Data without reference points: collaborations in communication research in Spain are less international and publications have lower impact

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Abstract

Although comparisons are unpopular, they help to establish standard frames of reference to assess the situation of individuals, institutions, or countries. In the field of communication, the meta-research has been prolific in examining the current state of its production, but has ignored the need to compare what this research is with respect to what it should be, thus offering descriptions without reference points. During the last decade in Spain, have the co-authorships in communication been international? And perhaps even more importantly, has the published output been top-tier? This study tries to answer these gaps in the literature by comparing communication research in Spain with two broad frames of reference: the set of all sciences and the set of all social sciences. The results show that, when compared with these two macro references, communication research collaborations lack international cooperation and are guite solitary. Similarly, communication research releases fewer publications in the first quartile but more in the second, third, and fourth quartiles. The study suggests that research in terms of international collaboration and level of publication output is below the expected standard and emphasizes the need to establish comparative frameworks to assess and evaluate the state of the field beyond descriptive or headline data (as in this article).

Keywords

Communication research; Types of research collaboration; Impact; Scientific comparison; Scientific evaluation; Scientific publication; SJR; SCImago Journal Rank; Scopus.

1. Introduction and research questions

Human beings tend to evaluate their actions, attitudes, or appearance in relation to other people's actions, attitudes, or appearance. In other words, we do not make evaluations without a reference point and, consequently, we tend to establish self-evaluations by comparing ourselves with others (Wood, 1996). In fact, the theory on social comparison (Festinger, 1954; Gerber et al., 2018) suggests that the selection of the reference point, that is, the target of comparison, allows us to configure two types of evaluations: upward comparisons (Collins, 1996; Brewer; Weber, 1994), in which we select and evaluate ourselves against those we believe to be greater or better off, and downward comparisons (Wills, 1981; Taylor; Lobel, 1989), selecting and comparing ourselves to those we believe to be lesser or worse off. Each of these comparisons consequently triggers different effects on our self-evaluations (Gibbons; Gerrard, 1989; Gerber et al., 2018; Hu et al., 2018).



In Spain, for example, we could argue that a male is relatively tall if his height is greater than 182 centimeters, considering that the average height is 176. However, if we make an upward comparison and select the Netherlands as a target, we would say that the Spanish male is *au par* with the average height for the Netherlands Human beings tend to evaluate their actions, attitudes, or appearance in relation to other people's actions, attitudes, or appearance



(182.5 centimeters). Consequently, we would no longer evaluate him as tall. If we change the Netherlands for Guatemala, the inverse reasoning would be true. Consequently, individuals are not tall or short, but tall or short depending on the target of comparison.

Despite the inappropriateness of comparing the height of Dutch and Guatemalans, drawing normative conclusions about the Guatemalans by taking the height of a Dutchman as a benchmark, the truth is that in most Western countries, we establish normative comparisons regardless of the context. Beyond the physical aspect, education is a field that offers opportunities to better understand the implications of out-of-context normative conclusions. For example, in the PISA reports (Programme for International Student Assessment), where Spain usually performs poorly when compared with Nordic countries (Cuñat-Roldán; Cuñat-Giménez, 2022), investments in education are not usually considered in the normative explanations of the performance of Spanish students compared with Nordic ones, despite its being one of the main explanatory factors of this gap. The headline is usually that Spain is doing poorly in education, placing the blame on educators and suggesting that they are not doing their job well or, even worse, singling out students for their lack of talent. This case exemplifies that the selection of the target for comparison could blur the evaluations since, in most cases, it is applied to local or regional contexts with different levels of progress, stagnation, or investment.

From the previous argument derives another, perhaps even more interesting: the idea that, when conducting comparisons, the result of the judgment or evaluation should only be normative when the estimate of what can be achieved takes into account what one has, invests, or provides. In this sense, it may be appealing to demand Spanish scholars to achieve certain productivity and impact score, placing them, for example, at the level of the United States, but it would be equally desirable for the Spanish institutions that demand it to also guarantee investments in science similar to those of the United States. Consequently, comparing the productivity and impact of a North-American scientist to a Spanish one is inappropriate -hence the popular saying that "comparisons are the thief of joy." The Spanish researcher should be compared to his Spanish counterpart or to another researcher from a country featuring, for example, a similar investment in science.

In the previous cases, we have seen the comparisons with clear targets (upward or downward) and the difficulties of establishing normative judgments or evaluations regarding what or how we are. However, in many other evaluations, we lack reference points or ideals due to the nature of the phenomenon under study. Consequently, are the individuals or agents involved who must normatively create them through proper theoretical or empirical judgment.

In studies on representativeness, plurality, or diversity, for example, establishing these ideals or benchmarks has been a traditional endeavor (Lauf, 2005; Jagsi et al., 2008; Willett, 2013; Altman; Cohen, 2021; Goyanes et al., 2022). The aim is, or should be, twofold: to denounce the status quo and to propose scenarios, laws, or rules that may improve it (Metz; Harzing, 2012; Metz et al., 2016; Dhanani; Jones, 2017; Burges; Shaw, 2018; Goyanes, 2020a). Particularly, in studies focused on communication research, scholars tend to focus on the following questions: what should the geographic and gender representation of an editorial board in a scientific journal be? What should the proportion of qualitative versus quantitative research be? These questions, which are indeed difficult to solve, are posed without reference points or ideals, being at the intersection of knowledge and domination and, therefore, are configured as approaches to challenge taken for granted knowledge.

Generally speaking, there are three strategies for answering these questions: theoretical reasoning, empirical evidence, and good judgment or common sense. Theoretical reasoning suggests that representation in institutions or bodies of governance should maintain population representativeness. For example, we assume that an ideal gender representation in a scientific committee or board of directors should normatively maintain the gender representation of the population, in this case, Spain. Consequently, any deviation from this proportion, however justified, would normatively indicate a deviation from the ideal, implying a gender bias or imbalance. Given that in most scientific (but also general) institu-

tions or decision-making bodies the representativeness favors men (Lauf, 2005; Jagsi et al., 2008; Willett, 2013; Altman; Cohen, 2021; Goyanes et al., 2022), male dominance is attributed to the structural patriarchal system (Lincoln, et al., 2012; Knobloch-Westerwick et al., 2013; Dubois-Shaik; Fusulier, 2017; Van-der-Lee; Ellemers, 2019; Madison; Fahlman, 2021). Accordingly, legislatively, policies are developed to remediate this deviation by designing measures such as positive discrimination.

The headline is usually that Spain is doing poorly in education, placing the blame on educators and suggesting that they are not doing their job well or, even worse, singling out students for their lack of talent



Similarly, to determine the proportion of the two dominant empirical approaches in communication (qualitative and quantitative) in the different journals in the field, it is assumed through good judgment or common sense that both approaches should be well represented. However, establishing normative judgments as to what the ideal or fair proportion should be is challenging beWhen conducting comparisons, the result of the judgment or evaluation should only be normative when the estimate of what can be achieved considers what one has, invests, or provides



cause it would be regarded as an illegitimate influence on the individual freedom of both researchers and journals. It is assumed, therefore, that quantitative dominance in the leading journals of the field (Carrasco-Campos et al., 2018; Goyanes et al., 2018; 2020; Demeter; Goyanes, 2021) limits knowledge production and hinders the promotion and progress of researchers situated on the margins of the mainstream. Therefore, creating and developing journals specialized in peripheral methodologies, paradigms, or topics that aspire to generate impact in the field is one of the measures to correct this domination.

The evidence-based strategy relates to the promotion of diversity and/or plurality (gender or geographical) as a factor or mechanism to facilitate greater benefits, better knowledge, or a more open and pluralistic worldview (Baruch, 2001; Metz; Harzing, 2012; Metz et al., 2016; Dhanani; Jones, 2017; Burges; Shaw, 2018). For example, studies on corporate governance have found that companies whose boards feature greater gender and geographic representativeness have higher profits (Robinson; Dechant, 1997; Carter et al., 2003), assuming that the diversity of the constituents, their background, problem-solving skills, attitudes, views, or expectations explain higher performance. Similarly to television talk-shows, in which the representativeness of the different political parties facilitates the contrast of ideas and the decision-making process of the audience, the diversity and plurality in representation facilitates new approaches and ways of seeing and understanding the world, generating positive effects and externalities (Metz et al., 2016; Dhanani; Jones, 2017; Goyanes, 2020a).

Focusing on our field, the meta-research in communication has traditionally focused on the study of dominance through the examination of publication patterns (Carrasco-Campos et al., 2018; Goyanes et al., 2018; Martínez-Nicolás, 2020), offering indirect evidence on how to correct or improve the diversity or representativeness of the field. For example, previous research has examined the dominant topics, methodologies, publications, or types of collaboration (Martínez-Nicolás; Carrasco-Campos, 2018; Piñeiro-Naval; Morais, 2019; Gómez-Escalonilla, 2021; Segado-Boj et al., 2021), providing detailed descriptive data on the state of the field. However, surprisingly, such research has neglected the need to create points of reference to evaluate these variables in terms of what is ideal, fair, or expected.

For example, let us imagine that a study shows that 20% of collaborations in the last decade in communication are international and that, in addition, 20% are published in the first quartile of Scopus. Are these percentages normatively acceptable? These are, in fact, the questions that the present study aims to cover. Specifically, this study proposes two different macro populations with which to evaluate the situation of communication research in Spain: the set of all sciences and the set of social sciences. Therefore, this study contributes to a better understanding of the normative situation of communication research, pointing out the distance of the types of collaboration and publication with respect to what is expected or ideal. In this context, the present study poses the following research questions:

RQ1. Are there significant differences among the different types of collaboration in communication in Spain, taking as a reference the values for the set of a) all sciences in Spain and the set of b) social sciences in Spain? In other words, during the last decade, have the set of all sciences, on the one hand, and the set of social sciences on the other, had more or less international, only national, only institutional, or single-authored collaborations than the field of communication?

RQ2. Are there significant differences in the proportion of publications per quartile by the SJR in communication in Spain, taking as a reference the values of the set of a) all sciences in Spain and the set of b) all social sciences in Spain? In other words, during the last decade, have the set of all sciences, on the one hand, and the set of social sciences, on the other, published more or fewer articles in indexed journals within the Q1-Q4 quartiles than the field of communication?

2. Data collection and analysis

Data for this study came from SciVal, an academic subscription data platform that works with Scopus information. Specifically, this platform provides bibliometric data on the performance and output of academics, institutions, and countries to facilitate the visualization and comparison of scientific patterns. To answer the research questions, the study takes two macro references: the set of all sciences (including the field of communication) and the set of social sciences (including the field of communication). These research fields were selected due to their wide range and comparative adequacy.

The data extraction protocol was similar for both the collaboration (RQ1) and publication (RQ2) types. Specifically, data collection was performed on December, 2022, based on a series of search criteria. Initially, the category of "countries, regions, and groups" was selected, and Spain was typed in the SciVal search engine. In order to provide data that reflect the patterns and evolution of collaboration and publication types as extensively as possible, the last decade (2012-2021)

was examined, while in the scientific field, the values were iterated and computed according to the search: all fields (all sciences), social sciences, and communication. Finally, the two study variables were selected:

Types of collaboration

SciVal demarcates four types for this variable (Table 1): international collaboration (authors from different countries), national collaboration only (authors from a single country), institutional collaboration only (authors from a single university), and solo authorship (no collaboration).

Published material

For this variable, SciVal demarcates four types (Table 2): quartile 1 (Q1), quartile 2 (Q2), quartile 3 (Q3), quartile 4 (Q4).

To compute the two variables, the scientific field is iterated, and consequently, only communication, only social sciences, or all sciences were selected. The percentages and frequencies of each type of collaboration and publication were collected for comparative analysis. To make this comparison, a series of chi-square goodness-of-fit tests were performed, assuming unequal proportions and, therefore, taking as a reference the percentages of the collaboration and publication types for all the sciences and all the social sciences, comparing them with the values collected for communication.

3. Results

Of the 8,595 collaborations in communication in the last decade, 1,776 are international, 1,477 national only, 2,471 institutional only, and 2,871 solo authorships (Table 3)1. The chi-square goodness-of-fit test was performed to determine whether the types of collaboration in communication have the same percentages as in the set of a) all sciences. The chi-square goodness-of-fit test indicated that the four collaboration types in communication do not follow a similar distribution as the set of all sciences (χ^2 (3) = 7,012.28, p = .000). The main differences are found in international collaboration, which is lower in communication with respect to the set of all sciences, and in solo authorship, which is higher than in the set of all sciences.

Similarly, the chi-square goodness-of-fit test was performed to determine whether the types of collaboration in communication have similar percentages to those in the set of b) social sciences (Table 4). The chi-square goodness-of-fit test indicated that the four collaboration types do not follow a similar distribution as the set of social sciences (χ^2 (3) =

Table 1. Percentages of collaboration types for communication, all sciences, and all social sciences

	Communication	All sciences	Social sciences
International collaboration	20.70%	46.30%	25.90%
National collaboration only	17.20%	23.70%	16.80%
Institutional collaboration only	28.80%	20.70%	25.10%
Solo authorship	33.40%	9.30%	32.20%

Table 2. Percentages of collaboration types for communication, all sciences, and all social sciences

Quartile	Communication	All sciences	Social sciences
1	19.40%	58.00%	34.80%
2	30.00%	20.60%	24.50%
3	34.30%	14.00%	25.90%
4	16.20%	7.40%	14.80%

Table 3. Observed, expected and residual frequencies for the type of collaboration taking all sciences as reference

	Observed	Expected	Residual
International collaboration	1,776	3,979.5	-2,203.5
National collaboration only	1,477	2,037.0	-560.0
Institutional collaboration only	2,471	1,779.2	691.8
Solo authorship	2,871	799.3	2071.7
Total	8,595		

Table 4. Observed and expected frequencies and residuals for the type of collaboration based on the social sciences

	Observed	Expected	Residual
International collaboration	1,776	2,226.1	-450.1
National collaboration only	1,477	1,444.0	33.0
Institutional collaboration only	2,471	2,157.3	313.7
Solo authorship	2,871	2,767.6	103.4
Total	8,595		

Table 5. Observed, expected and residual frequencies for the type of publication taking as reference all sciences

Quartile	Observed	Expected	Residual
1	1,331	3,969.5	-2,638.5
2	2,056	1,409.9	646.1
3	2,350	958.2	1,391.8
4	1,107	506.5	600.5
Total	6,844		

141.23, p = .000). Again, the main differences are observed in international collaboration, which is lower in communication with respect to the social sciences, and in both institutional collaboration and solo authorship, which are higher in communication than in the social sciences.

Of the 6,844 publications in communication during the last decade, 1,331 correspond to quartile one, 2,056 to quartile two, 2,350 to

Table 6. Observed, expected and residual frequencies for the type of publication taking as reference the social sciences

Quartile	Observed	Expected	Residual
1	1,331	2,381.7	-1,050.7
2	2,056	1,676.8	379.2
3	2,350	1,772.6	577.4
4	1,107	1,012.9	94.1
Total	6,844		

quartile three, and 1,107 to quartile four (Table 5). The chi-square goodness-of-fit test indicated that the quartiles of publication in communication do not follow a similar distribution to the set of a) all sciences (χ^2 (3) = 4,783.86, p = .000). The main differences are observed in publications in quartile one, which are lower in communication than in the set of all sciences, and in quartile three, two, and four, which are higher in communication than in the set of all sciences.

Similarly, the chi-square goodness-of-fit test was performed to determine whether the publication quartiles in communication have similar percentages to those in the set of b) the social sciences (Table 6). The chi-square goodness-of-fit test indicated that the publication quartiles in communication do not follow a similar distribution to those in the social sciences (χ^2 (3) = 746.12, p = .000). Again, the main differences are observed in publications in quartile one, which is lower in communication than in social sciences, and (especially) in quartile three, which is higher than in the social sciences.

4. Discussion

The aim of this study was to compare the types of collaboration and publication in communication in Spain during the last decade, taking two macro fields as reference points: the set of all sciences and the set of social sciences. To this end, the frequencies of these two variables were computed from the SciVal bibliographic analysis platform, which works with Scopus data. All in all, the present study provides four contributions to the meta-research in communication (Carrasco-Campos et al., 2018; Goyanes et al., 2018; Martínez-Nicolás, 2020) that further our understanding of the status and evolution of research in this field.

First, the study theoretically contributes to studies on diversity, representativeness, and meta-research in communication (Lauf, 2005; Knobloch-Westerwick et al., 2013; Goyanes et al., 2022), by proposing reference frameworks through which to establish normative evaluations on the evolution of communication research (Goyanes, 2020b). Over the last few years, the meta-research in communication in Spain has made an important quantitative and qualitative advancement, as a result of the structured efforts of this community to understand and evaluate its production (Caffarel-Serra, 2018; Lozano-Ascencio et al., 2020; Lozano-Ascencio et al., 2021; Gaitán-Moya et al., 2021; Carrasco-Campos; Saperas, 2022). However, the analysis of many variables (such as collaboration types, dominant research techniques, or production/impact according to gender) has been developed by examining frequencies and percentages, which triggered self-evaluations without reference points.

This study theoretically reflects on the need to establish these frames of reference through which to self-assess communication research and thus draw normative considerations about its development and status. The study suggests that without these references, previous studies have offered indirect evidence through descriptive data, but were unable to understand the deviations, imbalances, or biases of what the field is with respect to what it should be. This study calls for creating comparisons with target points and encourages future research to create them and establish normative assessments that help to better understand potential biases or inequalities in communication research, with particular emphasis on gender deviations.

Linked to this contribution, the study also proposes a methodological protocol for cases where comparisons are desirable but benchmarks or target references are lacking. In the case of this study, a protocol for extracting data from the SciVal was presented. Specifically, in order to evaluate the types of collaboration and publication in communication during the last decade, two macro fields were taken as reference: the set of all sciences and the set of social sciences. The motivation for the selection of these two macro references to extract their values and compare them with the field of communication are their extension, adequacy, and relevance.

Finally, at the empirical level, the study provides two relevant findings to better understand the situation of communication research regarding the types of collaboration and publication in Spain, offering normative evaluations of its status. In particular, the present study provides empirical evidence beyond frequencies and percentages, concluding that, with respect to the set of



The Spanish researcher should be compared to his Spanish counterpart or to another researcher from a country featuring, for example, a similar investment in science



all sciences and the set of social sciences, communication research has fewer international collaborations and fewer publications in quartile 1. Therefore, normatively, communication research is below the level of its set, which calls for new regulatory or normative frameworks that encourage scholars both to increase their interThe aim is, or should be, twofold: to denounce the status quo and to propose scenarios, laws, or rules that may improve it



national collaborations and to develop top-tier publications. Establishing international collaboration and first-quartile publications would allow the exchange of knowledge, practices, and experiences as well as a greater recognition and impact of Spanish communication scholars at a global scale.

1. The difference between the total frequencies of collaboration types and publication types is due to the way in which SciVal counts collaboration types.

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