COMMUNICATION & SOCIETY

Special issue
C&S 30 anniversary

Communication research in Spain: labor temporality, intensive production and competitiveness

Eduardo Francisco Rodríguez Gómez
https://orcid.org/0000-0002-1788-2412
edrodrig@hum.uc3m.es
University Carlos III de Madrid

Manuel Goyanes
http://orcid.org/0000-0001-6537-9777
mgoyanes@hum.uc3m.es
University Carlos III de Madrid

Gloria Rosique Cedillo
https://orcid.org/0000-0001-6979-7554
grosique@hum.uc3m.es
University Carlos III de Madrid

Submitted
June 20th, 2018
Approved
July 15th, 2018

Communication & Society
ISSN 0214-0039
E ISSN 2386-7876
doi: 10.15581/003.31.4.229-242
www.communication-society.com

2018 – Vol. 31(4)
pp. 229-242

How to cite this article:
Rodríguez Gómez, E. F., Goyanes, M. & Rosique Cedillo, G. (2018). Communication research in Spain: labor temporality, intensive production and competitiveness. *Communication & Society, 31*(4), 229-242.

Abstract

In the last years, the academic body seems to have exceeded the saturation point of the employment structure. This situation has led to an increase in professional competitiveness that affects the practices of communication research. Through the longitudinal quantitative analysis of public financing, academic personnel employment, and the scientific production in communication – explained by the development in the number of papers, the methodological approach and its specialization–, we interpret the effects of the current paradigm of this discipline, characterized by the stagnation of the investment in science, labor temporality and the numerical increase of articles and researchers.

Keywords

Public funding, academic employment, communication research, scientific production, methodology, specialization.

1. Introduction

The analysis of the status of communication research in Spain took its first steps as a field of specialisation at the beginning of this century (Moragas, 2005; Jones, 2007), when a considerable number of researchers established the discipline on examining the methodological rigour of texts (De Pablos, 2010), the impact of accreditation agencies (Soriano, 2008), or the internationalisation of scientific dissemination (Alsina & García, 2008; Martínez-Nicolás, 2007). From then on, the development of this area has been affected by institutional measures, especially austerity policies, which under the pretext of the financial crisis have directly interfered in its operation (Bustamante, 2018). Meta-researchers in communication have examined some of these institutional decisions – especially those derived from ANECA[1]– (Goyanes & Rodríguez-Gómez, 2018; Martínez-Nicolás *et al.*, 2017, Gómez-Hernández, 2015, Baladrón-Pazos & Correyero-Ruiz, 2012; Masip, 2011), but have left other relevant structural factors out of the scope of examination, such as an increase in temporary recruitment, a decrease in public spending on personnel or the continuous growth in the number of doctors.

In the current economic context, the system of scientific production in communication is moving in two directions. On the one hand, there has been evidence of a series of dubious research practices resulting from a growth model based on intensive production. The automatic handling of CV merits (Goyanes, 2015), the high

[1] "Agencia Nacional de Evaluación de la Calidad y Acreditación", in English, Spain's National Quality Assessment and Accreditation Agency.

rates of self-quotes (Fernández *et al.*, 2013; Castillo & Carretón, 2010), false authorships (Saperas & Carrasco, 2017), poor methodological transparency (Martínez-Nicolás & Saperas, 2011) and a surfeit of "sophomoric papers" and "theorising texts" (Piñuel *et al.*, 2011) seem to be the reason and result of the JCR arbitration system, turned into an updated Oracle of Delphi: "slow, costly, biased and unable to detect fraud, plagiarism and duplicate publication" (Reig, 2014). Researchers have accredited a preference to analyse media companies from a corporate point of view (Rodríguez-Gómez, 2016) while seemingly, have renounced to both a critical business analysis (Martínez-Nicolás, 2006) and the social value of scientific contributions (Quirós, 2016). On this basis, the production system suffers from dysfunctions that seriously affects researchers, such as the pressure and stress to publish (Goyanes & Rodríguez-Gómez, 2018); increasing job instability (Rodríguez-Martínez, 2014) or publishing endogamy and elitism –overestimation of WoS[2] journals, lack of recognition of the monographs published in Spanish publishing houses, and underestimation of the researchers who do not publish in fields that favour such impact– (Gómez-Hernández, 2015; Perceval & Fornieles, 2008).

On the other hand, and leaving these difficulties aside, the system has been continuously growing since academic institutions benefited from the early public investments in research during the 1980s (Civil & Reguero, 2008). The number of centres offering communication degrees has four folded –up to 54 nowadays (Piñeiro-Otero, 2018). There are 2,447 lecturers and researchers in Journalism, Audio-visual Communication and Advertising, of whom 445 are tenured lecturers, i.e. 18.2% (MECD, 2017). 52 scientific journals specialised in communication have been published (DICE, 2018) –which amounted to 24 in 2005 (De Pablos, 2010)–, and according to the TESEO[3] database, during the academic year 2015-2016, 562[4] PhD dissertations in Journalism, Audio Visual Communication and Publicity were defended –the Mapcom[5] project data for the 2007-2013 period accounted for an increase of 420% in the number of PhD dissertations.

Thanks to this challenging development, specialised centres have been able to undertake research projects of greater scope and complexity (López & Vicente, 2011), creating research groups, academic sections and conferences (Piñuel *et al.*, 2018; Delgado-López *et al.*, 2006). Likewise, the processes of peer review and publishing criteria from publishing houses have been optimized (Coslado *et al.*, 2011). The latest research into the internationalization of scientific dissemination shows incremental journal visibility[6] and a growing presence of Spanish authors in international databases (Prado, 2017; Fernández & Masip, 2013; Escribà & Cortiñas, 2013), with clear Anglo-Saxon predominance even today. Some journals have standardised English as a second language, and academic links have been established with countries not considered so far (De-Filippo, 2013), such as Japan, Malaysia or China. In most cases, free access to digital newspaper and periodicals library has been offered (Abadal, 2017), and progress has been made towards theme specialisation and more specific methodological practices (Carrasco & Saperas, 2015).

The increase of the Spanish communication research, even if still embryonic, shows signs of global scope, methodological accuracy, specialisation and heterogeneity. However, insufficient public investment in science (Caffarel-Serra *et al.*, 2017; Nó & Molero, 2017) and

[2] Web of Science.

[3] Database of Doctoral Dissertations of the Ministry of Education, Culture and Sport.

[4] This unusual growth is due to the compulsory nature of PhD students who started their dissertations under the mandate of ORDER ECI/2514/2007, in order to defend their dissertations before the end of 2017. After this date, the tendency in terms of defending doctoral dissertations should go back to its usual course.

[5] Communication Map. R+D CSO2013-47933-C4-1-P Research Project, funded by the Ministry of Economy and Competitiveness, whose General Coordinator is José Luis Piñuel Raigada.

[6] Out of the eleven journals making up our sample, only two have been indexed in the Journal Citations Review (JCR), *Comunicar*, indexed since 2007, and *El Profesional de la Información*, since 2009. *Estudios del Mensaje Periodístico* y *Comunicación y Sociedad* were indexed from 2010 to 2012.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

the resulting low rate of civil servants' reinstatement (Hernández & Pérez, 2017) have shaped up an outlook where teachers are unceasingly assessed and monitored, subject to the continuous uncertainty of dismissal, lack of reinstatement and institutional reorganization, as it is the case in other European and American countries (Halffman & Radde, 2015).

For this reason and on the basis of previous analyses on meta-research in communication in Spain, this study means to combine the most influential macroeconomic factors in the academic labour system –public spending on personnel, recruitment and unemployment among doctors– with four of the most representative characteristics of the current situation of scientific production: the evolution of the number of articles, the methodological approach, the authors' level of specialisation and the degree of specialization of the publishing system. Hence, our goal is to answer the following research questions.

In the macroeconomic context, during the 2004-2016 time series:

- RQ_1. How has the number of recruited lecturers evolved with regards to tenured lecturers?
- RQ_2. How have PhD dissertations and unemployed doctors evolved?
- RQ_3. How is the evolution of tenured and recruited lecturers linked to the production of scientific articles?
- RQ_4. Is there a relationship between the evolution of doctoral dissertations in all areas and doctoral dissertations in the field of communication?
- RQ_5. Is there a relationship between the evolution of scientific articles in all areas and the scientific articles in the field of communication?

In the field of communication, during the 2005-2015 time series:

- RQ_6. How has the production of articles evolved?
- RQ_7. How has the production of empirical articles evolved regarding theoretical ones?
- RQ_8. What is the specialisation tendency of the research subjects?
- RQ_9. And what is the specialisation trend in the publishing system?

2. Materials and methods

2.1. *Public expenditure, recruitment and scientific production*

Macroeconomic data on university education expenditure, personnel expenses and recruitment of Teaching and Research Personnel (PDI) were extracted from the Public Expenditure on Education, the Statistical Yearbook of Education Figures in Spain, and the University Personnel Statistics, all of them drawn up by the General Sub-directorate of Statistics of the Ministry of Education, Culture and Sport (MECD), and the Spanish National Institute of Statistics (INE). The data on recruitment of the PDI are divided into two job categories: tenured and recruited[7].

The bibliometric indicators of Spanish scientific activity come from the annual reports of the Spanish Foundation for Science and Technology (FECYT), and the frequencies of PhD dissertations come from the TESEO database.

The chosen time interval (2004-2016) corresponds to the period in which the MECD, the INE, the FECYT and the TESEO have unified criteria data for all years and the following variables:

- Expenditure on university education and expenditure on PDI.
- Tenured and recruited teachers; unemployed professionals with a doctor's degree; PhD dissertations in all fields; and PhD dissertations in communication.

[7] Only the databases of year 2004 disaggregate the contractual typology, considering professors and tenured lecturers as "tenured" or teaching staff in the civil service, and the assistant doctors, the recruited doctors, visiting lecturers, collaborators and associate lecturers as "recruited." The rest of the databases just make a difference between tenured and recruited lecturers.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

- Scientific articles in specialised journals and scientific articles in Q1 impact factor journals.

ANECA works in Spain as a filter setting up the number of researchers who can opt for an accredited academic position or a higher rank. Given that the publication of articles in impact journals is prioritised on assessing official accreditations and public notices, this meritocratic task becomes one of the key factors to determine competitiveness in reaching a position, especially when having access to a tenured post. In this way, the qualitative measurement of competitiveness in scientific production is largely established by the merits accepted by the accreditation agency, which supports the essential part of its assessments of the impact factor on specialised journals.

If we dissociate the monetary and salary issues from the concept of competitiveness –largely analysed and not relevant for this study– we can limit its definition to a single factor ascribed to professional practice: the scientific production required to achieve official accreditation. Therefore, we understand the labour dimension of competitiveness in terms of scientific production as an action between candidates who, subject to evaluation criteria, compete to achieve the largest number of merits, that is, articles in specialised journals with the highest impact rate.

2.2. *Scientific production in communication*

A content analysis was carried out for the study of scientific production in communication on 3,653 articles published in eleven of the specialised journals with the highest impact in Spain. The choice of the journals was made according to the most widely used indexes (Journal Citation Reports, Scopus Journal Metrics, Scimago Journal Rank, LATINDEX, DICE[8] and MIAR[9]) and to geographic plurality. The choice of the 2005-2015 time interval responds to two reasons: one, the consolidation of ANECA during this period as an accreditation body within the scope of the educational organisation introduced by the European Higher Education Area; and two, that is the interval with the largest number of years in which all the chosen journals were available and offered their scientific articles in open access.

The chosen journals are: *Comunicar*, *Zer*, *Revista Latina de Comunicación Social* (RLCS)*, Comunicación y Sociedad* (CyS)*, Estudios del Mensaje Periodístico* (EMP), *El Profesional de la Información* (EPI), *Doxa*, *Historia y Comunicación Social* (HyCS), *Cuadernos de Información y Comunicación* (CIyC), *Telos* y *Anàlisi.* The choice of texts was made according to the classification of every journal, including the sections that hosted scientific articles only, and discarding those containing opinion articles, platforms or descriptive exhibitions. Special numbers were not included to avoid a surfeit of subjects.

The articles were coded by the first and third author of the study. To ensure reliability among coders, the second author coded a random selection of 20% of the remarks (n = 730) with an independent approach. The coefficient of reliability between coders by Cohen Kappa (Cohen, 1960), which adjusts the coincidence rate between coders, was assessed by using the guidelines described by Landis and Koch (1977). The analysis provided inter-rater reliability of 93%, and a coefficient of 0.70. Therefore, the reliability between coders was considerable. After individual coding, coders met again to submit their result, discuss discrepancies and be able to reach a consensus decision for each of the variables.

Next are itemised the three sections making part of this study represented in the coding guide:

- Number of articles, journals and university the authors were ascribed to.
- Research approach and method.
- Thematic specialisation of journals.

[8] Dissemination and Editorial Quality of the Spanish Journals on Humanities and Social and Legal Sciences.
[9] Data Matrix for Journal Analysis.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

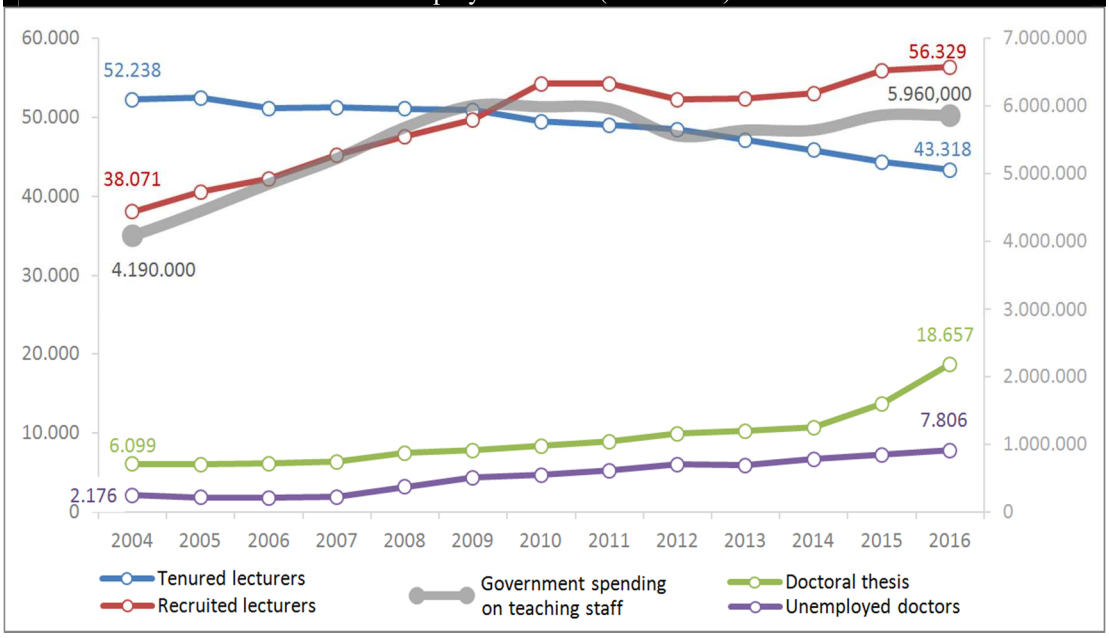
The level of specialization of the research subjects is a variable explaining whether the subject that the author chooses to analyse is very general or very specific. This variable was not considered in the coding guide; rather, an *ad hoc* technique was created to examine it, so that its results are merely indicative. The classification of subjects was carried out in three phases, yielding a scale of one to ten with one being the most general level and ten the most specific one. First, subjects were distributed according to their field of research (journalism, advertising, legislation, etc.), then according to their nature (channels, people, institutions, etc.), and finally, organised according to their capacity of containment. For example, the "press" was located within the field of journalism and was defined as a channel. Further, its level was established by the subjects it contained or containing it. The subject "press" included "digital press," which in turn included "local digital press," which in turn included "specialized local digital press." On the contrary, the subject "press" appeared under "printed media." 582 study subjects were classified altogether.

3. Results

3.1. *Funding of the Spanish university system and evolution of teaching staff*

The cornerstone on which public university relies on its survival is the State budget. In the last eight years, the economic amount allocated to higher education has fallen by 14.7%; expenditure on teaching staff has remained intact, despite the growing number of lecturers (MECD, 2018); and cutbacks in R+D programmes have recorded a decrease by 31% (MINECO, 2018: 19). Tenured teaching staff –enjoying greater job stability– has decreased at the expense of recruited lecturers (RQ_1), while the number of unemployed doctors has three folded. This behaviour seems to go hand in hand with the number of PhD dissertations (RQ_2), except for year 2016 (Figure 1).

Figure 1. Expenditure on Teaching and Research Staff, tenured lecturers, recruited lecturers, doctoral dissertations and unemployed doctors (2004-2016). Source: MECD and INE.



The multiple linear regression analysis showed the existence of a significant relationship ($p < 0.005$) between the teaching staff and the production of scientific articles (RQ_3), accounted for by the equation: $Y = 12818.09 + 1.307X_1 - 2.597X_2$; where Y represents scientific articles, X_1

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

recruited lecturers and X_2 tenured lecturers. The coefficient of determination was 0.989 and the Durbin-Watson test amounted to 1.832[10].

An analogous situation can be observed between the general scientific production and the scientific production in communication. Simple linear regression showed a significant relationship ($p < 0.005$) between doctoral dissertations in all areas and doctoral dissertations in the field of communication (RQ_4) accounted for by the equation: $Y = -129.481 + 0.031X_1$. The coefficient of determination amounted to 0.768 and the Durbin-Watson test was 2.545. Simple linear regression also showed the existence of a significant relationship ($p < 0.005$) between the scientific articles in all areas and the scientific articles in communication (RQ_5), accounted for by the equation: $Y = 113.619 + 0.003X_1$. The coefficient of determination was 0.859 and the Durbin-Watson test 1.193 –in this case, the value of the D-W test was not conclusive and, therefore, does not confirm or refute the non-autocorrelation.

The representation rate of our sample on communication papers with respect to papers in all areas is 0.7%, and the representation of the dissertations in communication with respect to the dissertations in all areas amounts to 1.6% –that is, out of every thousand doctoral dissertations published in Spain, sixteen belong to the field of communication.

Table 1 provides detailed figures of these variables for the period 2004-2016.

Table 1. Variables on the Spanish university system funding and growth (2004-2016). Source : MEDC, INE, FECYT, TESEO.

Year	Tenured lecturers	Recruited lecturers	Doctoral dissertations	Doctoral dissertations (Commun.)	Unempl. doctors	Scientific articles	Scientific articles (Commu.)	Expend. PDI[11]
2004	52.238	38.071	6.099	22	2.176	41.285	235	4,2
2005	52.441	40.592	6.043	30	1.860	45.241	270	4,46
2006	51.125	42.247	6.147	25	1.819	50.103	292	4,86
2007	51.262	45.200	6.400	33	1.942	54.127	273	5,23
2008	51.054	47.568	7.461	99	3.206	57.321	326	5,70
2009	50.905	49.695	7.830	109	4.335	62.565	400	6,1
2010	49.468	54.222	8.338	173	4.702	66.113	339	5,98
2011	49.037	54.181	8.963	178	5.287	71.530	335	5,95
2012	48.423	52.192	9.948	214	6.021	75.768	352	5,56
2013	47.075	52.308	10.285	171	5.935	77.230	317	5,64
2014	45.839	52.993	10.724	186	6.718	77.013	345	5,64
2015	44.339	55.889	13.695	562	7.262	84.964	404	5,86
2016	43.318	56.329	18.657	289	7.806	88.848	455	5,95

3.2. *The scientific production of communication research*

The production of papers increased by 49% for the period 2005-2015 (RQ_6). The distribution of the 3,653 articles according to the year and the magazine in question is shown in figure 2, which also shows the dates of the legislations making up ANECA's[12] competences. By comparing the means of the articles published for each year, the data indicate that the largest

[10] All the statistical tests under this section met the assumptions of residual normality and homoscedasticity.

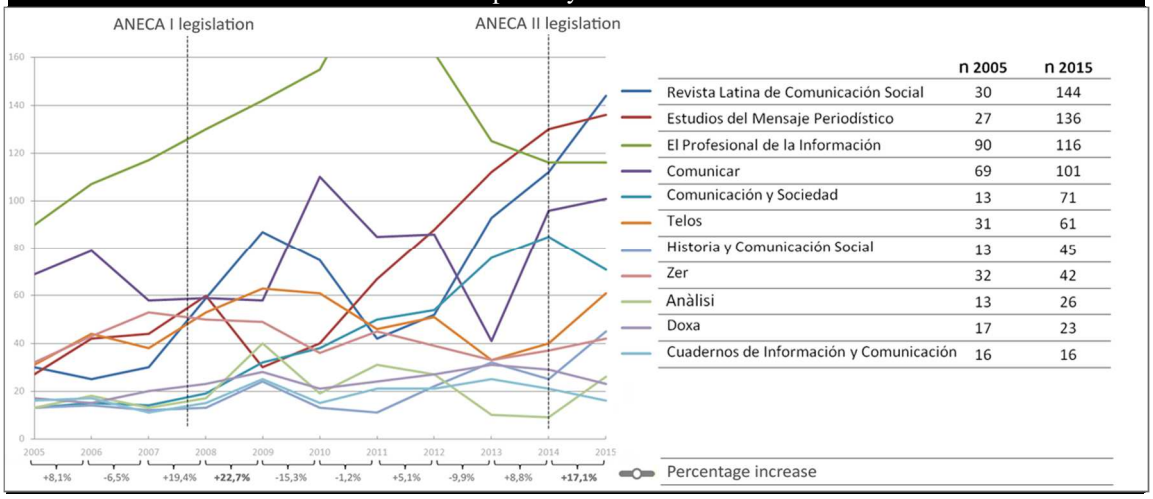
[11] In billions of Euros.

[12] ANECA was created in December 2001, but its functions as an official accreditation agency were legally set up at the end of 2007 by Royal Decree 1393/2007, establishing the organization of official university education; Royal Decree 1312/2007, establishing the national accreditation for access to university teaching bodies; and Organic Law 4/2007, amending Organic Law 6/2001 on Universities. In 2014 was approved Law 15/2014, of September 16, on the rationalization of the Public Sector and other measures on administrative reforms; this would concentrate the evaluation and accreditation functions of university lecturers (ANECA) on a single public body, formerly distributed between two bodies: ANECA and CNEAI.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

increases took place in 2008 and in 2014. The last update of the evaluation criteria which took place in November 2017 hardened the terms to apply for the positions of full professor and associate professor[13], mainly in the research component, demanding, among other requirements, a greater number of papers in JCR journals (ANECA, 2017).

Figure 2. Number of articles per journal and year and percentage increase (2005-2015). Source: Compiled by the authors.



3.3. *Approach and methods*

53.5% (n = 1954) of the articles are theoretical studies, although their evolution is decreasing. For the period 2005-2015, quantitative studies increased by 452%, qualitative studies by 142% and studies with mixed methodology by 369%. In other words, the empirical articles increased by 545% while the theoretical articles decreased by 28% (RQ_7).

Table 2 offers the percentage differences between 2005 and 2015 for each journal.

Table 2. Method and specialised journal (2005-2015). Source: Compiled by the authors.

	Quantitative	Qualitative	Joint	Theoretical
	% Difference 2005-2015	% Difference 2005-2015	% Difference 2005-2015	% Difference 2005-2015
CyS	+30	-12.9	+8.6	-21.2
Comunicar	+56.1	+5.9	+17.7	-79.6
Zer	+4.2	+12.5	-2.5	-14.2
RLCS	+22.6	+14	+28.2	-64.9
EMP	+34.4	+12.2	+10.7	-57.3
EPI	+15	+3.8	+7.2	-25.9
HyCS	+12.9	-58.1	+9.7	+35.5
Doxa	+39	+33.3	+6.7	-79
CIyC	0	0	0	0
Telos	+2.1	-3.6	+4.2	-2.6
Anàlisi	+23.3	+10	0	-33.3

The most widely used empirical methodologies are: content analysis (9.4%; n = 304); surveys (5.6%; n = 181); and documentary techniques (3.1%; n = 99). As for the use of surveys and statistical tests, only four articles made use of them in 2005 –they were descriptive and only one contained a representative sample of the reference universe. 404 articles were published in 2015, 41 of them based on a survey, and 28 of the former used descriptive

[13] Not to be confused with Associate teacher, a figure that is not a civil servant.

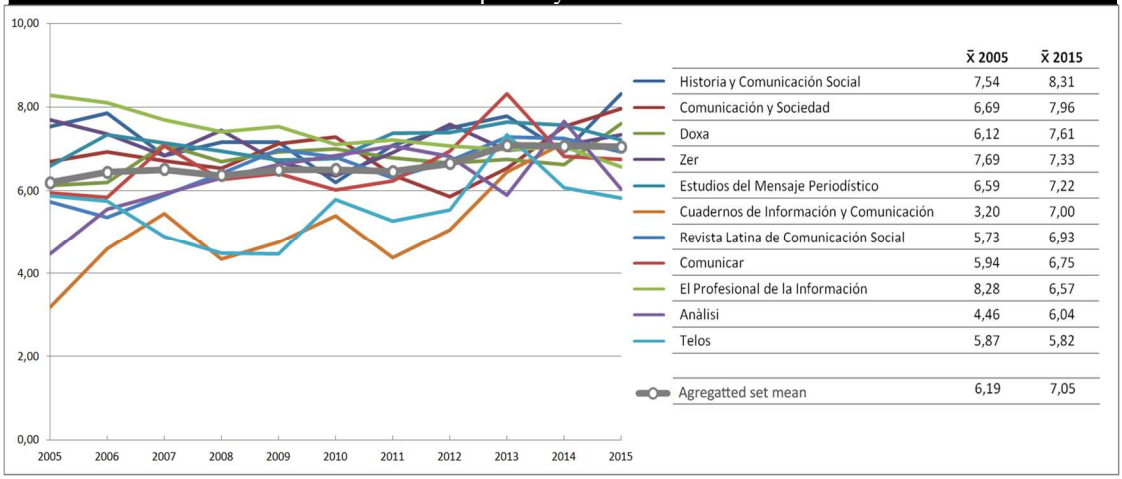
ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

statistics, nine were correlations or parametric and non-parametric tests; five used some of the regression models, and one performed a factorial analysis. It is important to highlight that, out of former 41 articles based on a survey, seventeen had representative samples and, in thirteen of them, the survey was carried out by the researchers themselves.

3.4. *Level of specialization of research subjects*

Figure 3 shows the evolution of the specialization levels between 2005 and 2015, depending on the journal and the year, as well as the curve of the means for all journals. As the years went by, the average level of specialisation has increased or decreased depending on the publication; nonetheless, it has maintained a smooth, constant growth (13.9%) for the aggregate set of data (RQ_8).

Figure 3. Level of specialization of research subjects for each journal and year (2005-2015). Source: Compiled by the authors.



	x̄ 2005	x̄ 2015
Historia y Comunicación Social	7,54	8,31
Comunicación y Sociedad	6,69	7,96
Doxa	6,12	7,61
Zer	7,69	7,33
Estudios del Mensaje Periodístico	6,59	7,22
Cuadernos de Información y Comunicación	3,20	7,00
Revista Latina de Comunicación Social	5,73	6,93
Comunicar	5,94	6,75
El Profesional de la Información	8,28	6,57
Anàlisi	4,46	6,04
Telos	5,87	5,82
Agregatted set mean	6,19	7,05

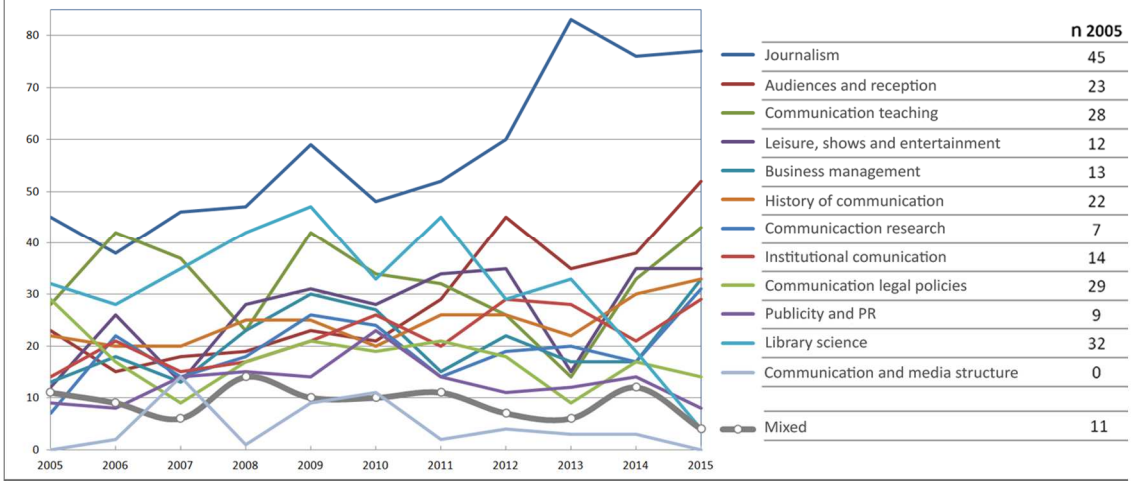
The longitudinal analysis of the most common research subjects presents a decreasing trend in television, which had been dominant in the first decade of this century (n 2005 = 71; n 2015 = 59); and a growing trend to analyse both news in the digital press (n 2005 = 15; n 2015 = 83) and social networks messaging (n 2010 = 6; n 2015 = 73).

3.5. *Specialization of journals*

Figure 4 shows three patterns of interest. First, the unquestionable dominance of journalism throughout the entire time sample, which explains the general willing of researchers to analyse news media. Second, the dramatic rise of meta-research in communication, which suggests academic interest in exploring the status of the discipline. And third, the almost disappearance of mixed articles, that is, those including several fields at a time without scientific criteria.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

Figure 4. Papers published by study areas and year (2005-2015). Source: Compiled by the authors.



The behaviour regarding journal specialisation shows two different trends. On the one hand, there are journals that began the period with a strong specialisation and opened their thematic range to other areas as time passed by: EPI (68.9% devoted to library science in 2005, 13.5% in 2015), and HyCS (69.2% devoted to the history of communication in 2005; 35.5% in 2015). On the other hand, there are the journals that maintained a similar range of specialisation over the years: EMP (49% devoted to journalism in 2005; 40% in 2015) and *Comunicar* (35% devoted to teaching (about) communication in 2005; 40% in 2015). In other words, only three of the eleven journals in our sample currently exhibit a higher specialisation within the field of communication (RQ_9).

4. Discussion and conclusions

The present study investigates the evolution of communication research in Spain during a sample of eleven years (2005-2015), showing the links with the recruitment of teaching staff and the number of new doctors for the 2004-2016 time series. As time passes by, the macroeconomic data shows a growing trend to employ recruited lecturers instead of tenured ones (RQ1) –the teaching body with greater job stability–, an indicator closely linked to labour instability (Guamán-Hernández, 2013; Toharia, 2002). The data indicate a continuous increase in the number of PhD dissertations –new doctors– and unemployed doctors (RQ2) between 2004 and 2016, which also hints at a continued increase in the number of potential academicians willing to find a job.

The recruitment of less stable teaching staff seems to be a determining factor for scientific production since recruited lecturers and scientific articles keep growing continuously (RQ_3) while the number of tenured lecturers decreases. In light of these results and knowing that the MECD includes in its databases associate teachers –communication professionals who undertake university teaching without research responsibilities as a secondary activity– there are two situations that should supplement each other: one, scientific production would be strongly linked to the work of the recruited lecturers who are not associate teachers –that is, recruited doctors, visiting teachers, assistant doctors, etc.– resulting in greater pressure and stress for publishing for these teaching bodies (Goyanes & Rodríguez-Gómez, 2018); and two, associate teachers are progressively joining the scientific production system by means of providing the merits that would favour a more stable employment relationship with the university system. If this second scenario is to be real, one of the causes of the incremental evolution in the number of new doctors could be explained: the increase of communication professionals who obtain a PhD degree to enter the university system –perhaps because of the high levels of unemployment undergone by the sector

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

(Palacio, 2018)–. How this issue affects the recruitment and job stability of career academics is a question beyond the aims of this study.

Despite the low representation rate of PhD dissertations (1.6%) and scientific articles (0.7%) in the field of communication as compared to the dissertations and scientific articles in all fields, statistical tests show a strong association in the first case (RQ4), and a probable association in the second (RQ5), so that the variables that condition the scientific production in all areas –in this case the evolution of teaching staff, doctors and papers– should affect in equal or similar extent to the production of communication research.

The number of papers in the field of communication has doubled during the time series 2005-2015 (RQ_6). The longitudinal analysis reveals a better knowledge on applying empirical methods, one of the essential requirements that high impact journals demand when a paper is submitted. However, this development remains at an early stage (RQ_7). The use of surveys, for example, is reduced and the knowledge and representativeness of statistical tests are limited. Content analysis and digital news are the most recurrent methods and research subjects chosen by researchers, which would suggest that the restricted use of statistically representative surveys is due to two factors: their high cost and the lack of a more detailed knowledge on this technique.

The frequencies relating to the specialisation level of research subjects, inherently related to the specialisation of the authors, show an increase of this variable over the years (RQ_8). It is a logical trend that other researchers had already noticed (Martínez-Nicolas *et al.*, 2017). The data reveal a convenient specialisation level in the chosen subjects as a result of a scientific system that evolves towards a more accurate use of measurement techniques and area of specialization. Nonetheless, a continual increase in the level of specialisation can become one of the Trojan horses of scientific production. A level of hyper-specialization could be reached if we, researchers, try to find originality in micro-niches or in the minimum differences of subjects already explored with the aim of maintaining an intensive and meritocratic production. This fact, on the one hand, would compromise holistic research and, on the other, would reduce the importance of one of the incontrovertible aims in the research process: its contribution to society.

The evolution of the study areas also shows a scientific system that is becoming more specialised. The fact that the articles dealing with several areas at the same time accounted for only 2.8% in 2015 suggests that researchers increasingly chose more specialised areas to work on, typical of a scientific system that seeks rigour as a basis for growth. But it can also be typical of a system that "would be adapting to the call for papers, something that [authors] would apply to increase his or her curriculum impact" (Costa, 2017, p. 11).

The scarce number of specialised journals within the field of communication (only three out of eleven in our sample: EMP. HyCS and *Comunicar*) suggests a blurred delimitation of specialities in the publishing system, at least among the Spanish journals with the highest impact (RQ_9). The general tendency is to reduce the number of articles related to the journal speciality area –journalism, library science, etc.– and publish them in areas outside it. This underlines that the Spanish communication system has difficulties to host journals with higher specialisation levels. In this way, differences between journals are not appreciated so much for their speciality but for the methodological or stylistic requirements and, above all, for the impact factor.

The evolution of empirical techniques, specific research subjects and the specialisation of journals suggests that an increase in funding for scientific production and its dissemination would encourage the improvement in research methods with more complex and sophisticated techniques and would maintain a more specialised publishing system with new areas and research subjects –or areas and subjects already studied under more innovative approaches.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

In short, communication research in Spain seems to be based on a model of intensive growth that combines excellent scientific production with texts of questionable scientific rigour and social contribution. The findings demonstrate the improvement of instruments for compilation and interpretation –some techniques still in a very early development–, and the tendency towards specialised research subjects –which seems to drift towards hyper-specialisation.

The increase in temporary recruitment and job instability, together with an increase in the difficulty of the evaluation process and the increasing number of doctors, forecasts a model largely led by meritocratic competitiveness.

Inadequate public funding (Hernández & Pérez, 2017), which falls below international standards (Julià, 2014), and the evaluation of merits as the only way to solve the excessive job demand in the academic system, suggests a growth in the number of papers. The model will show clear improvements –perfection of research techniques and accuracy in areas of speciality– but will keep dragging down the old errors and weaknesses we are now undergoing –intensive meritocratic production, methodological redundancy, hyper-specialisation and scarce social contribution.

5. Limitations and further research

This study has limitations that should be discussed in further research. First, the definition of competitiveness is not entirely accurate. Even if measuring the variable "scientific papers" may be a good guideline to quantify this concept, as it is a key factor in obtaining an academic job, other merits have been ruled out –such as international research placements or participation in conferences–, which would have refined its interpretation. Secondly, in terms of the analysis of macro-economic data, the sparse number of years –thirteen– requires a cautious interpretation of the statistical results, although it was assumed that the non-stationary time series could not be independent and, therefore, the non-autocorrelation tests in the regression models were required. In third place, although the measurement of the level of specialisation of research subjects was thorough, the design of this *ad hoc* technique was not based on scientific mechanisms that would verify its reliability. As a result, the interpretation of these findings requires a cautious reading. Finally, it would have been very enriching to have completed the quantitative analysis with qualitative techniques, such as in-depth interviews or focus groups. These techniques may have provided researchers' reflections about the causes, results and possible solutions regarding the topics addressed. Therefore, a further research line coherently opens up with this study, which may deal with our findings in more detail and shape up our interpretations.

Despite these limitations, the study offers a solid, well-founded interpretation of the essential dynamics of the communication research system in Spain.

References

Abadal, E. (Ed.) (2017). *Revistas científicas. Situación actual y retos de futuro*. Barcelona: Universitat de Barcelona.

Alsina, R. & García, L. (2008). Teoría e investigación de la comunicación en España: Notas para un debate. *Congreso Internacional Fundacional AE-IC*. Santiago de Compostela: Asociación Española de Investigación de la Comunicación / Universidad de Santiago de Compostela.

Aneca (2017). Publicación de los criterios de evaluación del programa Academia. Retrieved from http://www.aneca.es/Sala-de-prensa/Noticias/2017/Publicacion-de-los-criterios-de-evaluacion-del-programa-ACADEMIA.

Baladrón-Pazos, A. J. & Correyero-Ruiz, B. (2012). Futuro de las revistas científicas de comunicación en España. *El profesional de la información, 21*(1), 34-42.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

Bustamante, E. (2018). La investigación en Comunicación en España. Luces y Sombras. *adComunica, 15*, 285-288.

Caffarel-Serra, C. Ortega-Mohedano, F. & Gaitán-Moya, J. A. (2017). Investigación en Comunicación en la universidad española en el período 2007-2014. *El profesional de la información, 26*(2), 218-227.

Carrasco, A. & Saperas, E. (2015). Tendencias internacionales de la investigación en comunicación actual: modalidades de investigación, objetos de estudio y usos de la teoría en los *papers* de *Journal of communication* (2008-2013). *III Congreso Nacional de Metodología de la Investigación en Comunicación. Sección de Teorías y Métodos de Investigación en Comunicación de la Asociación Española de Investigación en Comunicación (AE-IC)*. Málaga: Asociación Española de Investigación de la Comunicación / Universidad de Málaga.

Castillo, A. & Carretón, M. C. (2010). Investigación en Comunicación. Estudio bibliométrico de las Revistas de Comunicación en España. *Comunicación y sociedad, 23*(2), 289-327.

Civil, M. & Reguero, N. (2008). La investigación en comunicación en España. Análisis de los proyectos competitivos aprobados en el marco del Plan Nacional I+D+I 2004-2007. *Congreso Internacional Fundacional AE-IC.* Santiago de Compostela: Asociación Española de Investigación de la Comunicación / Universidad de Santiago de Compostela.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and psychological measurement*, *20*(1), 37-46.

Coslado, M. A., Lacunza, I. & Ros, G. (2011). Evaluación de la calidad de revistas científicas españolas: análisis de sus procesos de revisión. *El profesional de la información*, *20*(2), 159-164.

Costa, C. (2017). Análisis de la productividad y visibilidad en Scopus de los investigadores españoles en Comunicación. *Observatorio (OBS*) Journal, 11*(3), 1-16.

Delgado-López, E., Ruiz-Pérez, R. & Jiménez-Contreras, E. (2006). *La Edición de Revistas Científicas. Directrices, Criterios y Modelos de Evaluación*. Madrid: Fundación Española para la Ciencia y la Tecnología.

De-Filippo, D. (2013). La producción científica española en Comunicación en WOS. Las revistas indexadas en SSCI (2007-12) / Spanish Scientific Output in Communication Sciences in WOS. The Scientific Journals in SSCI (2007-12). *Comunicar, 41*, 25-34.

De Nó, J. & Molero, J. (2017). Informe de urgencia sobre inversión en I+D+i en los Presupuestos Generales del Estado para 2017. COSCE-Confederación de Sociedades Científicas de España. Retrieved from http://www.cosce.org/nota-de-alcance-sobre-los-recursos-destinados-a-idi-en-los-pge-aprobados-para-2017/.

De Pablos, J. M. (2010). Análisis de las revistas españolas de Comunicación, tras la actualización del índice de impacto de 2009. *II Congreso International Latina de Comunicación Social.* La Laguna: Sociedad Latina de Comunicación Social.

DICE – Base de datos para la Difusión y Calidad Editorial de las Revistas Españolas de Humanidades y Ciencias Sociales y Jurídicas (2018). Retrieved from http://epuc.cchs.csic.es/dice/.

Escribà, E. & Cortiñas, S. (2013). La internacionalización y las coautorías en las principales revistas científicas de Comunicación en España / Internationalization and Coauthorship in Major Communication Journals in Spain. *Comunicar, 41*, 35-44.

Fernández, D. & Masip, P. (2013). Tres décadas de investigación española en comunicación: hacia la mayoría de edad / Three Decades of Spanish Communication Research: Towards Legal Age. *Comunicar, 41*, 15-24.

Fernández, D., Masip, P. & Bergillos, I. (2013). El precio de la internacionalidad: la dualidad en los patrones de publicación de los investigadores españoles en comunicación. *Revista Española de Documentación Científica, 36*(2), 1-19.

Gómez-Hernández, J. A. (2015). Efectos negativos de los criterios de evaluación de la actividad investigadora para el sistema de comunicación científica en español. *Anuario ThinkEPI*, *9*, 200-206.

Goyanes, M. (2015). ¿Hacia una investigación estandarizada? *Observatorio (OBS) Journal, 9*(3), 85-99.

Goyanes, M. & Rodríguez-Gómez, E. F. (2018). ¿Por qué publicamos? Prevalencia, motivaciones y consecuencias de publicar o perecer. *El profesional de la información, 27*(3), 548-558.

Guamán-Hernández, A. (2013). De la estabilidad en el empleo a la precariedad laboral por la vía de la contratación temporal: la inserción de los jóvenes en el mercado de trabajo como paradigma del trabajo precario. *Anuario de la Facultad de Derecho* (Universidad de Alcalá), *6*, 103-136.

Halffman, W. & Radde, H. (2015). The Academic Manifesto: From an Occupied to a Public University. *Minerva, 53*, 165-187.

Hernández, J. & Pérez, J. A. (Dirs.) (2017). La Universidad española en cifras 2015/2016. CRUE-Conferencia de Rectores de las Universidades Españolas. Retrieved from http://www.crue.org/Documentos%20compartidos/Publicaciones/Universidad%20Espa%C3%B1ola%20en%20cifras/UEC_Digital_WEB.pdf.

Jones, D. (2007). La comunicación en el escaparate. In B. Díaz Nosty (Dir.), *Tendencias'07. Medios de comunicación: el escenario iberoamericano* (pp. 395-408). Ariel: Barcelona / Madrid: Fundación Telefónica.

Julià, J., Pérez, J. & Meliá, E. (2014). El cambio necesario de la universidad española, ante un nuevo escenario económico. *Interciencia, 39*(1), 60-67.

Landis, R. & Koch, G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*(1), 159-174.

López, P. & Vicente, M. (2011). Métodos y técnicas de investigación dominantes en las revistas científicas españolas sobre comunicación (2000-2009). En J. L. Piñuel Raigada, C. Lozano Ascensio & A. García Jiménez (Eds.), *Investigar la comunicación en España*. Fuenlabrada: Asociación Española de Investigación de la Comunicación / Universidad Rey Juan Carlos.

Martínez-Nicolás, M. (2006). Masa (en situación) crítica. La investigación sobre periodismo en España: comunidad científica e intereses de conocimiento. *Anàlisi, 33*.

Martínez-Nicolás, M. (2007). Agitación en el campo. Nueve ideas para la investigación sobre Comunicación Política en España. *Política y Sociedad*, *44*(2), 209-227.

Martínez-Nicolás, M., Saperas, E. & Carrasco, A. (2017). Journalism research in Spain. Analysis of research articles published in Spanish journals over the past 25 years (1990-2014). *Communication & Society, 30*(4), 149-166.

Martínez-Nicolás, M. & Saperas, E. (2011). La investigación sobre Comunicación en España (1998-2007). Análisis de los artículos publicados en revistas científicas. *Revista Latina de Comunicación Social, 66*, 101-129.

Masip, P. (2011). Efecto Aneca: producción española en comunicación en el Social Science Citation Index. *Anuario ThinkEPI, 5*, 206-210.

MEDC – Ministerio de Educación, Deporte y (2018). Estadística de financiación y gasto de las universidades públicas. Retrieved from https://www.mecd.gob.es/servicios-al-ciudadano-mecd/estadisticas/educacion/universitaria/estadisticas/estadistica-de-financiacion-y-gasto-universitario.html.

MEDC – Ministerio de Educación, Deporte y Cultura (2017). Datos y cifras del sistema universitario español. Curso 2015/2016. Secretaría General Técnica, Subdirección General de Documentación y Publicaciones. Retrieved from http://www.mecd.gob.es/servicios-al-ciudadano-mecd/estadisticas/educacion/universitaria/estadisticas/personal-universitario.html.

ISSN 2386-7876 – © 2018 Communication & Society, 31(4), 229-242

MINECO – Ministerio de Economía, Industria y Competitividad (2018). Plan estatal de investigación científica, técnica y de innovación. Retrieved from http://www.idi.mineco.gob.es/stfls/MICINN/Prensa/FICHEROS/2018/PlanEstatalIDI.pdf.

Moragas, M. (2005). Investigación de la comunicación y política científica en España. Ponencia presentada en la Reunión Científica de la Sociedad Española de Periodística (SEP). Santiago de Compostela, 27 y 28 de mayo de 2005.

Palacio, L. (Dir.) (2018). *Informe anual de la profesión periodística*. Madrid: Asociación de la Prensa de Madrid.

Perceval, J. M. & Fornieles, J. (2008). Confucio contra Sócrates: la perversa relación entre la investigación y la acreditación. *Anàlisi, 36,* 213-224.

Piñeiro-Otero, T. (2018). Problemática universalización de los indicadores de evaluación científica. Crítica desde la investigación en comunicación radiofónica. *El profesional de la información*, *27*(2), 254-266.

Piñuel, J. L., Lozano, C. & García, A. (2011). *Investigar la Comunicación en España*. Fuenlabrada: Facultad de Ciencias de la Comunicación. Universidad Rey Juan Carlos.

Piñuel, J. L., Sánchez-Carrión, J. J., Peñafiel, C., Díaz Nosty, B. & Marzal, J. (2018). El estudio MapCom y la investigación en España en las Tesis Doctorales y Proyectos I+D. Proyecto I+D Mapcom.

Prado, E. (2017). Política científica, publicación e internacionalización en el campo de la comunicación en España. In M. de Lemos Martins (Ed.), *A internacionalização das comunidades lusófonas e ibero-americanas de ciências sociais e humanas. O caso das ciências da comunicação* (pp. 201-215). CECS-Publicações / eBooks.

Quirós, F. (2016). La universidad gerencial en Europa y los procedimientos de evaluación de la calidad de la docencia y la investigación en España. *Chasqui, Revista Latinoamericana de Comunicación*, *133*, 191-208.

Reig, R. (2014). La investigación dependiente: crítica estructural al sistema JCR. *Ámbitos, 27*, 1-33.

Rodríguez-Gómez, E. F. (2016). Aportación científica de los congresos de la AE-IC (2008-2014): reseña histórica y estado actual de la investigación en Comunicación. *Historia y Comunicación Social, 21*(1), 115-137.

Rodríguez-Martínez, C. (2014). La proletarización del profesorado en la LOMCE y en las nuevas políticas educativas: de actores a culpables. *Revista Interuniversitaria de Formación del Profesorado, 28*(3), 73-87.

Saperas, E. & Carrasco, A. (2017) ¿Cómo investigamos la comunicación en España? La producción científica en revistas especializadas (1990-2014). Métodos y técnicas de investigación. In *IV Congreso Nacional de Metodología de la investigación en comunicación. Asociación Española de Investigación de la Comunicación (AE-IC). Sección de Teorías y Métodos de Investigación en Comunicación*. Castellón: Universitat Jaume I. 23 y 24 de noviembre de 2017.

Soriano, J. (2008). El efecto ANECA. *Congreso Internacional Fundacional AE-IC*. Santiago de Compostela: Asociación Española de Investigación de la Comunicación / Universidad de Santiago de Compostela.

Toharia, L. (2002). El modelo español de contratación temporal. *Temas laborales, 64*, 117-142.