). At the same time, when models return a viewer's gaze, female posers do so with an inviting smile of one sort or another, whereas male ones tend to give more intent looks or still stares.

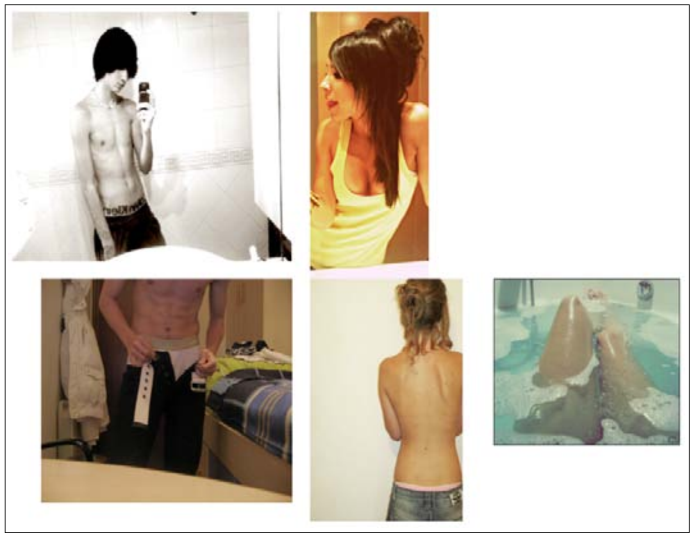
3. Methodology

Our research used a non-probability sampling technique known as snowball sampling to select 400 Fotolog pages from young users who utilized this service for self-presentation (among other purposes). Since 45 accounts were closed while the analysis was being carried out, the final sample contained 355 profiles. Pages researched belonged to Spanish users (28 percent male; 72 percent female) comprising 11 different friend networks; all of them were aged 13 to 18. Although on a photoblog one can find text features, such as nicknames, captions and visitors' comments, in this case, we only took pictures (photographs) into account, as they provide the representational strategies that allow us to study hyper-ritualization – these strategies are centered on poses and we studied such poses and the way they reflect and shape gender displays identified in the abovementioned scholarly work on advertising. Eighteen profiles (six boys and twelve girls) were chosen for qualitative analysis as well. Each of these 18 users' albums contained over one hundred pictures. Our qualitative analysis looked deeply into the full content of these teens' photoblogs. Virtual albums studied had differing sizes – in the case of girls, the album with the most photographs had gathered up to 1,400 of them, and the one with the least had 229 pictures in all; the boys' longest album had 747 photographs, while the shortest was 150 pictures long. Some of these albums had been updated by their owners for more than three years. Therefore, they cover a significant time in these users' teenage years.

In line with the goals of our study and the research's theoretical framework, we tried to answer the following research questions:

- What kind of self-presentation do Spanish adolescents engage in through the pictures they take and edit for Fotolog?
- What types of hyper-ritualization and what advertising figures do we find in these Spanish teenagers' self-presentations from the photographs they prepare for and post on Fotolog?

In the quantitative analysis, the following two categories were considered: to-be-looked-at-ness and hyper-ritualization (which, in turn, was subcategorized into the ritualization of subordination and licensed withdrawal). In the qualitative analysis, on top of the former, the following categories/elements were thrown into the analytical mix: the feminine touch, sixpack displaying, sexual subjecthood, and the lesbian pose. Following Goffman's (1979) and Gill's (2007, 2009) studies on advertising, we applied a technique that combines deduction (from those concepts we defined above, in the «theoretical background' section) and inference (searching for new trends or categories). Finally, and considering media's ambivalent potential (Habermas, 1987; Kellner, 1995), we paid attention to both the ideology that structures gender displays and the forms of resistance present in Fotolog representations.

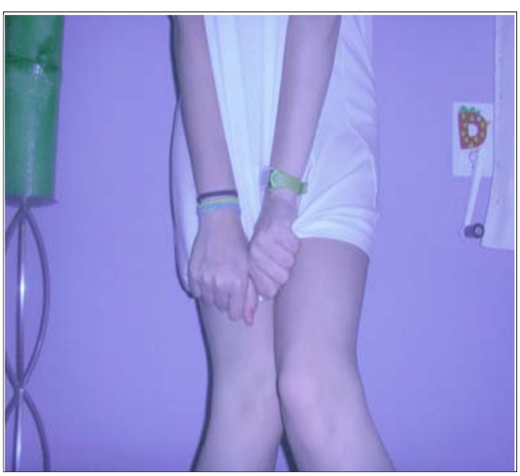


Picture set #1: Gender-biased eroticization of self-presentations.

4. Results

4.1. To-be-looked-at-ness (gaze and nudity)

Although just above half of self-portraits and photographs in which these young users display themselves show them in clothing devoid of sexual overtones (53 percent of boys' pictures and 57 percent of girls'), about 42 percent of boys and 40 percent of girls take shots of themselves scantily clad, or in tight-fitting or sheer clothes. No-one shows himself/herself fully naked in their photoblogs' pictures, and they hardly ever appear in their underclothes (only 5 percent of pictures posted by boys and 2 percent of those uploaded by girls).



Picture set #2: The ritualization of subordination.

Both boys and girls tend to eroticize their self-presentations with similar perseverance. However, girls usually appear in décolleté outfits showing the upper part of their breasts (15 percent of them), or in very short ones, baring their legs (6 percent). Boys, though, opt more often for flexing/showing their muscles or for displaying other signs of physical strength (28 percent). In many of these eroticized boys' self-shots we can see them looking in the mirror, showing off their brawn; girls, though, tend to be shown looking at themselves, displaying or even admiring their own bodies. Twelve percent of these teenagers (male and female) take pictures of themselves showing some kind of teasing look or attitude.

This confirms similar patterns found in other studies on social networking sites. Thus, Siibak (2007; 2010) found that, even if boys prefer to pose clothed, 34.2 percent let viewers see their athletic bodies. Girls play on stereotyped sex roles and 42 percent of their photographs can be classified under a demand/seduction category. And while female posers are more prone to be smiling in their own pictures (65 percent), male ones tend more often to portray themselves with a rather serious air (46 percent).

Boys highlight their muscles –their sixpacks (Gill, 2009)– and their body's potential for action, thus stressing their power (Dyer, 1982), whereas girls seem to be making a show of themselves to pleasure the male gaze (Berger, 1972; Mulvey, 1975) or to pleasure themselves (Gill, 2007). This means that, in their self-presentations on social networking sites, they are reproducing classical representation patterns where women try to emphasize their attractiveness and men try to show themselves as strong and powerful subjects (Manago & al., 2008).

4.2. The ritualization of subordination

Even if adolescents tend to take pictures of themselves alone (70 percent of times in the case of boys, and 50 percent for girls), when they appear with people from the opposite sex, 7 percent of girls do so in a position of inferiority, compared to 1 percent of boys. Postural differences are not very significant overall, but girls tend to be kneeling down or bending over more often than boys do (25 percent to 14 percent).

Picture set #3: Licensed withdrawal.

Girls do more frequently take photographs of themselves displaying happiness (19 percent of them, compared to 9 percent of boys), though boys show themselves in more playful and affinity-seeking attitudes than girls do (26 percent of times compared to 19 percent).

Many sexualized images are photographed in private domestic spaces, such as a bathroom or a bedroom. In such shots, girls usually appear sitting down or lying on a bed (and, at times, even on the floor). They are more frequently seen in childish poses, taking on a Lolita appearance or simply crossing their legs. Boys never pose that way. Sometimes, fragmented body takes in girls' photographs suggest infantilization and/or self-offering.

4.3. License withdrawal

Although subjects tend to look in the camera when they take photographs of themselves (58 percent of times in the case of girls; 45 percent in the case of boys), they also appear to be gazing into space in quite a few pictures (14 percent of times and 16 percent respectively). However, girls tend to fit a pattern already described by Goffman (1979), as in many such pictures they seem physically present yet mentally absent, whereas boys fit more closely Dyer's (1982) model, as they show resolve, strength or solemnity even while looking upwards, intently or at some indefinite point beyond the viewer.

Concern, engrossment in one's thoughts, and sadness are other emotions significantly displayed by adolescents in their pictures. Together with surprise and confusion, these are noticeable in 15 percent of girls' photographs and 16 percent of boys'.

Commonly, close-up shots are less sexualized, yet they tend to imitate the hyper-ritualization of licensed withdrawals – posers gazing into space or into the floor, or focusing their look somewhere in a far distance, or even smoking. Other representations directly related to this type of gender display are those we find in photographs where we se a girl looking out of a window apparently engrossed in her own thoughts, or lying on a bed while she covers her face with her hands.

4.4. The feminine touch

Such poses as those in which girls caress objects or their own bodies (either with their hands or with other limbs or parts of their anatomy) are not very frequent in general, though they are more so in female full-body portraits or close-up shots.

4.5. The lesbian pose

There is a small yet significant number of images where girls take on (or play with) the so-called lesbian pose. In over half of the photoblogs we analyzed, we found this type of photographs. In them, female teenagers show themselves kissing other girls or suggesting erotic dares or situations with their girlfriends, even

Picture set #4: The feminine touch.

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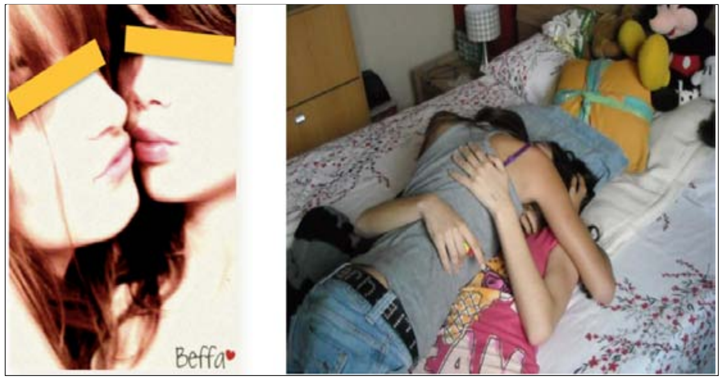
though these are not accompanied by any explicit statement of homosexuality and, from context, one can see these are girls currently engaged in heterosexual relationships. Such lesbian poses seem to target a heterosexual male gaze (rather than a homosexual female one) or to be struck for mere self-pleasuring purposes; they are far from being a defining statement of those girls' sexuality and sexual orientation. However, the intent of these poses and displays among girls can be rather ambiguous at times, as they might even be conceived as a challenge of sorts to society's male dominant culture – as, for instance, when in one of those picture captions, one of the girls says «we don't need men to be happy or satisfied». In another example taken from one of those posts, we see three girlfriends kissing each other's lips. This photograph is then captioned as follows: «With the utmost indifference to you guys, signaling their utter rejection of boys» behavior (as, in this case, one of the girls had just broken up with her boyfriend because she had seen him kissing with another girl and he was not treating her right after the break-up). In any case, without knowing the girls' intentions and the consequences of this kind of practices, it is difficult to appraise to what extent such representations aim at reproducing or at transforming those patterns already present in the dominant culture. All we can say is that these girls' appearance is not that of the hot lesbian described by Gill (2009) and that they do not seem to be merely exposing themselves to men or trying to satisfy male fantasies by imitating pornographic models and clichés.

In some cases, pictures of girlfriends kissing each other are posted right after their posers have gotten into a heterosexual relationship, while others seem to be displayed as a challenge to a model of masculinity that challengers perceive as aggressive to them. Comments by other female friends add to photoblog owner's photos and texts to underscore such a message, such as when they define this type of boys as «monsters' or state that falling in love with «the first jerk' you find in your way is «so» out of fashion.

To address their girlfriends, these girls use at times forms of address such as «my lesbo, «wifie» or «lover». Girls play with these words, although this seems to be more of a pose or a boundary-testing exercise than a transgression proper. A few examples: «lesbos 4 life,' «hey there people, well, today this one's for my lesbo and I, luv u lesbooo, bride».



Picture set #5: The lesbian pose.

5. Final debate and conclusions

What images and contents teenagers decide to post and share in their own self-generated media outlets is a conscious decision (Livingstone, 2009; Stern, 2002, 2004; Siibak, 2010), which shows in the reflexivity we can clearly read in captions and other texts accompanying many such pictures. As other authors have pointed out (García, 2010; Huffaker & Calvert, 2005; Sevick-Bortree, 2005; Sveningsson, 2008; Thelwall, 2008), both in the intensive (on-line) and the extensive (off-line) uses and spillover effects of Fotolog one can see the importance social networking sites have for these youngsters' socialization processes.

Oftentimes, boys and girls produce highly sexualized self-presentations, both through their nicknames (in 20 percent of them) and through the pictures they post (in 40 percent of them). Quite a few nicknames reflect a gendered sexual role pattern: female passivity vs. male activeness. Boys tend to signal in their names what they can do (to girls), whereas girls emphasize what others (boys) can do to them, thus reproducing traditional models of attraction (Gómez, 2004). The same thing happens with photographs. Thus, insofar as both boys' and girls' bodies appear eroticized, male posers tend to show themselves in active poses and post images focused on physical strength (muscled abdomens and/or torsos), whereas female ones devote a much larger amount of attention to beauty and intimacy, showing low necklines, close-up takes of their lips, or bare legs, back or shoulders. Girls are also more often shown lying down, kneeling down or offering themselves to a potential viewer—that is, as exposed, passive, subordinated bodies, ready to be admired. Our data indicate that there is an internalization of socially constructed representations of masculinity and femininity, very similar to those easily available in advertising, where they become hyper-ritualized. Teenagers' self-presentations reproduce some of those patterns about gazes, gender displays and body sexualization already described by authors such as Goffman (1979), Berger (1972), Mulvey (1975), Dyer (1982) and Gill (2009). These categories –originally defined in the analysis of advertising messages– are equally useful to explain some adolescent practices on Fotolog, which not only shows that self-presentations on SNS fit longer-standing gender stereotypes (Sveningsson, 2007), but also demonstrates that many such poses draw on tendencies already witnessed in advertising (Siibak, 2010). Goffman's concept of hyperritualization also seems appropriate to describe such a mise en scène. Such reproduction of hegemonic models of masculinity and femininity in teenage self-representations might very well reflect the importance of social networking sites as spaces for the displaying of an aspirational or idealized identity – a «hoped-for possible self» (Manago & al., 2008; Zhao, Grasmuck & Martin, 2008; Young, 2009).

After all, and contrary to those approaches that view audiences as passive entities being on the receiving end of media's influence, teenagers appropriate narratives about attraction and attractiveness and express and share their own understanding of it – and Fotolog and other SNS allow us to observe these appropriation processes. In fact, our analysis has identified other forms of representation that we may read as the combined result of: (1) some specific codes and templates generated on Fotolog, (2) a creative appropriation of gendered media representations, and (3) an individually chosen self-exposition.

Our qualitative analysis showed that girls mainly resort to three major representation strategies – they may try to portray themselves after what Willem & al. (2012) have termed supermodels, languid romantics or trash chic girls. Convergence of so manifold images from different teenage girls into those three groups bears witness to the strength of reciprocal peer influence and to the establishment of patterns (Sevick-Bortree, 2005; Stern, 2002). In the case of boys, photographed portraits of themselves flexing muscles seem to be a predominant feature, but in their pictures they also attach a great deal of importance to friends and to their own subculture traits, as well as to other characteristically male hobbies and interests—sports, cars, motorcycles, girls. Within these general patterns, there is plenty of individual creativity. Our findings suggest that teenagers engage in rather complex media practices resulting from the reproduction of gender stereotypes and patriarchal patterns—partly through an imitation of models seen in advertising, partly through an appropriation and reshaping of those models, that may even result in an opposition of sorts to some patterns of attractiveness that are considered to be hegemonic. To test and confirm these research results a reception study would be in order. Such a study would allow us to identify how teenagers interpret their own practices and what consequences these have for their own affective socialization.

As Ringrose and Eriksson (2011) say, social networking sites are spaces of risk and opportunity deeply affected by gender, and are becoming arenas for negotiation in an increasingly sexualized media environment. As our study shows, self-presentations in SNS resort to the kinds of representational strategies already seen in those media environments and even contribute to spread, popularize and normalize them. To prevent these young SNS users from unthinkingly reproducing stereotypes gender patterns and to bring them to contribute to a critical negotiation of such representations, media education should take into account the way adolescent practices in social networking sites are being fueled by the consumption of other media products, such as advertising (as pervasive a presence as it gets), and how this bears on what adolescents express in those networks and on their own identity definitions. SNS are spaces where teenagers have a conversation on gender, love, desire and attraction, and therefore they can be used to turn socialization from reproductive into alternative by promoting other models of femininity and masculinity based on the kind of reflexivity those very adolescents' media practices already reflect.

Notes

1. Fotolog (www.fotolog.com) is an open-access social networking site. This allows researchers to have full access to all content posted on its pages. Fotolog is made from photographic posts uploaded by its users on a daily basis and accompanied by captions or other texts attached by them. People belonging to a user's network can add comments to his/her posts, although a user can always block that function.

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Gender Representation in Advertising of Toys in the Christmas Period (2009-12)

La representación de género en las campañas de publicidad de juguetes en Navidades (2009-12)

ABSTRACT
This paper analyzes the representation of children's gender in toy advertising on television during three different periods. To achieve our purpose, this study examines seven variables: Toy typologies, Gender, Values, Voiceovers, Period, Actions depicted and Interaction between characters. These variables are taken from previous works that have studied the uses and preferences in toy selection according to gender, and research that studies the ways in which advertising represents children and toys. The sample comprises 595 toy commercials broadcast on the TVE1, TVE2, Telecinco, Antena 3, Cuatro, La Sexta, Boing and Disney Channel television channels. The period of study is October to January 2009-10, 2010-11 and 2011-12. The choice of this period is because most toy commercials are broadcast for Christmas. The most important results are: the percentage of male characters is higher than female characters; the advertising of vehicles and action figures is associated with male characters; the values associated with vehicles and action figures are: competition, individualism, ability, physical development, creativity, power and strength, and the values associated with dolls and accessories are beauty and motherhood.

RESUMEN
Este trabajo analiza la representación de los géneros en la publicidad infantil española mediante el estudio de siete variables: tipos de productos, género representado, mensajes-valores, voz en off, periodo, acciones representadas e interacción entre personajes. Estas variables se recogen de trabajos que estudian los usos y las preferencias de selección de los juguetes según el género del niño y de estudios que analizan los modos y formas de la publicidad para representar a los niños y a los juguetes. El universo de la muestra lo constituyen 595 anuncios de juguetes emitidos en los canales de televisión: TVE1, TVE2, Telecinco, Antena 3, Cuatro, La Sexta, Boing y Disney Channel durante tres periodos de tiempo: Navidades de 2009, 2010 y 2011. Se ha escogido la Navidad ya que durante este periodo se emiten la gran mayoría de los anuncios de juguetes. Los resultados demuestran que, aunque hay paridad en la representación de género en la publicidad infantil de la muestra analizada, existen claras diferencias en las tipologías de los juguetes más anunciados. La publicidad de figuras de acción alberga mayor porcentaje de personajes masculinos asociados a valores como competencia, individualismo, habilidad y desarrollo físico, creatividad, poder y fuerza. Sin embargo, los anuncios de muñecas tienen mayor porcentaje de personajes infantiles femeninos y éstos se asocian a los valores belleza y maternidad.

KEYWORDS / PALABRAS CLAVE
Advertising, gender, children, representation, values, stereotypes, toys, television.
Publicidad, género, infancia, representación, valores, estereotipos, juguetes, televisión.

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1. Introduction

The earliest approaches to toys and play appear in Pedagogy and Psychology theory at the start of the 20th century. Pestalozzi wrote of the educational functionality of toys and stated that children should be given toys as a way of encouraging their first experiments because they act as a stimulus for ingenuity and observation (1928: 156). Vygotski said that the most important part of play was not satisfaction but the objective project, even though the child was not conscious of it (2003: 79). Huizinga defined free play as a cultural activity born out of reality but which adapts to the rules set by the players, and in which the child develops an imaginative action since the game is not everyday life but a sphere in which the child knows what to do as if it were so (2005: 25). Erikson provides another classic approach from the Psychoanalysis perspective in which he reflects on the theoretical development of the stages of youth, and concludes that between the ages of four and five the child is rehearsing future social roles through games, dressing up, stories and toys (2004: 144). A review of the research which is related to our study gives us a state of the question that groups together works according to their objectives. The most important studies on the gender-based uses and preferences in toy selection are Carter & Levy (1988) and Martin, Eisenbud & Rose (1995), whose aims were to measure the influence of social stereotypes in toy selection. They conclude that boys prefer toys that have already been assigned to their gender and reject those that have not. They also noted that boys tended to select toys according to taste in cases where there was no gender stereotyping.

Cherney (2005), Martin, Eisenbud & Rose (1995), Bradbard & Parkman (1983), Bradbard (1985), Miller (1987) and Cherney (2005) analyze the selection preferences of a single gender only, while Francis (2010) draws up categories of toys based on their educational value for children aged between 3 and 5. Cugmas (2010) sustains that a preference towards one toy or another relates to the child's imitation of the roles or behaviors they observe in their parents. Cherney & Dempsey (2010) study the features and uses of neutral toys compared to toys classified by gender, and conclude that the perception of the physical characteristics of the toy, its behavior and educational application depends on whether it is aimed specifically at boys or girls.

Important studies of advertising's forms and methods in representing boys and toys include Espinar (2007) and Cherney & London (2006), who identify the differences in the way infant girls and boys are depicted in the media. Other works measure and analyze the degree of regulatory compliance in terms advertising aimed at young children: Pérez-Ugena, Martínez & Salas (2010), Nicolás (2010) and Pérez-Ugena (2008). Bringué & de los Ángeles (2000) review studies of the subject from the Social Psychology and Cognitive Development perspective. Ruble, Balant & Cooper (1981) conclude that television and advertising influence the child's cognitive development. Liebert (1986) considers that children who watch a lot of TV have a greater tendency towards violence and stereotypical opinions of race and gender. Robinson, Saphir & Kraemer (2001) measure the time a group of 8-year-olds spent in front of the TV, watching videos and playing videogames, and determined that those who were less exposed to TV advertising asked for fewer toy purchases from their parents. Pine & Nash (2003) state that 68% of boys and 78% of girls between 4 and 5 who watched a lot of television were favorably impressed by brand-name toys advertised on TV. Pine, Wilson & Hahs (2007) analyze child cognitive and psychological development in relation to the influence of TV content. Halford, Boyland & Cooper (2008) affirm that obese children tend to watch more TV and consume more of the brand-name products advertised on television than other youth groups. Bakir & Palan (2010) observe children aged between 8 and 9 and note differences in boys and girls in terms of attitude towards advertising, according to the gender and cultural implications of the content. Bakir, Blodgett & Rose (2008) state that the response to advertising stimuli depends not only on gender but also on age. Keller & Kalmus (2009) consider that the evaluation of brands and the degree of consumption in children in Slovenia was directly related to age, the level of education and economic status, not just to the socializing role that the media can play. Chan & McNeal (2004) state that the effects of advertising stimuli on children aged 6 to 14 in China depended on age, for as they get older they show a greater understanding of the economic relation between advertising and the television channel. Pine & Nash (2002) and Buijzen & Valkenburg (2000) measure the effect of advertising on children's lists of toy choices sent to Father Christmas or the Magic Kings. Along similar lines, the theoretical base and results provided by Ward, Walkman & Wartella (1977), Young (1990), Kunkel (1992), Steuter (1996) and Smith (1994), among others, are all worthy of note.

Other works directly related to this theme include Browne (1998), who compared advertising in the USA and Australia, concluding that males are projected as wiser, more active, aggressive and instrumental than females, and also that non-verbal conduct in males implied greater control and dominance than in females. Johnson & Young (2002) find that the language used in advertising has a bearing on gender differences and social stereotype representation, while Kahlenberg & Hein (2010) take a sample of 455 spot commercials to investigate the representation of gender stereotypes in minors in advertising on the «Nickelodeon» channel in 2004. This study analyzed stereotypes through gender representation, sexual orientation, age and the color of the surroundings in the advert settings to conclude that there were differences in the representation of children based on gender, in the use of the toys and in the environment of their use and socialization. Indoor contexts were most widely used in adverts for toys aimed at girls and outdoor contexts for boys. Recent research such as the «Study on boys, toys and the Internet» in 2012 looked at the process of toy purchases online.

Following this presentation of the state of the question, our study now analyzes the differences in gender representation in TV advertising for toys aimed at infants during three time periods (Christmas 2009, 2010 & 2011).

Teachers and communicators must denounce those practices that encourage social discrimination based on gender. If advertising responds to a shift in social behavior which, thanks to the consumer, benefits the advertiser, shouldn't the advertising industry repay society by promoting social change that leads to greater gender equality? If, as previous works have shown, toys are fundamental instruments in the child's social and cognitive development then legislation must insist that toy advertisers promote a more equal representation of gender and with greater variety.

2. Material and methods

The opening hypotheses are: Hypothesis 1: there are gender differences in the advertising of children's toys broadcast over Christmas, as seen in the increase in adverts for dolls aimed at girls and for scale-model vehicles and war toys aimed at boys. Hypothesis 2: TV advertising aimed at children foments the differences between boys and girls via stereotyping and the values already associated to each gender. Our sample consists of TV commercials for toys broadcast on TVE1, TVE2, Telecinco, Antena 3, Cuatro, La Sexta, Boing and Disney Channel between October and January 2009, 2010 and 2011. The channels selected are of the general interest type that broadcast nationwide and which transmit programming content aimed at children. Christmas was chosen as it is the period when most toy advertising is broadcast. We eliminated duplications from the sample as well as commercials for videogames since they are governed by specific self-regulatory codes. The final sample consisted of 595 adverts chosen at random over the three-year period analyzed. We developed a content analysis sheet based on Kahlenberg & Hein (2010), Blakemore & Centers (2005), Moreno (2003), Ferrer (2007), the Audiovisual Council of Andalusia, the 2008 CEACCU report, the Self-Regulatory Code for the Advertising of Children's Toys (1993 and 2011), the Self-Regulatory Code for Television Content and Children and the findings of the Monitoring Commission on Advertising for Children (2003). We took into account the General Law on Audiovisual Communication (7/2010) and the General Law on Advertising (34/1988), and also used these sources to produce a datasheet based on variables such as product type, the gender represented, messages-values, voiceovers, time period, actions represented and interaction between characters. We set up a control group of 10% of the spots, which were analyzed by each codifier. Afterwards, we analyzed all the results in order to avoid codification discrepancies (Kahlenberg & Hein, 2010).

3. Analysis and results

3.1. Toy types

The results show that 77.5% of the adverts focus on just five of toy types: dolls and accessories; action figures; table games; films and scale-model vehicles. The toy type most advertised across the three-year period was dolls and accessories. Advertising for scale-model vehicles and other figures fell in the third year while adverts for action figures, table games and films increased considerably (See table 1).

Toy typology	2009-10	2010-11	2011-12
Large vehicles	0.00	0.00	2.5
Scale-model vehicles	10.03	10.71	7.5
Building	4.75	8.93	1.25
Action figures	8.44	4.46	18.75
Educational	1.85	0.89	1.25
Electronic	0.53	8.04	0
Scene-based	0.53	0.89	0
Board games	9.50	2.68	16.25
Dolls and accessories	28.76	30.36	23.75
Film	2.37	1.79	11.25
Animals	6.07	4.46	5
Home imitation	1.58	2.68	0
Musical instruments	1.85	0.89	1.25
Sports	0.79	0.89	2.5
Manual	5.01	4.46	0
Other figures and accessories	10.03	8.93	0
Distributors	0.00	0.00	3.75
Other	7.92	8.93	5

3.2. Gender representation

The results confirm a tendency to equality in representing each gender because in the last of the three years analyzed the percentage of adverts featuring characters of both sexes increased. In 2009-2010, females represented 36.41% of appearances in adverts to 28.5% for males, with both appearing together in 28.5%. In 2010-2011, the percentage of adverts with females only and those with both sexes were the same (30.36%). In 2011-2012, the percentage of adverts including both sexes increased to 40% while those featuring either boys or girls were less than in the previous two years. There was a significant increase in adverts without actors from 2009-2010 (13.04%) to 19.64% in 2010-2011, although with a slight dip a year later (18.75%) which can be interpreted as a tendency towards neutrality in toy representation. The overlap of variables such as Gender Representation, Period and Toy Types shows that the female presence is concentrated on dolls and accessories, which increased in each period to reach 85.71%. Representation of both genders is found most frequently in board games and dolls and accessories, which rose over the three-year period. Male representation is mainly in adverts for action figures and scale-model vehicles, a fact which yielded an interesting result in our investigation, since the final period (2011-2012) saw a fall to 18.8% in the presence of male doll characters when accompanied by female doll characters.

The representation of females in advertisements in Spain is clearly linked to the values, meanings and roles that advertising associates with the characters represented in this toy typology, along with those of toy animals and musical instruments. The presence of female characters alone, without male characters, is non-existent in all other typologies. This contrasts with the representation of male characters whose presence is spread across the spectrum of toy typologies, which we can assume to mean that the values, meanings and roles associated to male characters are more numerous and varied.

3.3. Voiceovers

The value with the greatest presence over the three-year period is the male voiceover. In 2009-2010, it was 51.9% male to 46.7% female; in 2010-11, 49.11% to 42.85% and in 2011-12, 56.25% to 30%. The relation between the gender of the voiceover and the gender of the characters represented shows a tendency toward the use of voices of both genders combined: 0% in 2009-10, 4.55% in 2010-11 and 15.79% in 2011-12. The same pattern emerges for the female gender, since in 2011-12, 14.29% of adverts which featured only female characters used male and female off-screen voices whereas previously this option had never been used. What particularly stands out is the disappearance of the male voiceover in adverts which exclusively feature females. Although the male voiceover is the most widely used in commercials that feature characters of both sexes, its use fell slightly in the final period in favor of combined voiceovers, which increased: 1.85% in 2009-2010 against 15.63% in 2012.

In toy typology the data on scale-model vehicles particularly stand out. This typology uses the adult male off-screen voice on an average of 79.83% of adverts for this toy. This contrasts with an average of 66.09% of commercials for dolls and accessories which use a female voiceover. The use of male and female voiceovers is similar in proportion for home imitation toys, electronic toys and manual games and animals.

3.4. Values represented

In the analysis of the Values Represented, Interaction between Characters and Actions Represented variables, the data overlapped only for dolls and accessories, scale-model vehicles and action figures, which were the toy typologies that figured most prominently for each gender. The results contrast with the assumptions proposed following the analysis of gender representation. It was assumed that the variety of values and meanings associated with the male gender ought to be greater than the variety of meanings associated with the female gender due to the fact that the male is represented in more toy typologies than the female, yet the data show this assumption to be inaccurate since quantitatively there is more variety in the meanings associated to girls than to boys. The value that figures most prominently in the dolls and accessories and scale-model vehicles typologies is fun (44.5% and 60.7%). In dolls and accessories, the other significant values are beauty, motherhood and friendship, with a limited presence for the values of power, strength, ability and physical development. Power and strength is the value most present in the action figures toy type, with competition in second place; friendship, beauty and eternity do not figure in this typology. For scale-model vehicles, fun is the most prominent value followed by competition and power and strength. We found similar data for action figures, since the friendship value is only present in 7.14% of adverts and beauty and motherhood in only 1.79%.

These three typologies scored low, less than 5%, for values such as individualism (1.2% in dolls and accessories, 0% for scale-model vehicles and 3.9% for action figures), ability and physical development (0.6%, 3.6% and 2% respectively) and integration (5% for dolls and accessories and absent in the other two types).

3.5. Actions represented

The actions most widely represented in the dolls and accessories toy type are: affection-nutrition (35.8%), domestic actions and embellishment (both 28.4%), actions which are barely visible or non-existent in adverts that feature male characters. The actions most widely used in adverts for scale-model vehicles and action figures are: competition (32.1%), risk-taking (30.4%) and shows of strength (16.1%). Competition is present in 53% of adverts for action figures followed by strength (51%), with risk-taking actions appearing in 35.3% of cases. Actions that represent specific professions account for less than 10% across all toy typologies.

3.6. Interaction between characters

The lack of interaction between characters is notable in the commercials, especially for action figures (51%) and scale-model vehicles (41.1%). In dolls and accessories, the type of interaction most commonly found is friendship (46.9%) followed by non-interaction (27.1%). In action figures, friendly interactions amount to no more than 9.8% of ads while enmity and fighting account for 15.69%. This type of interaction is found in 5.36% of cases for scale-model vehicles but is non-existent in dolls and accessories. We also find maternal-filial interactions in dolls and accessories (7.4% of ads) but which appear in no other top type. Family interactions occur in 7.1% of commercials for scale-model vehicles, in 6.2% for dolls and accessories but they are absent from all action figure commercials.

4. Discussion and conclusions

In Hypothesis 1, the representation of infant genders in advertising for children's toys according to the toy typology advertised varies greatly. Although parity in gender representation increased over the three years, this is restricted mainly to adverts for electronic toys, toys for manual play and toy animals. Female characters predominate in adverts for dolls and accessories although more male characters were starting to appear in supporting roles. Male characters are more often found in commercials for building toys, scale-model vehicles and action figures. These results tie in with works by Blackmore, LaRue & Olejnik (1979), Carter & Levy (1988), Martin, Eisenbud & Rose (1995), Campbell, Shriley, Heywood & Crook (1988) and Serbin, Poulin-Dubois, Colburne, Sen & Eischted (2001), who all concluded that toy selection is determined by gender and age. Young boys prefer toys that involve dexterity and spatial skills while girls look for dolls and educational toys. These conclusions also match those of works on gender in primates such as Alexander & Hines (2002). In terms of other types of studies, such as Freeman (2007), Cugmas (2010) and Blackmore & Centers (2005), which examined the influence of parents and teachers and their roles in children's toy selection, our research reaffirms that the male voiceover is used more than the female, which suggests that the male voice is still considered more socially legitimate. Gender segmentation is apparent in that the female voice predominates in adverts which feature girls and the male voice for boys, while the male voice is heard in ads in which both boys and girls appear. The presence of adults in toy advertising is virtually non-existent; and then only in ads for board games and for electronic toys in which the father puts in an appearance. Self-regulatory codes and positive legislation insist on parity in gender representation and the avoidance of sexist content in advertising for minors, yet differences in the main toy typologies continue to exist although it is fair to say that gender representation is becoming more equal. Hypothesis 2 states that advertising for toys aimed at children resorts to values and stereotypes that vary according to the gender of the characters represented and the toy type being advertised, as indicated by Johnson & Young (2002) and Blackmore & Centers (2005). The values associated to both genders and disseminated across the toy typology spectrum are: fun, education, solidarity and individualism. However, more common are the values clearly differentiated by gender. Beauty is linked to the dolls and accessories toy type while this value appears in only 1.7% of commercials for scale-model vehicles. Motherhood and seduction appear in equal proportion in commercials for girls. For boys, ability and physical development are associated to scale-model vehicles and the male gender in 3.57% of cases, which is low, yet in 50% of commercials in which this value appears it is associated to this toy type and to this gender. The power and strength value features in 19.64% of commercials for scale-model vehicles and in 72.55% for action figures while it is only apparent in 0.62% of commercials for dolls and accessories. The competition value also shows clear differences in gender representation. In 93.75% of commercials it is linked to male characters. It appears in 25% of ads for scale-model vehicles and action figures but is marginal (1.23%) in dolls and accessories. Our study also shows that physical beauty, domesticity and motherhood are values that are widely represented in ads for girls' toys.

From the educational viewpoint, toy advertising for children must encourage toy presentation from a more neutral perspective, more centered on the product than on symbolic stimulation via consumer representation/identification.

Although the motherhood value could be justified on physiological grounds and progenitor imitation, the use of beauty as a value linked exclusively to the female gender could be construed as a social message that inseparably connects beauty and women. Likewise, the use of the power and strength value in commercials aimed at boys contributes to a social discourse that promotes the differences between ability and qualities associated to each gender.

The advertisements for children's toys encourage message types that tell girls to nurture their beauty and boys to concentrate on their power and strength. This is reinforced by voiceovers spoken in exaggerated tones, as indicated by Klinnder, Hamilton & Cantrell (2001), Johnson & Young (2002) and Del Moral (1999), and shows that advertising contributes to social representation and gender differentiation, as stated by Belmonte & Guillamón (2008), and influences the responsibility and social function of advertising in terms of culture configuration. The study of gender representation figures constantly in academic research, and from the functionalist perspective of communication studies advertising is also to be understood as an instrument in social education.

Teachers and communicators must denounce those practices that encourage social discrimination based on gender. If advertising responds to a shift in social behavior which, thanks to the consumer, benefits the advertiser, shouldn't the advertising industry repay society by promoting social change that leads to greater gender equality? If, as previous works have shown, toys are fundamental instruments in the child's social and cognitive development then legislation must insist that toy advertisers promote a more equal representation of gender and with greater variety because there are clear differences in gender representation between toy commercials for boys and girls.

From the educational viewpoint, toy advertising for children must encourage toy presentation from a more neutral perspective, more centered on the product than on symbolic stimulation via consumer representation/identification. An example of this was in Sweden during Christmas 2012, when a well-known brand of toys produced a unisex catalogue of toys that promoted the toys in their own right rather than from a gender perspective. It showed a girl firing a gun and a boy rocking a baby to sleep (Castillo, 2012). This could be a means of change towards social transformation, and it is a challenge that advertisers ought to take up.

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The Influence of Social Networks on the Adolescents' Online Practices

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

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

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

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

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1. Introduction

Since 2008, social networks have experienced exponential growth in Spain, with regular users jumping from 22.6% to 72.3% between 2008 and the last quarter of 2010 according to the Spanish National Institute of Communication Technologies (INTECO, 2011). According to data from the Spanish National Institute of Statistics (INE, 2012), 88.5% of young Internet users aged 16-24 participate in social networks and in 2009, Bringué and Sádaba (2009) found that 71% of Spanish adolescents (12 to18-year-olds) already used them, with this figure increasing with age. At the same time, there is no doubt that the emergence of social networks and the ensuing integration of many online applications (Garmendia, Garitaonandia & al., 2011; Patchin & Hinduja, 2010) has fostered a change in general online practices, displacing certain habits and favoring others.

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

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

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

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

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

1.1. Background

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

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

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

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

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

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

Focusing on Spain, the Information Security Observatory (INTECO, 2009) published a report compiled on the basis of data relating to adolescents aged between 10 and 16 years old referring to late 2007 and early 2008. Noteworthy in the report was that the most common options were, in order, using email, downloading films and looking for information for school; using Messenger was ranked fifth, while only 7.2% participated in forums and 2.2% in blogs. The phenomenon of social networks had not yet been included. In data from the following year, the Interactive Generation Forum detected that email, which had previously been the favorite application of adolescents aged between 12 and 18, had been taken over by Messenger and social networks (Bringué & Sádaba, 2009). Based on that same survey, the authors also analyzed social network use and interactions between the user profile (advanced users, users and non-users) and the use of other screened devices (cell phones, TV, videogames) and online services (Bringué & Sádaba, 2011). In addition to those listed above, other institutions and researchers in Spain have also discussed these issues: Aranda & others (2010), the Pfizer Foundation (2009), Espinar and González (2009) and Sánchez and Fernández (2010).

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

2. Methodology

The data presented in this study come from a representative statistical survey of adolescents (12-17 years old) attending school at the level of «Educación Secundaria Obligatoria» (years 1 to 4 of compulsory secondary education, ESO) and «Bachillerato» (High School equivalent level) in the Spanish State, with the exception of Ceuta, Melilla and Balearic and Canary Islands, throughout the 2011/2012 academic year. According to data published by the Ministry of Education, the study universe comprises 2,227,191 students at «ESO» and «Bachillerato» level from a total of 6,053 state, private and state-funded private (privados-concertados) educational establishments for secondary education and «Bachillerato» (the listings concerning these data were recovered from the respective websites of the Departments of Education of each of the Autonomous Communities included in the study universe). The design of the sample was a multi-stage stratified cluster sampling. As the first step, stratified cluster sampling was conducted by Autonomous Community, stage of education and type of educational establishment (state-owned or private school). In total, 100 educational establishments were randomly selected.

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

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

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

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

The information was gathered from a classroom-based self-assessment questionnaire given only to those students who had obtained the consent of their parents. The questionnaire consisted of 54 questions and the average time required to complete it ranged from 20 to 30 minutes. In order to protect the children's rights, the questionnaire was supervised, reviewed and approved by the Office of the Ombudsperson for Children of the Autonomous Community of Madrid. The fieldwork was performed between the months of September and November 2011.

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

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

Table 1. Distribution of the subjects by social class

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

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

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

3. Results

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

3.1. Internet practices

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

At the other end of the spectrum are accessing chatrooms and forums (31.7% very often and occasionally), blogs (20%), photo-sharing sites (14.2%) and virtual worlds (9.1%), which is in the minority.

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

3.2. Behavior in social networks

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

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

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

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

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

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

Looking at social network practices, chatting stands out, with three-quarters of the adolescents admitting that they use the chat function very often. Around half use social networks to watch videos or look at their friends' photos (50.1%), while 48.3% send messages and 42.6% use them to update their profiles. Taking into consideration aspects more related to content creation, it is noted that the most frequent activity of this type on social networks among the adolescents is uploading personal photos or videos (55.2%), an activity done very often by 25.4% of them. Some 41% state that they upload interesting videos or photos that they have found online and 4.8% say that they participate in forums that create contents.

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

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

3.3. Profiles of social network use

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

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

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

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

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

3.4. Use of social networks and access time

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

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

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

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

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

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

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

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

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

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

Considering age, gender, state or privately-owned educational establishments and social class, this does not mean substantial changes in the relationship between types of users of social networks and online uses since, for those values that maintain statistical significance, there are higher percentages of very frequent use for advanced users of social networks. Finally, the relationship between the type of user of social networks and the creation of websites or blogs has been explored. Intensive users of social networks are also those who have, to a greater extent than other users, created these spaces (39.9%, 28% and 27.2% respectively for advanced users, occasional users and non-users of social networks). These differences remain if we take into consideration the variables of gender, age, state or private ownership of the educational establishment and social class.

4. Conclusions and discussion

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

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

However, the data disprove the second hypothesis relating to the displacement of traditional online channels of communication due to involvement in social networks, at least as far as intensive users of these sites are concerned. This means that users who make most use of social networks are also those who make most versatile use of the Internet, using more services, who are more differentiated and who combine more the different applications focusing on communication, possibly because they make specialized use of these communication tools depending on online content and on other characteristics of the recipients. This suggests, in line with other studies, that the differentiation of consumption and behavior is more connected to factors such as access time or the individual's profile than to the application or channel.

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

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

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Intimacy and «Extimacy» in Social Networks. Ethical Boundaries of Facebook

Intimidad y «extimidad» en las redes sociales. Las demarcaciones éticas de Facebook

ABSTRACT
The current paper aims to analyze how certain Facebook settings, model of new Information and Communication Technologies (ICT), have turned into an infringement of some existing privacy Ethical principles. This totally changed and modern paradigm has its clearest expression in recent Web 2.0, and omnipotent Communication Technology, and implies the reconsideration of each Ethical Principles, especially those related to Intimacy and Image Protection. Our research explains not just how these areas are affected by technological changes but also the way these imperative ethical principles are violated because users ignorance and confidence. This carefree attitude and the increasing communicative relevance have given networking precedence over Intimacy protection. The result of this action has been denominated «Extimacy» according to the author Jacques Lacan, a concept which can be translated as public Intimacy through networking activities, namely, exposed Intimacy. The goal we aim to achieve is to illustrate the different ways our Privacy can be damaged by some Facebook measures (as Privacy Policies Change, collecting tendencies of consumption, the use of private data and revealing users confidence). Likewise these arguments will be endorsed by international researches focused on Facebook privacy violations, which we are going to expose to understand how citizens can carry out different actions to defend our Intimacy and Image Rights.

RESUMEN
El presente trabajo analiza cómo ciertas herramientas de Facebook, modelo de las nuevas tecnologías de la información, han derivado en la vulneración de algunos planteamientos éticos vigentes hasta el momento. Este paradigma comunicativo que encuentra su máxima expresión en las redes sociales y la tecnología 2.0, implica un replanteamiento de los principios de la ética informativa relativos a la salvaguarda de la intimidad, la protección de la vida privada y el resguardo de la propia imagen. Esta investigación estudia cómo estas áreas no solo se ven afectadas por los cambios tecnológicos y la propia naturaleza de la fuente informativa, sino por la confianza y desconocimiento de los usuarios, quienes dan primacía a la comunicación por encima de la intimidad. Este fenómeno denominado «extimidad» por Jacques Lacan, se traduce como la intimidad hecha pública a través de las nuevas redes de comunicación o intimidad expuesta. En nuestro análisis expondremos los resortes a través de los cuales se quebranta nuestra privacidad en Facebook, especialmente por medio de la captación de pautas de comportamiento, el empleo de datos derivados de los perfiles, los cambios en la política de privacidad y el reconocimiento facial, avalando su transgresión con documentación derivada de investigaciones realizadas por organismos internacionales. En resumen, analizar la vulneración de la intimidad en las redes sociales y entender qué medidas pueden implementarse para defender nuestros derechos son el objetivo de esta comunicación.

KEYWORDS / PALABRAS CLAVE
Internet, ethics, Facebook, intimacy, extimacy, social networking.
Internet, ética, Facebook, intimidad, extimidad, vulneración, redes sociales.

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1. Introduction

In the Information Age the boundaries of privacy have been dissolved. Ethical principles assumed as inalienable are subject to new ways of infringement so that the majority of states do not have legal formulations for eradicating them. That happens with personal privacy, whose conventional outline has been distorted by social networking and new communication reality «as hypothesized (the majority of Facebook users) perceive benefits of online social networking as outweighing risks of disclosing personal information» (Debatin, Lovejoy & al. 2009: 100). The users seem to be unaware of the use of their private data, their searches in browsers, products they acquire or links they visit. This information is stored and used without any consent or knowledge. As we examine, Facebook technology for Information Monitoring is specifically invasive in this field. Its architecture contributes to the reduction of users' control of their privacy though some settings and measures – such as privacy policy changes, collecting tendencies on consumption, the use of private data, a new Face Recognition feature and revealing users´ confidence. This improper violation of the users´ right to privacy has forced some countries like Ireland, the United States, Canada or Germany to elaborate reports about the full implications of this contravention. Facebook users do not know where their data goes and the uses to which they are put. This personal information is not relevant because it is private but also because it provides unnoticed details to unknown people. Although «we can definitively state that there is a positive relationship between certain kinds of Facebook use and the maintenance and creation of social capital» (Ellison, Steinfield, & al. 2007: 1.161), the fact is that the risks involved in terms of Privacy exceed its benefits and violate ethical precepts currently in force.

2. Procedure, materials and method

As stated in the introduction, we observe the infringement of ethical principles of privacy and personal data/image through a content analysis of the most relevant reports carried out by international organizations. We support our results on scientific papers and press articles relating to intimacy infringement and privacy violation. We also employ reports published by states which have gone ahead, illustrating how Social Networking Sites invade users' personal privacy. Such reports have been made public by the Hamburg Office of Data Protection and Freedom of Information (Germany), the Federal Trade Commission (United States), the Privacy Commissioner of Canada and the Office of the Data Protection Commissioner of Ireland, which are going to contribute to the shaping of the outlines of privacy abuse through Social Networking Sites. In order to discover the particular characteristics of the Facebook Privacy System we employ a qualitative and deductive method, analysing different categories relating to the keywords «privacy», «intimacy» and «personal image», items that allow us to determine which categories are given priority in each country. These international organizations belong to the only four countries which have intervened in connection with Facebook personal privacy violation, in order to discover if the company guarantees any level of data security. Finally, we support our results on previous studies carried out by international researchers and published in prestigious journals such as the ARPN Journal of Systems and Software, Cyberpsychology, Behaviour and Social Networking, Journal of Computer-Mediated Communication and Harvard Business Review.

3. Social networking sites as context: the age of global communication

Human activities are necessarily social and this fact results in a conglomeration of networks which provides us with interpersonal interaction circuits. This interconnection is not a reality arisen from our present context, not in vain, trade, communication and interpersonal contact belong to our nature, although in the age of new technologies, intercommunication becomes global:

A new kind of relationships with no bounds is arising between people. Globalization is transforming our lives. This characteristic defines our current society and gives it its most distinctive feature (Javaloy & Espelt, 2007: 642).

With the Internet humanity is «increasingly interconnected» (Ehrlich & Ehrlich, 2013: 1) and that makes global communication possible. Interconnection and data transmission are now qualitative and quantitative far better than they were before. Since Tim O´Reilly defined the Online Communication model in «What is the Web 2.0. Patterns and Business Models for the Next Generation of Software», the Internet has spurred a renewed communication system that goes beyond the traditional concept of linking: «As synapses form in the brain, with associations becoming stronger through repetition or intensity, the web of connections grows organically as an output of the collective activity of all web users» (O´Reilly, 2007: 22). Therefore, connectivity is now more real than ever:

There's been a corresponding burst of interest in

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network science. Researchers are studying networks of people, companies, boards of directors, computers, financial institutions –any system that comprises many discrete but connected components– to look for the common principles. (Morse, 2003: 1).

In the age of the Web 2.0 network interconnection implies a continuous feedback between people, although it also entails a constant distortion of the privacy concept by users, who judge more important to show their intimacy than to protect it:

The way we constitute and define ourselves as subjects has changed. Introspective view is deteriorated. We increasingly define ourselves as what we exhibit and what the others can see. Intimacy is so important to shape who we are that we have to show it. (Pérez-Lanzac & Rincón, 2009).

This debilitation of the introspective process was already enunciated by Jacques Lacan (1958) under the revolutionary concept of «extimacy», a term linked to the expression of once-private information through social networks:

«Extimacy» breaks the inside-outside binary and gives an external centre to a symbolic area, which produces a rupture in the very heart of the identity, an emptiness that cannot be fulfilled (Extimidad, El curso de orientación lacaniana, 2012).

«Extimacy» and the increase of data transmission in the age of Social Networking Sites have generated an enormous amount of useful personal information. In this sense:

The Internet became the Bible of publicists who track potential consumers among the most relevant online communities identifying opinion leaders and carrying out Social Media Monitoring. […] the Internet offers increasingly precise information about features and preferences of these new niches of spectators (Lacalle, 2011: 100).

These data not only inform about users´ preferences, but also reveal an important segment of their intimacy. Therefore, users' information does not only allow «to articulate and make visible their friendship networks» (Kanai, Bahrami, & al., 2012), or to establish «connections between individuals that would not otherwise be made» (Boyd & Ellison, 2007: 210), but also provides «some predictive power» (Jones, Settle & al., 2013) about tendencies and attitudes. Even when «some individuals prefer to keep intimate details such as their political preferences or sexual orientation private» (Horvát, Hanselmann & Hamprecht, 2012), the information revealed by his/her contacts can divulge what the user prefer to conceal. Although many people consider that the most serious risk of the Social Networking Sites lies in their capability to «facilitate behaviours associated with obsessive relational intrusion» (Marshall, 2012: 521), another unnoticed threat lies in their own formulation and their unauthorized compilation of personal information.

Tthe majority of Facebook users perceive benefits of online social networking as outweighing risks of disclosing personal information. The users seem to be unaware of the use of their private data, their searches in browsers, products they acquire or links they visit. This information is stored and used without any consent or knowledge. As we examine, Facebook technology for Information Monitoring is specifically invasive in this field. Its architecture contributes to the reduction of users' control of their privacy though some settings and measures – such as privacy policy changes, collecting tendencies on consumption, the use of private data, a new Face Recognition feature and revealing users´ confidence.

3.1. Social networking sites and Facebook

Users' remoteness and a constant technological renewal define Social Networking Sites: «The social conversation propelled by a deep and continue communication technologies metamorphosis is becoming more and more prominent on the Web 2.0» (Ruiz & Masip, 2010: 9). In this context appears Facebook, the most prominent Social Network Site on the Internet. Although GeoCities or MySpace were consolidated sites, Facebook (created by Mark Zuckerberg in 2003) was implanted transforming the concept of interaction: «users create, share and consume information in a very different way than before» (Yuste, 2010: 86), and this situation has «created a favourable atmosphere for making intermediary disappear –users have direct access to information sources– and for generating an abundant content of a diverse origin» (Yuste, 2010: 86).

According to the report «Spanish Habits and Social Networking», Facebook has replaced the rest of Social Networks in our country (Libreros, 2011), being used by a 95 percent of users (followed by YouTube, Tuenti and Twitter), who utilize it for sending private messages (60%) and public messages (50%), for sharing and uploading pictures (37%), for updating their profile (32%) and becoming a fan or to follow commercial trademarks (26%) (Libreros, 2011). These particular five activities will be relevant in order to categorize users, to discover tendencies and to establish parameters of their profiles.

3.2. Infringement of the right to privacy and data protection

To be connected to the Internet and to have a power source are the two required elements for accessing our personal information from all over the world. New communication technologies offer an uncontrollable data reproducibility and they allow accessing this extremely up-to-date information not just for consulting it, but also for using it:

The current erosion of users´ privacy from numerous fronts is perturbing, the cause stems from three vast forces: the first one is the technology itself, which makes possible to be on anyone's track with instantaneous precision […] The second one is the pursuit of profits, which makes companies monitor consumer's tastes and habits in order to personalize advertising. At last we find Governments which collect many of these data in their own servers (Garton, 2010).

The current erosion of users´ privacy from numerous fronts is perturbing, the cause stems from three vast forces: the first one is the technology itself, which makes possible to be on anyone's track with instantaneous precision […] The second one is the pursuit of profits, which makes companies monitor consumer's tastes and habits in order to personalize advertising. At last we find Governments which collect many of these data in their own servers.

When a user indicates a preference, declares her/his interest to an advertisement or chooses an airline, she/he leaves «traces» which illustrates inclinations and consumption habits. What used to be personal becomes now collective: «the massification on Social Networking Sites has generalized a concept denominated «extimacy», something like revealing intimacy with its roots in the rise of 'Reality Shows' and the Web 2.0» (Pérez-Lanzac & Rincón, 2009). If we assume that intimacy means personal information which should not be revealed (Kieran, 1998: 83), or information that «we seriously and legitimately protect from being published» (Olen, 1988: 61), the fact that our presence on the Internet could be tracked, implies an infringement of our civil rights:

To renounce intimacy in our online purchases may seem to be mild. To renounce intimacy buying flights may seem reasonable; even a closed television circuit can give the impression of not to be problematic. Nonetheless, when all of them are added up we find that we do not have intimacy at all (Johnson, 2010: 193).

4. Forms of privacy infringement on Facebook

Many aspects of privacy and intimacy are unprotected in Social Network Sites, especially on Facebook, the platform with more access to the users´ personal data. Facebook collects this information through different settings, particularly data derived from profiles and the famous «Like» button:

Facebook Likes, can be used to automatically and accurately predict a range of highly sensitive personal attributes including: sexual orientation, ethnicity, religious and political views, personality traits, intelligence, happiness, use of addictive substances, parental separation, age, and gender (Kosinskia, Stillwella & Graepelb, 2013).

Although there are more than one hundred fifty-seven patterns of personal data which Facebook can obtain from users (Facebook´s Data Pool, 2012), we are going to analyse uniquely those which have given rise to an international heated debate: «collecting tendencies on consumption», «the use of Private Data» and «Privacy policy changes without consent and Face Recognition Feature».

4.1. Consumption patterns

The monetization of users´ personal data is one of the most controversial aspects of Facebook. It entails not just to reveal personal information, but also to obtain profits revealing it without the consent of the data subjects: «a report was published proving that Facebook had given to advertisers, names, ages and profession of each user that had clicked in its advertisement» (La historia oculta de Facebook, 2010). However, the majority of Facebook users do not know that the firm provides information to third party companies with their own purposes. According to Mark Zuckerberg: «I have over 4,000 emails, pictures, addresses, SNS. People just submitted it. I don't know why. They trust me» (La historia oculta de Facebook, 2010). In 2009 this excessive processing of private data prompted controversy and the rise of critical positions claiming the right of the users to control their privacy. In the United States, the Federal Trade Commission (FTC) received a large number of denounces of users who demanded to be informed about which sort of data patterns Facebook collected and shared:

The proposed settlement requires Facebook to take several steps to make sure it will live up to its promises in the future, including giving consumers clear and prominent notice and obtaining consumers' express consent before their information is shared beyond the privacy settings they have established (Facebook settles FTC Charges, 2011).

The social networking service changed its architecture accordingly, an architecture which allowed the users to personalize their privacy and security level. Although Elliot Schrage, Vice President of Communications, Public Policy and Platform Marketing at Facebook, argued that Facebook had the intention to give more control to the users, the complexity of new tools was uncommon for a Social Network site: «To opt out of full disclosure of most information, it is necessary to click through more than 50 privacy buttons, which then require choosing among a total of more than 170 options» (Bilton, 2010).

4.2. Unnoticed uses of users´ profile data

In the context of Social Network Sites, a profile is equivalent to an identity document, its information concerns personal privacy and it is necessarily confidential without the consent of the data subjects. Nonetheless, Facebook has breached certain data confidentiality offering private information to different advertisers. The rise of interest of third party companies has elicited massification and personalization of unsolicited advertising. This dark data processing was reported by the Privacy Commissioner of Canada in 2009 before determining that this activity infringed the law. In response to the critics, Facebook resolved to amend its Privacy Policy: The Internet portal has announced that from now on applications developed by third parties should specify which data they are going to access as well they should ask prior permission to disclose them. Facebook will demand applications to specify which categories of users´ data they want to access, getting the user consent before they share her/his information (Facebook, 2009).

Nonetheless, the data protection regulation implemented by the company was repeatedly infringed:

Facebook promised that users could restrict their information to a limited audience, using certain privacy settings. But the truth, says the FTC, is that even when a user went to Facebook's Central Privacy Page, clicked a link to «Control who can see your profile and personal information» and limited access to certain people –for example, «only friends»– the user's choice was ineffective when it came to third-party apps that users' friends used (Fair. 2011).

Despite the company pledges, Facebook users are not properly informed about which companies are going to make use of their personal data:

People do not know how their personal data can be shared. They end up in sharing their private information with unauthorized people because of their ignorant attitude. We also conclude that complexity of privacy settings and lack of control provided to the user is equally responsible for unintentional information sharing (Zainab & Mamuna, 2012: 124).

This privacy policy allows other companies to access inappropriately to users´ private data: For a significant period of time after Facebook started featuring apps onto its site, it deceived people about how much of their information was shared with apps they used. Facebook said that when people authorized an app, the app would only have information about the users «that it requires to work». Not accurate, says the FTC. According to the complaint, apps could access pretty much all of the user's information – even info unrelated to the operation of the app (Fair, 2011).

Although Facebook expresses in its statutes that the company will never reveal personal data to any advertiser unless the express agreement between the company and the user, this commitment was violated during the interval between September 2008 and May 2010, when «the User ID of any person who clicked on an ad was shared with the advertiser» (Fair, 2011).

4.3. Privacy policy changes without consent and facial recognition

The Office of the Data Protection Commissioner of Ireland (DPC) reported Facebook in 2011 because its lack of transparency. The company was requested to «revise privacy policy protection for non-American users because the measures adopted were excessively complex and opaque» (Facebook, 2012). However, Ireland is not the only European country to be in conflict with the American company. The Office of Data Protection and Freedom of Information in Hamburg (Germany), has reopened a research into Facebook's facial recognition software, a controversial technology which has given rise to an intense debate. According to Johannes Caspar, Commissioner in Hamburg: «The social networking giant was illegally compiling a huge database of members' photos without their consent» (O´Brien, 2012). Despite the efforts to reach a consensus, Facebook refused to change its privacy policies: «We have met repeatedly with Facebook, but have not been able to get their cooperation on this issue, which has grave implications for personal data» (O´Brien, 2012). Although facial recognition contravenes European Union legislation, Facebook has not modified its software in order to adjust its use to European laws:

The company's use of analytic software to compile photographic archives of human faces, based on photos uploaded by Facebook's members, has been problematic in Europe, where data protection laws require people to give their explicit consent to the practice (O´Brien, 2012). Even though users are able to remove a tag from a photo or deactivate their accounts, their private data remain on Facebook indefinitely. This fact infringes EU legislation and has caused controversy in the United Kingdom:

Facebook does allow people to 'deactivate' their accounts. This means that most of their information becomes invisible to other viewers, but it remains on Facebook's servers – indefinitely. This is handy for anyone who changes their mind and wants to rejoin. They can just type their old user name and password in, and they will pop straight back up on the site - it will be like they never left. But not everyone will want to grant Facebook the right to keep all their data indefinitely when they are not using it for any obvious purpose. If they do want to delete it permanently, they need to go round the site and delete everything they have ever done. That includes every wall post, every picture, and every group membership. For a heavy Facebook user, that could take hours. Even days. And it could violate the UK's Data Protection Act (King, 2007).

This controversy is a response to Facebook Terms of Service, which informs about its right to keep permanently user's personal data:

You grant us a non-exclusive, transferable, sublicensable, royalty-free, worldwide license to use any IP content that you post on or in connection with Facebook (Facebook Terms of Service, n.d.).

In this matter, Spanish citizens can seek protection in the Law of Cancellation, which allows users to request companies to delete their data once their reciprocal relation has been extinguished: «Personal data that we voluntarily publish on our Social Network Site profile, should be deleted when we remove our consent» (Romero, 2012).

Nevertheless, Facebook arrogates to itself the right to change the Privacy Policy conditions without prior warning and without express consent of the Social Network users, even «certain information that users had designated as private –like their friend list– was made public under the new policy» (Fair, 2011).

Likewise, it is known that Facebook has designated: Certain user profile info as public when it had previously been subject to more restrictive privacy settings, Facebook overrode users' existing privacy choices. In doing that, the company materially changed the privacy of users' information and retroactively applied these changes to information it previously collected. The FTC said that doing that without users' informed consent was an unfair practice, in violation of the FTC Act (Fair, 2011).

In view of the fact that Facebook has committed excesses with regard to privacy, some citizen's platforms as «Europe vs Facebook» have emerged for the sole purpose of contributing to increase transparency to the American company processes.

5. Conclusions

In the light of the documentation presented, it is legitimate to claim that Facebook has achieved a privilege status never seen before. However, the infringement of the users' right to privacy has resulted in international complains destined to demand more transparency for personal data appropriation. It has been observed that the contract signed by each user allows Facebook to collect data about people without their knowledge. This fact has been criticized by Canada and some countries in Europe, despite the American company still maintains its obscurity in the process of treatment, transference and appropriation of users´ data. It has been also analysed how some citizens have decided to palliate such deregulation reporting Facebook excesses to the relevant institutions in different countries. Nevertheless, we have proved that users' ignorance of their rights and the current tendency to «extimacy» permit on the Web 2.0 to have an effortless access to users´ personal data: «To protect their personal profile», «to remove a tag from a photo» and «to check users´ visibility» (Boutin, 2010), are three essential elements which are not usually considered by users. Moreover, disclosure of personal data, complexity of Facebook´s site architecture, data storage in perpetuity or third party interests, are some of the controversial areas which have not been adjusted to International legislation. In connection with these infringements, the Office of the Data Protection Commissioner of Ireland has carried out a report in which experts recommend some necessary measures in order to improve Facebook´s Privacy Policy:

• (To create) a mechanism for users to convey an informed choice for how their information is used and shared on the site including in relation to third party apps.

• A broad update to the Data Use Policy/Privacy Policy.

• Transparency and control for users via the provision of all personal data held to them on request and as part of their everyday interaction with the site.

• The deletion of information held on users and non-users via what is known as social plug-ins and more generally the deletion of data held from user interactions with the site much sooner than presently.

• Increased transparency and controls for the use of personal data for advertising purposes.

• An additional form of notification for users in relation to facial recognition/«tag suggest» that is considered will ensure Facebook (Ireland) meeting best practice in this area from an (Irish) law perspective.

• An enhanced ability for users to control tagging and posting on other user profiles.

I guess we should resign ourselves to accept that the modern world is like this. «Privacy has died. Get used to», as Scott McNealy, cofounder of Sun Microsystems, said once. Or we can defend ourselves; we can try to recover part of our lost intimacy. We can do it setting our own rules and sharing them with the others. We can do it applying pressure to companies like Facebook, whose users are after all, its source of income. We can also demand three exigencies: to put a curb on citizen's privacy invasion; to regulate and to control meddling companies […] The same technologies which reduce our right to privacy can also help us defend ourselves.

• An enhanced ability for users to control whether their addition to groups by friends (Data Protection Report, 2012).

Until these recommendations will be internationally standardized, the users have to resort to self-regulation, showing a higher knowledge and conscientiousness on the matter of their own privacy:

I guess we should resign ourselves to accept that the modern world is like this. «Privacy has died. Get used to», as Scott McNealy, cofounder of Sun Microsystems, said once. Or we can defend ourselves; we can try to recover part of our lost intimacy. We can do it setting our own rules and sharing them with the others. We can do it applying pressure to companies like Facebook, whose users are after all, its source of income. We can also demand three exigencies: to put a curb on citizen's privacy invasion; to regulate and to control meddling companies […] The same technologies which reduce our right to privacy can also help us defend ourselves (Garton, 2010).

At present, until a unitary regulation will be established, we should demand users to protect their own rights, although it implies to decide on what terms they use Social Networking Sites and in which way they share their personal data.

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