

A Comparative Study of Journals Quality based on Web of Science, Scopus and Google Scholar: A Case Study with IJP&PT

Jesús Gil Roales-Nieto*

Brenna O'Neill

Universidad de Almería, España

ABSTRACT

The purpose of this article is to analyze the evolution of the *International Journal of Psychology & Psychological Therapy* (IJP&PT) throughout its first decade of publication (from years 2001 to 2010), comparing the quality measures that result from applying the three most important social science databases: Thomson-Reuters Web of Science, Elsevier-Scopus, and Google Scholar. We compared the three databases, using the citations recorded for IJP&PT as a “case study” applied to a journal. As quality indicators we used IJP&PT data available in the three databases, as well as other indicators related to the internationality of the journal. The results shows a increasing tend in all quality criteria during the time period evaluated as a first-level journal among psychology journals edited in Spain. Also, the results shows serious discrepancies when the data of the three databases are compared. We discuss the need to improve the criteria used by the databases, as well as the convenience to use several quality indicators for journals’ evaluation.

Key words: impact factor, quality assessment, Web of Science, Scopus, Google Scholar.

Usually, the evaluation of the scientific journals is based on *formal basic journal standards* (e.g., timeliness of publication, international editorial conventions, international diversity of authorship, etc.), as well as on the number of times that the articles that they have published are cited by other journals. These indicators are then transformed into an *Impact Factor* (IF, see Garfield, 2006 for a historical review) reported annually in *Journal Citation Reports* (JCR; divided into the *Science Citation Index -SCI-*, and the *Social Science Citation Index -SSCI*) only for journals included in the Thomson database; or into an *h Index*, which states that “a scientist [or a journal] has index h if h of his or her Np papers have at least h citations each and the other $(Np-h)$ papers have fewer than h citations each” (Hirsch, 2005, p. 16569). Of all the possible ways to evaluate the quality of a scientific publication, the IF has been the one to convert into an international reference for judging these scientific journals (Pringle, 2008). The *h Index* has also become popular due to of a number of studies which have demonstrated its validity (e.g., Ball, 2005; Banks, 2006; Harzing & van der Wal, 2008a; Liang, 2006; Saad 2006; also, Egghe, 2006 developed the *g-index* in an attempt to resolve some limitations of the *h Index*).

* Correspondence concerning this article should be addressed to: Jesús Gil Roales-Nieto, Departamento de Psicología, Edificio A, despacho 2.39, Universidad de Almería, 04120 Almería, España. Email: jgil@ual.es.

It was then considered, with much ease and little analysis, to review the scientific quality of articles using the same indicators of the journals (IF or *h Index*), instead of using some criteria related to the article itself. As Wilcox (2008) mentioned, “what started as an index for evaluating a journal has now morphed into an index for evaluating the papers that are published in the journal -and even for evaluating the authors who write the papers that are published in the journal” (Wilcox, 2008, p. 373).

In fact, it is a common practice in many countries to use some of the different bibliometric measures available to obtain research funding or to increase personal salaries. As Buela Casal (2010) has pointed out, scientific policies in many countries consider “scientific productivity” to be the key factor in getting funding for projects and personal careers. Wilcox (2008) examined some examples of these practices in Germany, Pakistan and Finland. As this author reported, German universities distribute money to researchers using a formula that includes the Thomson-Reuters IF in such a way that each point of IF is worth about 1000€. Also, in Pakistan, researchers receive bonuses of up to 20,000 US\$ a year depending on the sum of the IF of the journals in which they publish (and half of this money for the researcher’s personal use). In Finland, a portion of hospital funding -which comes from the government- depends on the IF of journals in which the hospital researchers publish, in such a way that an increase in one point of IF for one paper can increase the hospital’s funding by 7000 US\$.

In other countries, such as Chile, some universities have started funds for the personal use of the researchers that publish in journals indexed in JCR -from 1,000 to 2,000 US\$ for each article- or in journals indexed in the Scientific Electronic Library Online (Scielo-Chile) -for an example of this practice see, http://www.udp.cl/investigacion/opc_publicaciones.asp. In Spain, there are no direct payments made to authors, but having publications in journals with an IF in JCR is necessary for many academic activities and research, as Buela Casal (2010) has pointed out. For example, it is necessary to have a high level of scientific productivity (with IF) to receive a Mention of Excellence by the Ministry for Education and Science for a doctorate program; only a Doctor with an accredited research record (that is, IF) can supervise a doctoral thesis or sit on an examining committee; it is necessary to have a high level of scientific productivity (that is, IF) to be the main researcher (or director) of a publicly funded project; and one must have “Research Period Awards” (obtained in accordance with scientific productivity, that is IF) for a number of privileges and activities. In most cases, “a high level of scientific productivity” or “an accredited research record” means only papers published in JCR journals.

The evaluation of the quality of publications, based on the IF of the journal in which they are published, has turned into a practice with consequences for researchers and institutions. So, increasing the IF can become the main objective.

Many authors from a diversity of scientific areas have pointed out the risk of monopolizing the quality assessment of publications (e.g., Browman & Stergiou, 2008; Brumback, 2008, 2009a,b; Buela Casal, 2010; Hernán, 2008, 2009; Guerrero, 2001; Porta & Álvarez-Dardet, 2008; Sanmarco, 2008; Tood & Ladle, 2008; Wilcox, 2008). This all leads to the, almost general, conclusion that there needs to be diversification in the quality assessment of journals in order to avoid a monopoly that establishes scientific

rules for “quality” using criteria that could be turn out to be arbitrary and/or commercial (for example, the decision of which journals should be included on the database).

A few authors have proposed separating the quality assessment of journals from that of the researchers, using evidently different indicators. For example, Buela Casal (2010) mentioned several possible indicators of journal and research quality analyzing the pros and cons of each indicator. Table 1 shows the indicators for assessing journals and those for evaluating the researchers mentioned in Buela Casal (2010). But a detailed analysis would show that the indicators for researchers are not completely independent from the indicators used for the journals. Usually, the outcome of the quality assessment of the researchers depends to a great extent on the quality indicators of the journals in which they are published. The answer is not an easy one, and it is necessary to continue looking for indicators that evaluate the quality of the researchers looking at their actual studies, instead of depending on the journals in which their studies are published.

Although the evaluation of journals is almost monopolized by the IF, there have been alternative systems developed in recent years which allow for the analysis of the results that a journal would obtain when different quality assessment system indicators are compared. Our objective is to do this utilizing a case study model for *International Journal of Psychology & Psychological Therapy* (IJP&PT), a journal of psychology published in Spain from which we have access to all available data related to publications, citations in various databases, and other data necessary to carry out a comparative evaluation.

IJP&PT is a four-monthly interdisciplinary publication open to publishing original empirical, theoretical, and review articles. The journal was founded in 2000 for the Asociación de Análisis del Comportamiento (AAC), and its first volume was published in 2001. IJP&PT is indexed in the main international and Spanish databases (i.e., Scopus; Web of Science; ISOC (CSIC); Psycodoc; Latindex; IN-RECS (Index of Impact of the Social Sciences Spanish Journals); PsycINFO; Psychological Abstracts; ClinPSYC; ProQuest; Prisma; EBSCO Publishing Inc.; Dialnet; and RedALyC).

IJP&PT is indexed in the three main databases that provide a record of citations. In the Scopus database since 2001, and in the Web of Science (WoS) database since 2005, Google Scholar Metrics from the beginning of the database. Likewise, within the platform Scopus, IJP&PT is listed among the psychological journals indexed in SCImago Journal & Country Rank (the data relative to IJP&PT can be found in the webpage: <http://www.scimagojr.com/journalsearch.php?q=1577-7057&tip=iss>). SCImago is a platform that gets its name from the SCImago Journal Rank (SJR) indicator, developed by SCImago from the algorithm Google PageRank™. This indicator shows the visibility of the journals contained in the Scopus database.

Table 1. Journal and Researcher Indicators (Buela-Casal, 2010).

	Journals	Researchers
Indicators	- Journal Impact Factor	- Number of Papers Published
	- Weighted Journal Impact Factor	- Number of Accumulated Citations
	- Journal Impact Index	- Accumulated Impact Factor
	- Immediacy Index	- Number of Works with a Significant Number of Citations
	- Journal Internationality Index	- <i>h</i> Index
	- Paper Download Index	

In 2005, the internet search engine Google introduced Google Scholar (GS) as a freely available bibliometric tool which indexes numerous scientific publications and can be used to identify the number of times an article has been cited. Several authors have indicated the advantages of this tool over previous ones. For example, Kousha and Thelwall (2007) reported that GS provides better citation coverage than WoS or Scopus databases because it identifies citations in several sources such as the referred to journals, books, book chapters, conference proceedings, theses, professional publications, etc. WoS and Scopus databases are limited to their selected journals only. In fact, several studies empirically demonstrate that GS identifies more citations than WoS and Scopus. For example, Nisonger (2004) reported that, for a specific author, WoS identified only 29% of his/her total citations, 42% of their print citations, 20% of their citations outside of the USA, and only 2% of their non-English citations (Nisonger, 2004).

As Bontis and Serenko (2009) have established, when compared to GS, WoS undervalued the citation impact of each author by five and ten times, missing all citations in forms of books, book chapters and conference proceedings, and concluding that the larger coverage of GS generates more accurate results for journal impact measures. Other advantages of GS reported by Bontis and Serenko (2009) include the fact that GS has lower *citation noise* than WoS (citation noise means that a reference contains misspelled words or incomplete information) because GS has a better aggregating mechanism which minimizes the noise, offering more realistic results; and, that very few journals in languages other than English that WoS indexes, because papers published in other languages are more likely to appear on GS. Finally, Pauly and Stergiou (2005), and Meho and Yang (2007) reported that WoS and GS generate highly correlated results. A free software tool published online by Anne-Wil Harzing (<http://www.harzing.com/pop.htm>) permits a rapid evaluation of GS.

This article attempts to show how the quality of a journal can be considered from multiple parameters with all information being complementary, and does not need to come from only one source (i.e., the impact in form of number of citations taken from one database). Data is compared for the same journal, but from different databases that offer indicators based on the citations received (IF and/or h index), and of other measures that would allow for the measurement of the diffusion of the articles published beyond the noted citations. In order to illustrate this idea, we put forth the results of a specific time period of publications of IJP&PT, with a similar methodology to that of a case study, which permits an intensive analysis.

The main objective of this study is to analyze the evolution of the quality assessment indicators of IJP&PT throughout its first ten years of publication and its presence in the academic and scientific contexts represented by the main international databases. A second objective is the comparison of the data offered by the different databases related to the same journal in order to assess their reliability in capturing citations.

METHOD

Design and procedure

This is a descriptive study which consisted of analyzing documents and data regarding citations provided by several databases. The searches on the databases were done between May and July, 2012.

Materials and measures

The current study was conducted using all issues of IJP&PT (ISSN: 1577-7057) published between 2001 and 2010 (two issues per year from 2001 to 2003, and three issues per year from 2004 to 2010). Data related to citations was found using the following databases:

- The Internet-based *Web of Science* (Thomson-Reuters, restricted to subscriptions).
- The Scopus-SCImago database (free access: <http://www.scimagojr.com/index.php>) combined with the Scopus Database (restricted to subscriptions)
- The Google Scholar Metrics (free access: <http://scholar.google.com/scholar/metrics.html>) combined with the Google Scholar database (free access: <http://scholar.google.com>).

The following basic measures were used:

- *Authors' nationalities*: total number and percentage of authors from different countries.
- *Internet Access*: data was taken from the IJP&PT host for years 2009 to 2011 according to the number of visits the journal webpage received that lasted for at least 5 minutes, indicating the country of origin of the visitor.
- *Citations*: we took into account the number of citations that were picked up on in the three databases mentioned above, limiting the analysis to the ten articles that have been cited the most according to each data base
- *Annual Index of Citations (AIC)*: an index that we get by dividing the number of noted citations by the number of years it has been available to be cited. This measure can be calculated by volume (AICv; number of citations received for all articles published in a volume/number of years available), and by article (AICa; number of citations received by a specific article/number of years available).
- *Impact Factor*: calculated by dividing the total number of citations in one year by the papers published during the two previous years.
- *h-index*: defined as in Hirsch (2005).
- *Internationality Index*: calculated using the criteria elaborated by Buela Casal, Zych, Sierra, and Bermúdez (2007), and Buela Casal and Zych (2012).

RESULTS

Between the first and tenth volumes (2001-2010), IJP&PT published a total of 238 papers (164 in English, the 69%) which could be distributed among four different types of articles as shown in Table 2. Originals, or research papers, were clearly the

most frequent (70.6% of all articles published). IJP&PT has also published six series of papers in some of the more relevant areas of contemporary psychology. The first Series, *Advances in Schizophrenia Research*, edited by Víctor Peralta and Adolfo Cangas, and published in 2003 and 2004, included 17 articles related to this topic. In 2004, 20 articles were published in the Series *Relational Frame Theory: Meaning, Controversies, and Application*, edited by Carmen Luciano, Dermot Barnes-Holmes, and Miguel Rodríguez-Valverde. A third Series published in 2006 and 2007 called *Animal Learning and Cognition*, edited by Thomas R. Zentall and Santiago Benjumea, included 17 articles. In 2007, 7 articles were published in the Series *Toward a More Relational Social Psychology*, edited by J. Francisco Morales and Ángel Gómez. In 2008, 15 articles were published in the Series on *Bulling*, edited by Adolfo Cangas and Rosario Ortega. Finally, in 2008 and 2009, 13 articles were published in the Series *Celebrating the 50th Anniversary of BF Skinner's Verbal Behavior*, edited by Carmen Luciano, A. Charles Catania, and Miguel Rodríguez-Valverde

The analysis of the internationality of IJP&PT could be addressed in a variety of ways, although the results published by Buela Casal *et al.* (2007) of an analysis of the international reach of Spanish journals make it unnecessary to repeat the process (the position occupied by IJP&PT and the values it received over different internationality criteria can be seen in Table 3, reproduced from the original article).

However, an easy and direct way to assess the internationality of a journal consists of looking at the authors' nationalities. The articles published in IJP&PT were written by authors from 21 different countries (see Table 4) reflecting its position as an international journal. Out of a total of 664 authors, 43% were authors from outside of Spain (the country where the journal is published). After Spain, which accounts for 57% of the authors, the country that contributes the most authors is the USA (67 authors, 10% of total). The numbers from Ireland and Mexico are not far behind (8.5% and 7.8%, respectively).

In Figure 1, we can appreciate the evolution of the percentage of authors from countries other than Spain, which shows a rising trend pattern within this ten year period -from an average of international authors less than 40% during the first four years reaching an average of close to 50% during the last four years evaluated.

We found similar results applying a more restrictive criterion with an analysis which only uses the nationality of the first or the referred author. In Figure 2, we can notice how the trend pattern is similar to that of all authors, although a bit more irregular, with an increase of around 10% in the percentage of international first authors between the beginning to the end of the time period (considering the first and last four years).

Table 2. Distribution according to the type of article.

Article type	N (%)
Originals papers (Research papers)	168 (70.6%)
Review papers	13 (5%)
Theoretical papers	51 (21.4%)
Brief and Cases reports	6 (2.5%)

Table 3. The Internationality Index of the Spanish Psychology Journals (Source: Bucla-Casal et al., 2007).

Journal	Language	Online access	Intern. Standards	JCR	Data-bases	Editorial Board	Free online access	Impact Index	Authors	Association	Name	Total Score
International Journal of Clinical and Health Psychology	6	10,97	10,56	0	5,9	9,71	9,68	9,13	1,54	0	5,3	68,81
Psicoterapia	6	10,97	10,56	0	4,91	9,71	7,26	9,13	3,08	0	6,92	66,92
International Journal of Psychology and Psychotherapy	6	8,22	10,56	9,96	5,9	6,72	7,26	9,13	0,77	0	6,43	64,52
Psicología	6	10,97	10,56	0	5,9	7,47	9,68	9,13	4,62	0	6,43	64,52
The Spanish Journal of Psychology	4,2	10,97	10,56	0	9,83	5,97	9,68	9,13	2,31	0	62,65	62,65
Adicciones	1,8	10,97	10,56	0	7,86	8,22	9,68	6,85	1,54	0	57,48	57,48
Revista de Psicología Social	6	10,97	10,56	0	2,95	7,47	4,84	9,13	3,08	0	55	55
Revista de Psicología del Deporte	6	10,97	10,56	0	3,44	8,22	9,68	2,28	3,08	0	54,23	54,23
Anales de Psicología	1,8	10,97	10,56	0	9,34	4,48	9,68	4,56	2,31	0	43,7	43,7
Tendencias Actualizate	6	10,97	10,56	0	*	7,47	9,68	6,85	0	0	51,53	49,9
Informe Apreciativo	1,8	10,97	10,56	0	5,4	8,96	0	9,13	3,08	0	49,9	49,9
Revista Electronica Motivacion y Emocion	6,02	10,97	10,56	0	*	3,73	9,68	4,56	3,85	0	49,37	49,37
Papeles del Psicologo	6	10,97	10,56	0	1,47	0	9,68	9,13	0,77	0	48,58	48,58
Cognitiva	6	10,97	10,56	0	2,95	3,73	4,84	4,56	3,85	0	47,46	47,46
Clinica y Salud	1,8	3,48	10,56	0	2,95	3,97	9,68	9,13	1,54	0	47,11	47,11
Ansiedad y Estrés	6	2,74	10,56	0	7,37	3,97	2,42	9,13	2,31	0	46,5	46,5
Psicología Conductual	1,8	8,22	10,56	0	4,91	8,96	2,42	6,85	2,31	0	46,03	46,03
Apuntes de Psicología	6	8,22	10,56	0	1,47	5,97	7,26	4,56	1,54	0	44,99	44,99
Psicología Política	6	5,48	10,56	0	2,86	2,99	4,84	4,56	7,7	0	44,85	44,85
Iberpsicología	6,02	10,97	10,56	0	*	*	9,68	6,85	0,77	0	44,71	44,71
Estudios de Psicología	1,8	10,97	10,56	0	2,95	5,97	4,84	6,85	0	0	44,71	44,71
Cuadernos de Medicina Psicosomática y Psiquiatría de En	1,8	10,97	10,56	0	2,86	5,97	9,68	2,28	0	0	44,12	44,12
Revista de logopedia, foniatría y audiolgía	1,8	10,97	10,56	0	1,47	3,73	4,84	6,85	*	0	40,22	40,22
Metodología de las ciencias de comportamiento	6	2,74	10,56	0	*	2,24	2,42	9,13	5,39	0	38,48	38,48
Revista de Psicopatología	6	5,48	10,56	0	*	5,23	4,84	9,13	2,31	0	38,32	38,32
Revista de Psicodidáctica	1,8	5,48	10,56	0	4,91	5,23	4,84	2,28	0,77	0	35,87	35,87
Acción Psicológica	1,8	8,22	10,56	0	2,95	*	7,26	6,85	*	0	34,69	34,69
Revista de Psicología del Trabajo y de las Org.	1,8	5,48	10,56	0	3,9	0	4,84	4,56	1,54	0	34,02	34,02
Boletín de Psicología	1,8	5,48	10,56	0	3,9	7,47	4,84	4,56	2,31	0	33,45	33,45
Revista de Historia de la Psicología	1,8	2,74	10,56	0	*	7,47	2,42	6,85	0,77	0	32,61	32,61
Revista de Psicología Social Aplicada	6	0	10,56	0	1,47	2,24	0	4,56	2,31	0	32,37	32,37
Psicología Educativa	1,8	2,74	10,56	0	1,47	2,24	2,42	6,85	2,31	0	30,39	30,39
Análisis y Modificación de Conducta	1,8	2,74	10,56	0	0,73	1,49	4,84	9,13	1,54	0	29,61	29,61
Intervención Psicosocial	1,8	2,74	10,56	0	0,73	2,99	0	4,56	0	0	29,33	29,33
Información Psicológica	1,8	10,97	10,56	0	6,38	0	0	2,28	1,54	0	27,72	27,72
Revista de Psicología General	1,8	2,74	10,56	0	4,42	0	2,42	6,85	0	0	27,33	27,33
Anuario de Psicología Jurídica	1,8	2,74	10,56	0	1,47	1,49	2,42	4,56	0,77	0	27,27	27,27
Amor de Psicología	1,8	2,74	10,56	0	1,43	2,99	0	2,28	3,06	0	27,27	27,27
Revista de Psicoterapia	1,8	0	10,56	0	1,43	0	0	6,85	*	0	22,12	22,12
Cuadernos de Terapia familiar	1,8	0	10,56	0	1,43	1,49	0	2,28	0	0	19,21	19,21
Signo Cero	1,8	0	10,56	0	*	0	0	4,56	*	0	17,56	17,56
Revista Española de Drogodependencias	1,8	0	10,56	0	*	0	0	2,28	*	0	16,92	16,92
Metodología de Encuestas	1,8	0	10,56	0	*	0	0	2,28	*	0	8,09	8,09
EduPsyKke	1,8	0	10,56	0	*	0	0	2,28	*	0	6,36	6,36
Revista Galega Por de Psicoloxía e Educación	1,8	0	10,56	0	*	0	0	2,28	*	0	2,28	2,28

* No data available. Reproduced with permission of International Journal of Clinical and Health Psychology and of the authors.

Table 4. Distribution of the nationality of the authors with articles published in IJP&PT between 2001-10.

Author's nationality	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Spain	14	29	27	30	36	49	40	52	61	40	378
USA	6	2	6	11	2	13	9	11	3	4	67
UK	3	1	1	6	0	3	6	8	0	3	31
Ireland	2	0	0	29	3	0	6	5	8	3	56
Mexico	0	0	7	14	4	1	0	1	16	9	52
Argentina	0	0	0	0	0	7	5	0	0	7	19
Colombia	0	2	0	0	4	0	0	0	0	5	11
Netherlands	0	0	0	5	0	0	0	1	0	4	10
Portugal	0	0	0	0	0	0	3	1	0	2	6
Brasil	0	0	0	1	0	0	0	5	0	0	6
Canada	0	0	0	0	0	0	0	3	0	2	5
Hungary	0	0	0	0	0	4	0	0	0	0	4
India	0	0	0	0	0	0	0	0	0	4	4
Switzerland	0	0	1	0	0	0	1	1	0	1	4
Japan	0	0	0	0	0	0	0	0	0	3	3
Australia	1	0	0	0	0	0	1	0	0	0	2
Poland	0	0	0	0	0	0	0	0	0	2	2
Chile	0	0	1	0	0	0	0	0	0	0	1
Italia	0	0	0	0	0	0	0	1	0	0	1
Russia	0	0	0	0	0	0	0	0	0	1	1
Sweden	0	0	0	0	0	0	0	1	0	0	1
Total	26	34	43	96	49	77	71	88	88	89	664

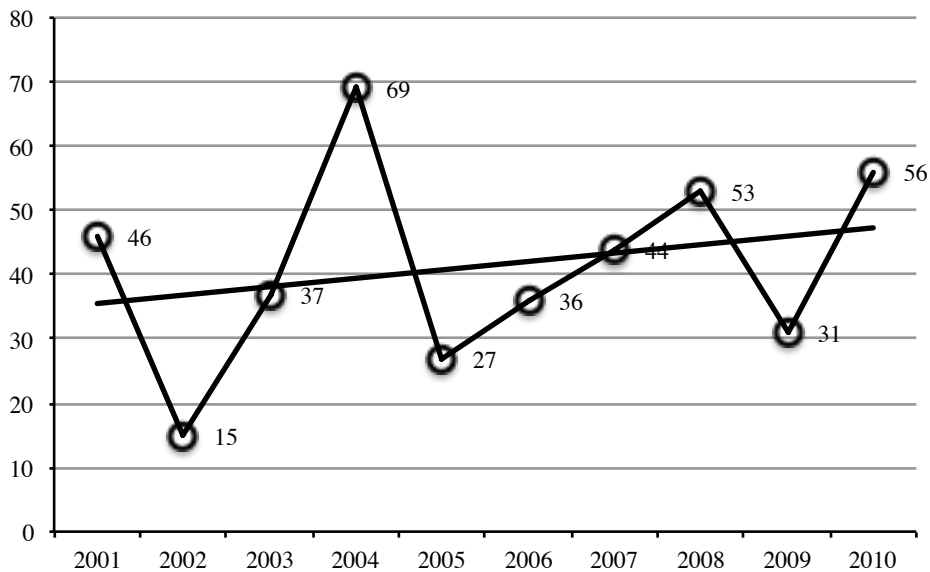


Figure 1. Percentage of authors from countries other than Spain and trend pattern throughout the period 2001-2010.

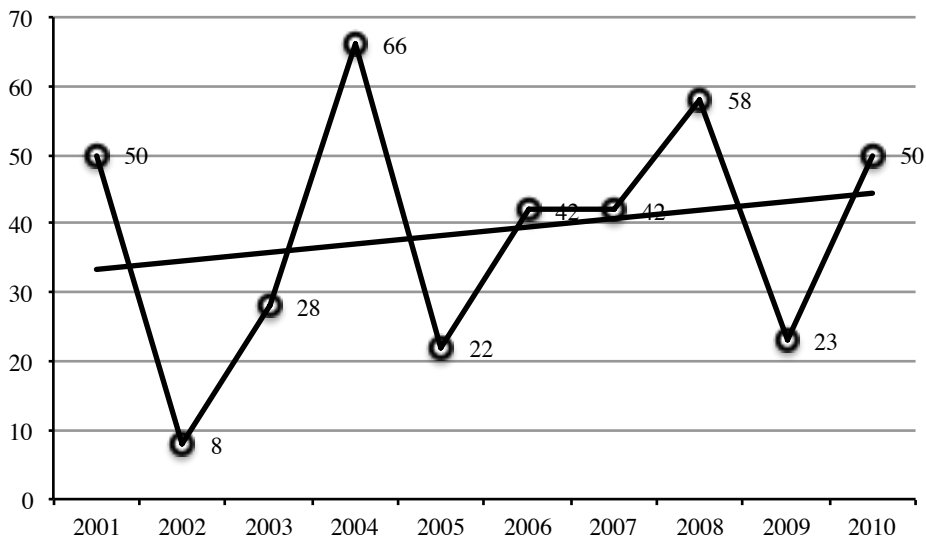


Figure 2. Percentage of first authors from countries other than Spain and trend pattern throughout the period 2001-2010.

An analysis of the downloads of articles published in IJP&PT is possible from 2010. Starting in December 2009, the webpage of IJP&PT has allowed free access to all published articles starting one year after their publication (although some articles are available in open format).

The statistics from the Internet server that hosts IJP&PT (Dinahosting) shows, for 2009, 2010, and 2011, an average of 38,350 visitors a year, and in June 2012 the average of downloads for the articles published in 2009 and 2010 was 3501 (*SD*= 3016,83). If the analysis is done using access to the web, the number of annual web entries in 2009 was 137,627 in 2009, which increased to 193,481 in 2010, and to 249,811 in 2011. Table 5 shows the 176 countries of the visitors to the IJP&PT webpage during this period of time and their distribution by cuartils. Nevertheless, the majority of entries come from visitors living in the USA and Spain, as well as Mexico, which increased its number of visits during those three years. To have data for a period of three years allows us to better value the fact that the number of visitors has increased in the majority of countries with the possibility of accessing the majority of the articles free. According to data obtained on July 30, 2012, the top-ten articles with the highest number of full-text downloads among the articles published in 2010 are included in Table 6.

A common way of assessing the quality of scientific journals is evaluating the citations that the articles published in that journal receive. We present an extensive third-level analysis of the citations received by articles published in IJP&PT. First, we evaluate the percentage of published articles in IJP&PT that are cited in order to determine whether the journal chooses to publish articles that are interesting to the scientific community. Second, we present data related to the top-ten cited articles published in IJP&PT according to the three databases employed. Third, we present data related to

Tabla 5. Countries of web access and downloads.

Countries	2009	2010	2011	Countries	2009	2010	2011
United States	71133	45182	47891	Egypt	56	264	478
Spain	23847	39858	49828	Lithuania	46	43	372
Mexico	3867	18502	33228	Ukraine	45	489	886
Canada	3243	2874	4457	Myanmar (Birmania)	43	1	23
France	3214	866	2428	Panama	38	200	418
Great Britain	3130	5523	7701	Oman	29	23	33
China	2315	2016	2301	Estonia	25	76	29
Chile	1914	3011	4362	Jamaica	23	100	193
Germany	1488	2925	3389	Slovenia	22	72	68
Australia	1392	2731	5431	Cyprus	22	37	77
Uruguay	1335	780	421	Pakistan	21	397	778
Singapore	1237	360	1696	Macau	20	22	13
Colombia	1121	4741	7467	Honduras	17	115	128
Indonesia	998	13658	7432	Bahamas	16	3	16
South Korea	951	772	603	Malta	15	64	52
Netherlands	897	1269	1893	Barbados	15	15	36
Argentina	890	3700	5003	Paraguay	14	143	219
India	873	4037	4615	Trinidad and Tobago	13	87	61
Thailand	868	4327	4077	Morocco	13	40	35
Peru	815	5785	9298	Latvia	13	28	167
Italy	804	1514	1964	Qatar	13	18	19
Switzerland	765	317	363	Grenada	13	2	15
Brazil	657	1498	1493	Jordan	12	65	107
Ireland	601	880	1417	Nigeria	12	196	734
Portugal	583	1202	1790	Armenia	12	0	1
Venezuela	568	3783	5035	Belarus	11	14	54
Japan	557	1360	2829	Kenya	11	175	286
Puerto Rico	469	1280	1901	Kuwait	10	46	344
Sweden	438	750	921	Bulgaria	10	58	108
Russian Federation	430	376	477	Republic of Serbia	10	36	64
Ecuador	365	964	1377	Sri Lanka	10	20	57
Hong Kong	347	667	535	Vietnam	9	54	99
South Africa	336	321	608	Croatia	9	149	86
Bolivia	315	739	1284	Nepal	8	15	35
Greece	292	715	849	Lebanon	7	25	57
Malaysia	271	846	1818	Syria	7	25	35
Philippines	258	1297	2056	Uganda	5	42	284
Israel	258	369	1042	Iceland	5	38	35
Taiwan	255	456	551	Fiji	5	36	8
Belgium	203	278	387	Bangladesh	5	27	151
Dominican Republic	197	489	586	Bosnia-Herzegovina	5	20	60
Norway	189	279	370	Brunei Darussalam	5	20	25
Denmark	176	273	231	Andorra	5	12	31
Austria	175	318	674	Luxembourg	4	7	27
Guatemala	147	456	837	Monaco	4	0	1
New Zealand	146	375	640	Namibia	3	31	20
Poland	142	436	632	Bahrain	3	11	31
Czech Republic	131	133	186	Lesotho	3	3	29
Cuba	130	450	401	Macedonia	2	10	55
Costa Rica	123	588	638	Zambia	2	29	17
Iran	122	397	910	Ivory Coast	2	6	8
Turkey	119	715	624	Mauritius	2	3	18
Slovak Republic	116	100	128	Tunisia	2	68	26
Finland	109	327	321	Tanzania	1	34	87
Saudi Arabia	94	59	138	Albania	1	26	25
El Salvador	88	313	525	Zimbabwe	1	11	80
Ethiopia	74	100	350	Angola	1	10	1
Romania	62	613	746	Belize	1	9	8
Nicaragua	61	232	295	Senegal	1	38	36
Hungary	59	84	132	Laos	1	4	2
United Arab Emirates	57	87	178	Mongolia	1	4	7

Tabla 5 (cont.). Countries of web access and downloads.

	Countries	2009	2010	2011	Countries	2009	2010	2011
Q3	Aruba	1	4	2	Malawi	0	3	9
	Kyrgyzstan	1	3	6	Rwanda	0	2	16
	Gambia	1	3	2	Saint Kitts & Nevis Anguilla	0	2	1
	Netherlands Antilles	1	3	3	Iraq	0	94	29
	Maldives	1	2	14	Northern Mariana Islands	0	2	14
	Bhutan	1	2	3	Cape Verde	0	2	0
	Anguilla	1	2	2	Burkina Faso	0	1	4
	Bermuda	1	1	0	Afghanistan	0	1	0
	Cameroon	0	29	26	Papua New Guinea	0	1	5
	Georgia	0	26	38	Sudan	0	1	5
Q4	Palestinian Territories	0	22	13	Dominica	0	2	6
	Moldova	0	46	12	Haiti	0	1	0
	Kazakhstan	0	16	17	Aland islands	0	1	0
	Ghana	0	37	135	Faroe Islands	0	1	0
	Botswana	0	14	41	Saint Vincent & Grenadines	0	0	15
	Libya	0	13	29	Mali	0	0	8
	Yemen	0	13	22	Turks and Caicos Islands	0	0	7
	Algeria	0	12	29	Benin	0	0	2
	Cambodia	0	9	38	Democratic Republic Congo	0	0	4
	Eritrea	0	9	14	Madagascar	0	0	3
	Vatican City State	0	8	0	Seychelles	0	0	3
	Uzbekistan	0	1	1	Equatorial Guinea	0	0	2
	Djibouti	0	7	7	Solomon Islands	0	0	1
	Azerbaijan	0	7	2	Sierra Leone	0	0	1
	Antigua and Barbuda	0	6	27	Tonga	0	0	1
	Guyana	0	5	21	Samoa Islands	0	0	1
	Swaziland	0	4	24	Satellite access host	62	91	128
	Mozambique	0	3	3	Total/year	137627	193481	249811

Table 6. The top-ten articles published in 2010 with the most full-text downloads and visitors in descending order.

Articles	Total full-text downloads
1. Orué & Calvete (2010)	17422
2. Felipe Castaño & León del Barco (2010)	8655
3. Tomás, Fuentes, Roder & Ruiz (2010)	8473
4. Ruiz (2010)	6897
5. Ezama Coto, Fontanil Gómez & Alonso (2010)	6185
6. Gartstein, Slobodskaya, Zylic, Gosztyla & Nakagawa (2010)	6101
7. Hussain & Bhushan (2010)	6081
8. Escartí, Gutiérrez, Pascual, Llopis (2010)	4481
9. Otero, Castro, Santiago & Villardefrancos (2010)	4110
10. Jansenn, De May, Egger & Witteman (2010)	3056

the IF and *h index* of IJP&PT comparing the indexation of IJP&PT to other Spanish journals of psychology throughout the different databases.

Table 7 shows the total and the percentage of articles that have been cited among those published by IJP&PT. The results obtained by the three databases differ substantially, with Google Scholar being the one that finds the highest number of cited articles (208, 87% of those published), followed by Web of Science which found 171 cited articles (72% of those published), and Scopus, which finds the lowest number not only of cited

articles but also of total number of articles published. This could be determined by the fact that Scopus does not have included the volume 9 number 3 of IJP&PT.

The distribution of the percentage of cited articles by year is shown in Table 8. These results allow us to determine if the high percentages of cited articles are due to specific phenomena (for example, some issues have all or many of the articles cited, while other issues show very few cited articles), or it is a trend pattern maintained over time that a higher percentage of IJP&PT published articles are cited. The percentage of cited articles by years published oscillates between 62% of articles published in 2001, and 100% of those published in the years 2002 and 2004. The only exception (as well as being a strong discrepancy among the three databases) is the year 2011, with percentages of cited articles different from the average in WoS and Scopus (40% and 37%, respectively), although this was not the case in Google Scholar (70%).

This trend pattern can be appreciated even more in Figure 3, which shows how the three databases indicate a similar trend pattern of cited articles throughout the 10-year time period used in this evaluation, with GS being the database that captures the highest number of cited articles.

A more detailed analysis of the citations found for each article published in IJP&PT, also shows important findings when the three databases are compared. Table 9 shows the results related to the top-ten cited articles published in IJP&PT according to the three databases using two parameters of measure: the total number of citations received, and the Annual Index Citation (AIC) obtained for each article by dividing the total number of cites by the number of full years that it has been available to be cited. For example, the article published by Buela-Casal and Castro (2008) has a total number of 20 citations in WoS, 21 citations in Scopus, and 28 in GS. Therefore, its AIC were 6.6, 7.0, and 9.3, respectively, dividing the number of citations by 3 (three complete years available to be cited: 2009, 2010, and 2011).

Table 7. Articles published in IJP&PT and cited according to the three databases.

Database	Cited Articles 2001-10	Articles Published 2001-10	% Cited Articles 2001-10
Thomson-Reuters (Web of Science)	171	238	72%
Scopus	167	231	72%
Google Scholar	208	238	87%

Table 8. Percentage of cited articles in the three databases by year of publication.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Web of Science	62%	69%	88%	88%	78%	73%	80%	74%	67%	40%
Scopus	77%	85%	76%	85%	72%	77%	72%	83%	65%	37%
Google Scholar	85%	100%	94%	100%	94%	92%	88%	91%	85%	70%

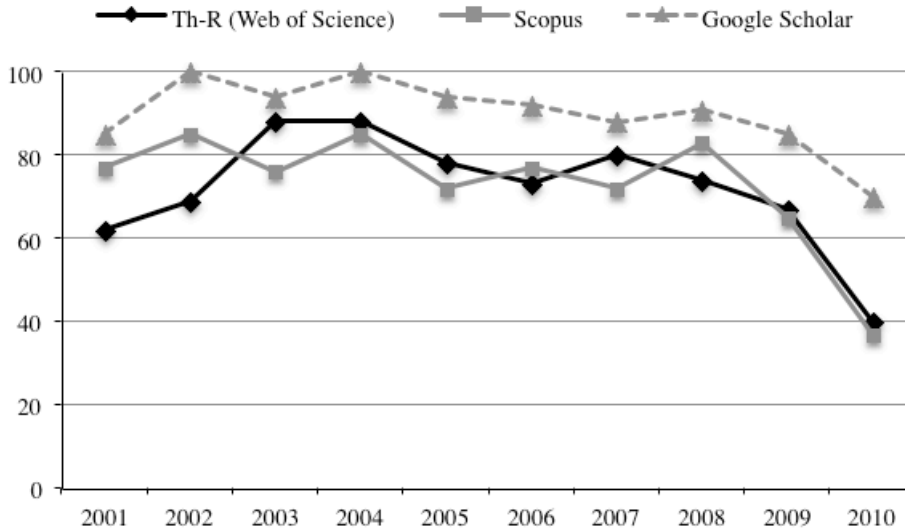


Figure 3. Comparison of the percentage of cited articles in the three databases.

The results from ordering the top-ten cited articles in accordance with the total number of received citations as well as the AIC, show the differences among the three databases due to the fact that each one shows a different number of cites for the articles. We can appreciate the fact that the articles very rarely coincide in the position they occupy in the order of the three lists, in such a way that some articles change their position on the three lists while others appear only on one or two lists. Re-examining the previous example of the article by Buela-Casal and Castro (2008), we found that it is in the first place on the WoS list, while it moves to the second position on the Scopus list, and to the tenth position on the GS list. Something similar happens with the article by Papini, Wood, and Norris (2006), and exactly the opposite with the articles by Moreno San Pedro and Roales-Nieto (2003) and Granados and Roales-Nieto (2007).

If we consider the results applying the AIC (an index that accounts for the effect of time), the three lists allow for a different interpretation but continue offering strong contrasts. On the three lists, the first position is for the article by Ruiz (2010) with the highest amount of citations per year, but very different in function of the database we consider (11.0 for WoS, 17.0 for Scopus, and 27.0 for GS). Differences that are present for all of the articles that appear on more than one list. This mean that it is a phenomenon associated with the databases, and not with the articles: WoS offers the lowest number of citations, Scopus offers a greater number of citations than WoS, but less than GS, and GS offers the highest number of citations and AIC for all articles.

With the intention of more deeply analyzing the citations of articles published in IJP&PT, we used the citations noted by GS for a detailed analysis of the citations being realized over different periods of time and with different objectives.

Table 10 shows the results using *Volume* as a unit of analysis (the column labeled Citations/Volume shows the total number of citations received by all articles published in each volume, and column AICv shows the AIC for each volume). As a second unit

Table 9. Top-ten cited articles published in JIP&PT (2001-10) (total number of cites and AIC ranking), according to data of the three databases.

	Thomson-Reuters (Web of Science)	Scopus	Google Scholar
	1. Buela-Casal & Castro (2008)	1. McKenna <i>et al.</i> (2007)	1. Moreno San Pedro & Roales-Nieto (2003)
	2. Barnes-Holmes <i>et al.</i> (2004a)	2. Buela-Casal & Castro (2008)	2. Granados & Roales-Nieto (2007)
	3. McKenna <i>et al.</i> (2007)	3. Papini <i>et al.</i> (2006)	3. Berrios, Luque, & Vilagrán (2003)
	4. Papini <i>et al.</i> (2006)	4. Luciano, Rodríguez, & Gutiérrez (2004)	4. Luciano, Rodríguez, & Gutiérrez (2004)
	5. Moyano, Delgado & Buela-Casal (2006)	5. Rosas <i>et al.</i> (2006)	5. Barnes-Holmes <i>et al.</i> (2004a)
	6. Rosas <i>et al.</i> (2006)	6. Barnes-Holmes <i>et al.</i> (2004a)	6. McKenna <i>et al.</i> (2007)
	7. Berrios, Luque & Vilagrán (2003)	7. Berrios, Luque, & Vilagrán (2003)	7. Barnes-Holmes <i>et al.</i> (2004b)
	8. Byrne & Tañer (2006)	8. Barraca Marral (2004)	8. Sass (2003)
	9. Luciano, Rodríguez & Gutiérrez (2004)	9. Ruiz (2010)	9. Papini <i>et al.</i> (2006)
	10. Wainscot <i>et al.</i> (2008)	10. Wainscot <i>et al.</i> (2008)	10. Buela-Casal & Castro (2008)
Total Cites ranking	20	23	23
	19	21	21
	17	21	21
	14	18	18
	14	18	18
	12	17	17
	12	17	17
	12	17	17
	12	17	17
	12	17	17
	12	17	17
	11.0	17.0	17.0
Annual Index Citation ranking	6.6	7.0	7.0
	4.2	5.7	5.7
	4.0	5.6	5.6
	3.5	5.0	5.0
	3.3	5.0	5.0
	3.2	4.2	4.2
	3.0	4.0	4.0
	2.8	3.6	3.6
	2.8	3.2	3.2
	1. Ruiz (2010)	1. Ruiz (2010)	1. Ruiz (2010)
	2. Buela-Casal & Castro (2008)	2. Buela-Casal & Castro (2008)	2. Granados & Roales-Nieto (2007)
	3. McKenna <i>et al.</i> (2007)	3. McKenna <i>et al.</i> (2007)	3. De Souza <i>et al.</i> (2009)
	4. Wainscot <i>et al.</i> (2008)	4. Wainscot <i>et al.</i> (2008)	4. Buela-Casal & Castro (2008)
	5. Garaigordobil (2009)	5. Garaigordobil (2009)	5. Cerezo (2009)
	6. Ortega, Calmaestra & Merchán (2008)	6. Ortega, Calmaestra, & Mora Merchán (2008)	6. Ortega <i>et al.</i> (2008)
	7. Papini <i>et al.</i> (2006)	7. Papini <i>et al.</i> (2006)	7. McKenna <i>et al.</i> (2007)
	8. Garstein <i>et al.</i> (2010)	8. Orue & Calvete (2010)	8. Wainscot <i>et al.</i> (2008)
	9. Trofimova (2010)	9. Rosas <i>et al.</i> (2006)	9. Roales-Nieto & Segura (2010)
	10. Rosas <i>et al.</i> (2006)	10. De Marree, Petty, & Biñol (2007)	10. Papini <i>et al.</i> (2006)

of analysis, we also use the *three articles most cited* among those published in each volume, with columns Citations and AICa presenting the data adjusted to each one of the articles.

The results show that the total number of citations and AICv increase progressively. This trend pattern can be observed also for the most cited articles which show total numbers of citations and AICa progressively higher, these being double or triple those obtained in the first years of IJP&PT. This trend pattern can be appreciated in the Figure 4, which shows the distribution of the total number of citations for the articles considered as one of the three most cited per year.

Also, this growing trend pattern can be appreciated in an even clearer way analyzing the evolution of the AICa for the three most cited articles. The line of lineal trend pattern in Figure 5 shows the evolution of the AICa which a lineal progression from scores less than 5 in the first few years to those duplicated in the last few years.

Another way of analyzing the evolution of the citations that articles published in IJP&PT have received is using different reference periods instead of only looking at the complete period from 2001-11. Doing this would bring our analysis closer to the

Table 10. Citations per volume and more cited articles per volume (Source: Google Scholar).

Year	Citations/Volume	AICv	More cited articles per volume	Citations	AICa
2001	86	7.4	Luciano & Barnes-Holmes (2001)	21	2.1
			Kruglansky (2001)	11	1.1
			García & Benjumea (2001)	10	1.0
2002	123	12.3	Garaigordobil (2002)	21	2.3
			Cabello & O'Hora (2002)	20	2.2
			Luciano, Gómez, & Valdivia (2002)	20	2.2
2003	202	22.4	Moreno San Pedro & Roales-Nieto (2003)	47	5.8
			Berrios, Luque & Vilagrán (2003)	41	5.1
			Sass (2003)	32	4.0
2004	437	54.6	Luciano, Rodríguez, & Gutiérrez (2004)	40	5.7
			Barnes-Holmes <i>et al.</i> (2004a)	39	5.5
			Barnes-Holmes <i>et al.</i> (2004b)	34	4.8
2005	161	23.0	Topa & Morales (2005)	22	3.6
			Peláez, Labrador y Raich (2005)	20	3.3
			Vinaccia <i>et al.</i> (2005)	19	3.2
2006	219	36.5	Papini <i>et al.</i> (2006)	29	5.8
			Rosas <i>et al.</i> (2006)	25	5.0
			Páez <i>et al.</i> (2006)	22	4.4
2007	199	39.8	Granados & Roales-Nieto (2007)	41	10.2
			McKenna <i>et al.</i> (2007)	34	8.5
			De Marree <i>et al.</i> (2007)	23	5.7
2008	265	66.7	Buela-Casal & Castro (2008)	28	9.3
			Ortega <i>et al.</i> (2008)	27	9.0
			Waiscott <i>et al.</i> (2008)	24	8.0
2009	112	37.3	De Souza <i>et al.</i> (2009)	20	10.0
			Cerezo (2009)	18	9.0
			Garaigordobil (2009)	9	4.5
2010	60	30.0	Ruiz (2010)	27	27.0
			Roales-Nieto & Segura (2010)	6	6.0
			Trofimova (2010)	5	5.0

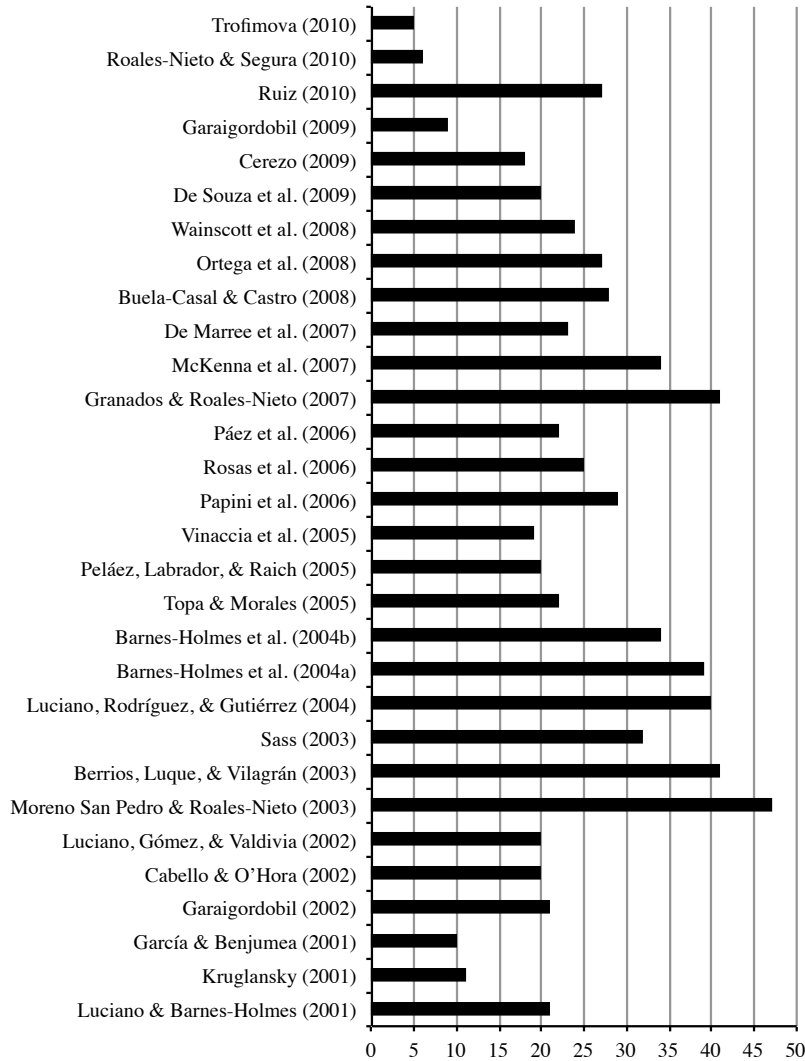


Figure 4. More cited articles per volume.

type of data which is driven by the calculation of the citation indexes. It is possible to do this type of analysis for any time period employing the AICv, and that will permit us to analyze the validity of the articles over time as well as find the most appropriate time period in order to evaluate citation behavior in psychology.

Table 11 shows the total number of citations of each article published in IJP&PT according to the database Google Scholar: citations received by IJP&PT during the two years following the publication of the volume (AICv2; which is the criterion followed by JCR for the calculation of the IF); citations received during the five years following publication (AICv5; which is the same criteria used by JCR for calculating the IF for

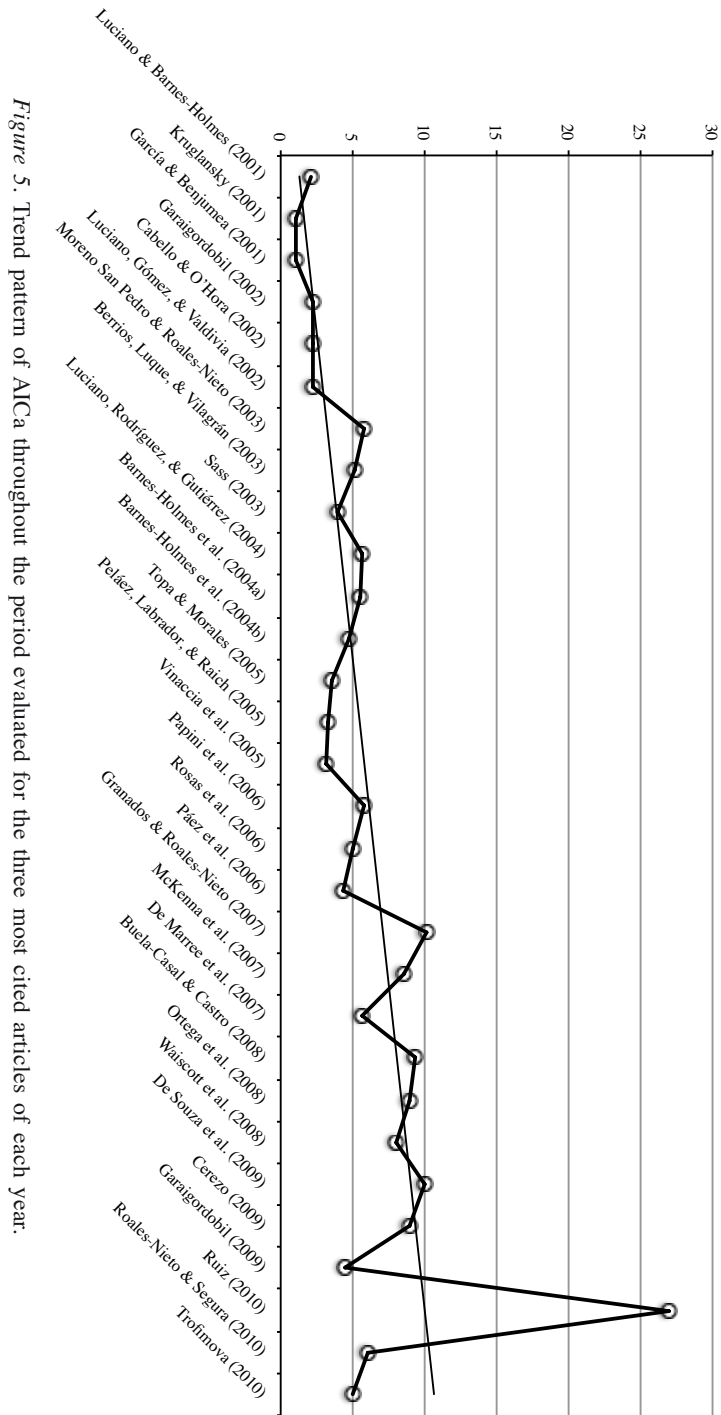


Figure 5. Trend pattern of AICa throughout the period evaluated for the three most cited articles of each year.

Table 11. Comparison of citations after two years, five years, and during the time period from 2001-11 noted by Google Scholar for articles published between 2001 and 2008.

	2001	2002	2003	2004	2005	2006	2007	2008
Total rectified citations 2001-11 (AICvr)	70 (6.36)	101 (10.1)	171 (19.0)	396 (49.5)	123 (17.6)	175 (35.0)	121* (30.2)	211** (70.3)
Citations after 2 years (AICv2)	10 (5.0)	17 (8.5)	24 (12.0)	107 (53.5)	34 (17.0)	55 (27.5)	48 (24.0)	142 (72.0)
Citations after 5 years (AICv5)	31 (6.2)	45 (9.0)	71 (14.2)	233 (46.6)	86 (17.2)	175 (35.0)	121.4* (30.2)	211** (70.3)

Note: * = only citations after 4 years are used; ** = only citations after 3 years are used

5 years, as well as by Google for calculating the *h5*); and the total number of *rectified citations* for 2001-2011, which takes into account all citations noted within this time period (AICvr) eliminating citations in the same year of publication and citations with which it is not possible to determine the year of citation (something that occurs frequently with the Google Scholar database).

The descriptive analysis of the results shown in Table 11 reveals several points of interest to evaluate the evolution of IJP&PT. First, for AICv2, AICv5, and AICvr the annual citation index of IJP&PT shows a very important growing trend pattern up to the point that, in 2008, the three indicators are more than ten times greater than those obtained in the journal's first year (not including the analyses of volumes published in 2009 and 2010 because we could not calculate the AICv5). Another relevant finding is the fact that, in six of the years evaluated (from 2001 to 2003 and from 2005 to 2007), the AICv5 are greater than the AICv2, indicating that extending the analysis to that of 5 years better reflects the citation dynamics of a journal in a discipline like psychology. Finally, it is also interesting to note that, during three years (2002, 2003, and 2004), the AICvr are greater than the indicators after 2 and/or 5 years.

Figure 6 shows a graphic representation of the evaluation of IJP&PT citations which better demonstrates that IJP&PT is a journal with consolidated quality criteria relative to the citations, with the time period of analysis chosen not being important.

IF is almost the only type of criterion used to evaluate the quality of a journal, but not the only existing impact index. In order to appreciate the evolution of IJP&PT as a quality journal in accordance with the impact criteria usually employed, it is necessary to calculate its impact indicators. Therefore, the three main impact indicators that are used were calculated for IJP&PT: the IF in accordance with the JCR criteria published by Thomson-Reuters-IS, the *h-index* calculated by Google Scholar Metrics, and the SJR calculated by SCImago (Scopus).

IJP&PT is indexed in the Google Scholar Metrics and Scopus databases in such a way that the data related to the impact indicators elaborated by these databases were obtained directly from those published by both bibliographic platforms. Given that Thomson-Reuters-ISI still has not incorporated IJP&PT into the JCR, in order to calculate the IF we followed the JCR criteria using the citations noted by WoS for the years corresponding to each IF (Thomson-Reuters-ISI does have IJP&PT incorporated in WoS). Furthermore, since the impact indicators are hierarchical and comparative tools, this analysis was done by comparing the IJP&PT with the Spanish psychological journals that figure into each of the databases.

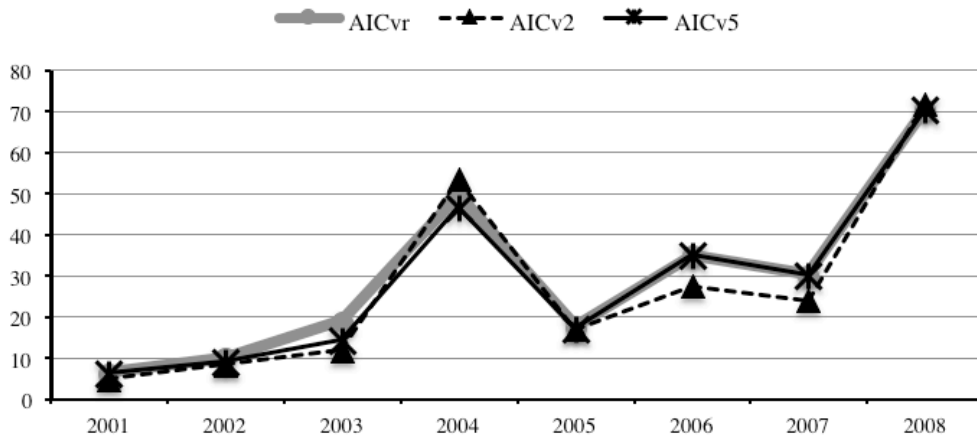


Figure 6. Evolution of average number of citations per year after 2 (AICv2) and 5 years (AICv5) and the average of all rectified citations (AICvr) in accordance with data by Google Scholar.

Table 12 shows the 2010 Impact Factor for Spanish journals of psychology indexed in JCR-SSCI, and for IJP&PT according to data from WoS. The IF is also included without self-citations. As can be seen, IJP&PT have an IF of 1.174 that would place it as the fourth most IF journal among Spanish psychology journals indexed in JCR.

Moreover, it should be noted that for a journal not indexed in the JCR, these results should be considered tentative because WoS (the source of data cites) only takes note of the citations of IJP&PT made by journals indexed in the JCR. For this reason, in calculating the IF of IJP&PT are lost citations received from journals not indexed in the JCR.

Table 12. 2010 Impact Factor for Spanish Journals of Psychology indexed in JCR-SSCI, and for IJP&PT, according to data from Web of Science.

Journals	Impact Factor 2010	Impact Factor without Self Citations	Total citations 2010 of papers published 2008-09	Total papers published in 2008-09	Self-citations for years used in Impact Factor calculation
1. International Journal of Clinical and Health Psychology	1.842	1.171	140	76	51 (36% of 140)
2. Anales de Psicología	1.338	1.163	107	80	14 (13% of 107)
3. Estudios de Psicología	1.220	1.146	50	41	3 (6% of 50)
4. International Journal of Psychology & Psychological Therapy	1.174	0.662	74	63	25 (33,7% of 74)
5. Adicciones	1.127	0.571	71	63	35 (49% of 71)
6. Psicothema	0.939	0.665	230	245	67 (29% of 230)
7. Revista de Psicodidáctica	0.815	0.333	22	27	13 (59% of 22)
8. Spanish Journal of Psychology	0.704	0.585	100	142	17 (17% of 100)
9. Psicológica	0.581	0.516	18	31	2 (11% of 18)
10. Infancia y Aprendizaje	0.429	0.302	27	63	8 (29% of 27)
11. Revista de Psicología del Deporte	0.422	0.188	27	64	15 (55% of 27)
12. Psicología Conductual/Behavioral Psychology. (International Journal of Clinical and Health Psychology)	0.421	0.246	24	57	10 (41% of 24)
13. Revista de Psicología Social	0.291	0.200	16	55	5 (31% of 16)

The SJR and the *h-index* calculated by SCImago (Scopus) are other universal indicators of journal quality that are published annually. Given that IJP&PT have been indexed in Scopus since the first year of publication, the JCR and *h-index* for IJP&PT have been available, although we only use those published for 2010 in order to facilitate the comparison among the three databases. Table 12 shows the SJR and the *h-index* ranking for the Spanish journals of psychology according to Scopus-SCImago database.

In 2010, IJP&PT took fifth place in the ranking of Spanish journals of psychology indexed in Scopus, with an SJR of 0.035 and an *h-index* of 11. Figure 7, which shows the evolution of the SJR indicators from the first year in which IJP&PT was published, demonstrates the stability of this indicator over time for this journal.

Table 13 shows the two quality indicators used by the Google Scholar Metrics database, the *h5-index* and the *h5-median*, to elaborate a ranking with the 100 best journals published in Spanish-speaking countries which include journals from all scientific categories. In Table 13, we have included the real position that each psychology journal has in the top-100 ranking, and the relative position that it would have if the list was limited to journals of psychology. Once again the IJP&PT position is among the best journals using these indicators, occupying the sixth as relative position, and the 27th in the general ranking (*h5-index* of 11, and *h5-median* of 25, which would indicate a high level of citation of the articles which meet the *h5-index* criteria).

Table 13. 2010 SJR and *h-index* ranking for the Spanish journals of psychology according to Scopus-Scimago data.

Journals indexed in Scopus database		SJR	<i>h-index</i>
1.	International Journal of Clinical and Health Psychology	0.053	14
2.	Psicológica	0.040	6
3.	Psicothema	0.039	22
4.	Spanish Journal of Psychology	0.038	14
5.	International Journal of Psychology & Psychological Therapy	0.035	11
6.	Revista de Psicodidáctica	0.029	5
7.	Papeles del Psicólogo	0.029	5
8.	Infancia y Aprendizaje	0.028	5
9.	Revista de Psicología Social	0.027	3
10.	Revista de Psicología del Deporte	0.027	4
11.	Psicooncología	0.027	2
12.	Psicología Conductual	0.027	10
13.	Estudios de Psicología	0.026	2
14.	Electronic Journal of Research in Educational Psychology	0.026	4
15.	Anales de Psicología	0.026	4
16.	Ansiedad y Estrés	0.026	2
17.	Archivos de Psiquiatría	0.025	3

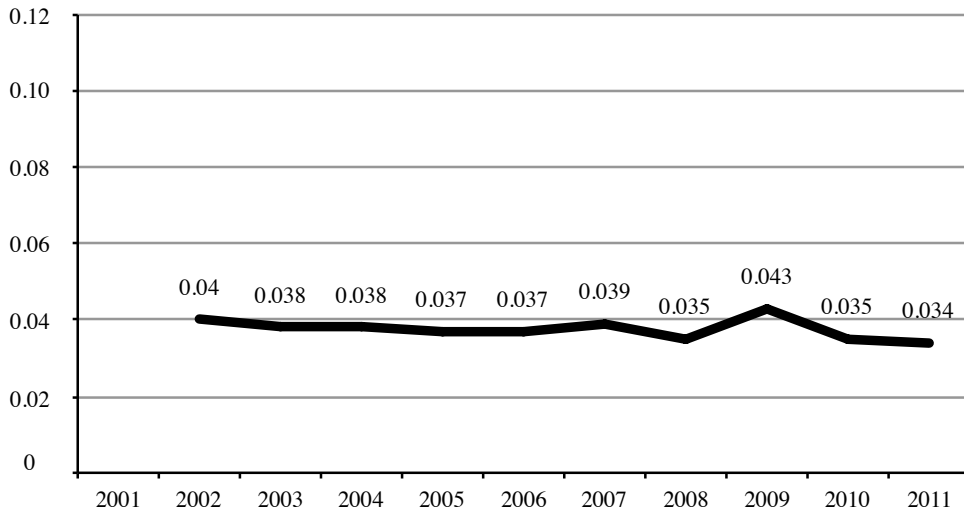


Figure 7. Evolution of the SJR of IJP&PT.

Table 14. *h*-index for psychology journals published in countries with Spanish language indexed in Google Scholar Metrics database.

Relative position	Position in top-100 Ranking	Psychology Journals indexed at Google Scholar Metrics (Top 100 Publications, Spanish)	<i>h</i> 5-Index	<i>h</i> 5-Median
1	2	Psicothema	22	33
2	4	International Journal of Clinical and Health Psychology	20	25
3	18	Adicciones: Revista de sociodrogalcohol	13	17
4	24	Papeles del Psicólogo	12	16
5	26	Anales de Psicología	12	13
6	27	International Journal of Psychology & Psychological Therapy	11	25
7	34	Universitas Psychologica	11	16
8	45	Revista de Psicodidáctica	10	14
9	59	Revista Latinoamericana de Psicología	9	15
10	61	Terapia psicológica	9	14
11	64	Infancia y Aprendizaje	9	13
11	65	Interamerican Journal of Psychology	9	13
11	68	Revista de Psicología del Deporte	9	13
12	80	Salud Mental	9	11
13	84	Electronic Journal of Research in Educational Psychology	8	13
14	86	Cuadernos de Psicología del Deporte	8	12

Source: Google Scholar Metrics (retrieved May 1st, 2012 from http://scholar.google.com/citations?view_op=top_venues&hl=en&vq=es). (Notes: *h*5-index is the *h*-index for articles published in the last 5 complete years. It is the largest number *h* such that *h* articles published in 2007-2011 have at least *h* citations each; *h*5-median for a publication is the median number of citations for the articles that make up its *h*5-index.)

DISCUSSION

This article analyzed the evolution of IJP&PT throughout its first ten years of publication (2001-2010). The results of this extensive analysis demonstrate that, during this time, IJP&PT has become one of the consolidated journals in the field of psychology, with an important presence of international authors, and a special relevance in several research topics. IJP&PT has also published Series of articles designed to provide an update of knowledge in specific areas of psychological research that have had a major impact in the form of citations. In general, data presented indicate that IJP&PT can be considered as one of the most important journals of psychology published in Spain. The information regarding internet access and on-line downloads, nationality of the authors, and the data related to the citations of articles published in IJP&PT during this time period supports this conclusion.

The opportunity to analyze the citations of articles published in IJP&PT in the three most important social science databases has allowed a comparative analysis focused on the same journal. This analysis has highlighted the disparity of the results that each database offers on the same goal: to know by who, when, and how many times a particular article published in a given journal was cited.

The first important fact has to do with the inclusion criteria of the journals in databases. The decision to index a journal in a specific database is meant to be "objective". That is, based on the fact that journals meet *formal quality criteria* (edition, team revision, timeliness of publication, etc.), choosing those most important by the number of citations received to be indexed. If this is true, it is hard to understand why IJP&PT figures into all databases except JCR, especially if applying the JCR criteria leads to a greater IF than the majority of Spanish journals included in JCR. In fact, if IJP&PT had been indexed in JCR in 2010, it would have had an IF of 1.174 and a relative position in the second quartile within the category Psychology, Multidisciplinary (above 9 of the 12 Spanish journals of psychology indexed in JCR).

Taken from another perspective, according to Garfield (2006; p.91), "half [of articles published in journals in JCR] were not cited at all." This means that many of the journals indexed in JCR published a large number of articles high number of articles without too much interest for the scientific community, based on the fact that they have never been cited. The percentage of article citations of IJP&PT is 72% according to WoS (the source of citations for JCR), the same percentage according to Scopus, and 87% according to GS. How is it possible that IJP&PT is not on the JCR-SSCI when its own data source acknowledges that IJP&PT has a higher percentage of published articles with cites than many of the journals indexed in JCR-SSCI?

Our comprehensive analysis also allows us to reach other conclusions of interest. For example, the need to incorporate Internet data for analyzing the quality and relevance of the journals. More and more journals stop publishing in print each year and almost all have website with open or payment access.

When the IJP&PT data is analyzed, there is no consistent relationship found between the most cited and the most downloaded articles. This fact would indicate that

these parameters may be measuring different but complementary functions to analyze the quality of a journal. While the number of citations would indicate a purely academic or research function, downloads and web visits could indicate a diffusion of articles mainly oriented to training or professional purposes that, in most cases, does not usually result in citations. However, using only citations as a criterion of quality and visibility of an article and the journal in which it was published, would make the mistake of ignoring other important functions of the publications.

Another fact that has been demonstrated is that the number of citations a paper receives depends upon which database is used. Meho & Yang (2007) reported major differences among Google Scholar, Web of Science, and Scopus, and our study has confirmed that the three databases undoubtedly differ in the number of citations that they report for a given paper or journal. Going back to an example employed in the results, the article by Ruiz (2010), is in the first position on the three top-10 lists of cited articles published in IJP&PT. But this article appears with an annual citation rate that differs greatly depending on the database used (11.0 for WoS, 17.0 for Scopus, and 27.0 for GS).

These differences in number of citations occur for all items and, obviously, this is a phenomenon associated with the database that can seriously affect the evaluation of the quality of articles and journals: WoS notes the least number of citations, Scopus notes more than WoS, but less than GS, and GS offers the highest number of citations for all articles. This trend pattern could be explained by the fact that GS is not a database that was created *ex profeso* like WoS, JCR, and Scopus. In this sense, we could consider it to be the most reliable database in terms of noting a higher number of citations, but GS also has the most *citation noise* (i.e., repeated citations, false citations, etc.) and requires “editing” the results of the citations to avoid errors.

The most important question here is if the supposed “quality” of an article or a journal could be, in fact, reduced or increased for the “quality of the database”. Going along with our results, the article by Ruiz (2010), and many others, just like the IJP&PT, shows quality indicators that could be up to three times greater among the different databases. This should be kept in mind considering the important consequences that decisions related to research evaluation have for people and institutions involved.

Another interesting result comes from comparing the citation indicators during various time periods. When this was done, it was found that, in six of the years evaluated, IJP&PT had higher AICv5 scores than AICv2, indicating that prolonging the analysis of citations to five years better reflects the journal’s citation dynamic in psychology. If this finding were replicated with other journals, for disciplines like psychology, the use of indicators for time periods greater than two years, which is what JCR currently uses for the IF, should be considered.

This is important. For example, publishing an article in clinical psychology is a highly time-consuming task. It can take between one and three years to prepare the study, carry it out, and wait for follow-up data; and one or two more years to be able to publish it (depending on the time it takes for revisions, rewriting, etc.). If we are talking about a study that has begun, for example, in 2011, as a consequence of studies published in 2009 and 2010 that the authors are trying to replicate or improve, the new

study would be published between 2014 and 2016 at the earliest. So, the citations of the original studies of 2009 and 2010 not serve to improve the IF of the journals in that was published nor of its authors.

In conclusion, the results of this “case study” regarding quality indicators used for a journal of psychology clearly show that the indicators can sometimes depend as much on the journal as on the criteria employed by the database. Something that is not taken into account when making decisions about relative aspects regarding the evaluation of the research in general and of the publications in particular. The assessment criteria should be expanded and improved, long as we have only indicators which can not accurately measure they are trying to measure. In any case, it is urgent that the database will improve in many aspects, and establish objective and universal criteria considering the important decisions made based on evaluation data.

REFERENCES

- Ball P (2005). Index aims for fair ranking of scientists. *Nature*, 436, 7053, 900.
- Banks MG (2006). An extension of the Hirsch index: Indexing scientific topics and compounds. *Scientometrics*, 69, 1, 161-168.
- Barnes-Holmes Y, Barnes-Holmes D, Smeets PM, Strand P, & Friman P (2004a). Establishing relational responding in accordance with more-than and less-than as generalized operant behavior in young children. *International Journal of Psychology and Psychological Therapy*, 4, 3, 531-558.
- Barnes-Holmes Y, Barnes-Holmes D, McHugh L, & Hayes SC (2004b). Relational Frame Theory: Some implications for understanding and treating human psychopathology. *International Journal of Psychology and Psychological Therapy*, 4, 2, 355-371.
- Barraca-Mairal J (2004). Spanish Adaptation of the Acceptance and Action Questionnaire. *International Journal of Psychology and Psychological Therapy*, 4, 3, 505-515.
- Berrios GE, Luque R, & Vilagrán JM (2003). Schizophrenia: A conceptual history. *International Journal of Psychology and Psychological Therapy*, 3, 2, 111-140.
- Bontis N & Serenko A (2009). A follow-up ranking of academic journals. *Journal of Knowledge Management*, 13, 1, 16-26.
- Browman HI & Stergiou KI (2008). Factors and indices are one thing, deciding who is scholarly, why they are scholarly, and the relative value of their scholarship is something else entirely. *Ethics in Science and Environmental Politics*, 8, 1-3.
- Brumback RA (2008). Worshiping False Idols: The Impact Factor Dilemma. *Journal of Child Neurology*, 23, 4, 365-367
- Brumback RA (2009a). Impact Factor Wars: Episode V-The Empire Strikes Back. *Journal of Child Neurology*, 24, 3, 260-262.
- Brumback RA (2009b). Impact Factor: Let's Be Unreasonable! *Epidemiology*, 20, 6, 932-933.
- Buela-Casal G (2010). Scientific Journal Impact Indexes and Indicators for Measuring Researchers Performance. *Revista de Psicodidáctica*, 15, 1, 3-19.
- Buela-Casal G & Castro A (2008) Criterios y estándares para la obtención de la mención de calidad en programas de doctorado: evolución a través de las convocatorias. *International Journal of Psychology and Psychological Therapy*, 8, 127-136.
- Buela-Casal G, Zych I, Sierra JC, & Bermúdez MP (2007). The Internationality Index of the Spanish

- Psychology journals. *International Journal of Clinical and Health Psychology*, 7, 3, 899-910.
- Buela-Casal G & Zych I (2012). How to measure the internationality of scientific publication. *Psicothema*, 24, 3, 435-441.
- Byrne W & Tañer JE (2006). Gestural imitation by a gorilla: Evidence and nature of the capacity. *International Journal of Psychology and Psychological Therapy*, 6, 2, 215-231.
- Cabello F & O'Hora D (2002). Addressing the limitations of protocol analysis in the study of complex human behavior. *International Journal of Psychology and Psychological Therapy*, 2, 2, 115-130.
- Cerezo F (2009). Bullying: análisis de la situación en las aulas españolas. *International Journal of Psychology and Psychological Therapy*, 9, 3, 383-394.
- DeMarree KG, Petty RE, & Briñol P (2007). Self-certainty: parallels to attitude certainty. *International Journal of Psychology and Psychological Therapy*, 7, 159-188.
- de Souza DG, de Rose JC, Faleiros TC, Bortoloti R, Hanna ES, & McIlvane WJ (2009). Teaching Generative Reading via Recombination of Minimal Textual Units: A Legacy of Verbal Behavior to Children in Brazil. *International Journal of Psychology and Psychological Therapy*, 9, 1, 19-44.
- Egghe L (2006). Theory and practise of the g-index. *Scientometrics*, 69, 1, 131-52.
- Egghe L (2008). The influence of transformations on the h-index and the g-index. *Journal of the American Society for Information Science and Technology*, 59, 8, 1304-1312.
- Escartí A, Gutiérrez M, Pascual C, & Llopis R (2010). Implementation of the Personal and Social Responsibility Model to Improve Self-efficacy during Physical Education Classes for Primary School Children. *International Journal of Psychology and Psychological Therapy*, 10, 3, 387-402.
- Ezama Coto E, Alonso Y, & Fontanil Gómez Y (2010). Pacientes, síntomas, trastornos, organicidad y psicopatología. [Patients, symptoms, disorders, organicism and psychopathology.] *International Journal of Psychology and Psychological Therapy*, 10, 2, 293-314.
- Felipe-Castaño E & León-del Barco B (2010). Estrategias de afrontamiento del estrés y estilos de conducta interpersonal. [Coping Strategies and Interpersonal Behavior Profiles.]. *International Journal of Psychology and Psychological Therapy*, 10, 2, 245-257.
- Garaigordobil M (2002). Assessment of an intervention on social behaviour, intragroup relations, self-concept and prejudice cognitions during adolescence. *International Journal of Psychology and Psychological Therapy*, 2, 1, 1-22.
- Garaigordobil M (2009). A comparative analysis of empathy in childhood and adolescence: Gender differences and associated socio-emotional variables. *International Journal of Psychology and Psychological Therapy*, 9, 2, 217-235.
- García A & Benjumea S (2001). Pre-requisitos ontogenéticos para la emergencia de relaciones simétricas. *International Journal of Psychology and Psychological Therapy*, 1, 1, 115-135.
- Garfield E (2006). The History and Meaning of the Journal Impact Factor. *Journal of American Medical Association*, 295, 90-93.
- Gartstein MA, Slobodskaya HR, Żylicz PO, Gosztyła D, & Nakagawa A (2010). A Cross-cultural Evaluation of Temperament: Japan, USA, Poland, and Russia. *International Journal of Psychology and Psychological Therapy*, 10, 1, 55-75.
- Granados Gámez G & Roales-Nieto JG (2007). Creencias relacionadas con la hipertensión y adherencia a los diferentes componentes del tratamiento. *International Journal of Psychology and Psychological Therapy*, 7, 393-403
- Guerrero R (2001). Misuse and Abuse of Journal Impact Factors. *European Science Editing*, 27, 3, 58-59.
- Harzing AW & van der Wal R (2008a). Google Scholar as a new source for citation analysis. *Ethics Science Environmental Politics*, 8, 1, 61-73.
- Harzing AW & van der Wal R (2008b). A Google Scholar H-Index for journals: A better metric to measure journal impact in economics & business? Proceedings of the Academy of Management.
- Hernán MA (2008). Epidemiologists (of All People) Should Question Journal Impact Factors.

- Epidemiology*, 19, 3, 366-368.
- Hernán MA (2009). Impact Factor. A Call to Reason. *Epidemiology*, 20, 3, 317-318.
- Hirsch JE (2005) An Index to Quantify an Individual's Scientific Research Output. *Proceedings of the National Academy of Sciences*, 102, 46, 16569-16572.
- Hussain D & Bhushan B (2010). Psychology of Meditation and Health: Present Status and Future Directions. *International Journal of Psychology and Psychological Therapy*, 10, 3, 439-451.
- Janssen GTL, De Mey HRA, Egger JIM, & Witteman CLM (2010). Celeration of Executive Functioning while Solving the Tower of Hanoi: Two Single Case Studies Using Protocol Analysis. *International Journal of Psychology and Psychological Therapy*, 10, 1, 19-39.
- Kousha K & Thelwall M (2007). Google Scholar citations and Google Web/URLcitations: a multi-discipline exploratory analysis. *Journal of the American Society for Information Science and Technology*, 58, 7, 1055-1065.
- Kruglansky AW (2001). Motivation and social cognition: Enemies or a love story? *International Journal of Psychology and Psychological Therapy*, 1, 1, 33-45.
- Liang L (2006). H-index sequence and h-index matrix: Constructions and. *Scientometrics*, 69, 1, 153-159.
- Luciano MC & Barnes-Holmes D (2001). Early verbal developmental history and equivalence relations. *International Journal of Psychology and Psychological Therapy*, 1, 1, 137-149.
- Luciano MC, Gómez Becerra I & Valdivia-Salas S (2002). Consideraciones sobre el desarrollo de la personalidad desde un marco funcional-contextual. *International Journal of Psychology and Psychological Therapy*, 1, 1, 137-149.
- Luciano MC, Rodríguez-Valverde M, & Gutiérrez-Martínez O (2004). A proposal for synthesizing verbal contexts in Experiential Avoidance Disorder and Acceptance and Commitment Therapy. *International Journal of Psychology and Psychological Therapy*, 4, 2, 377-394.
- Meho LI & YangK (2007). Impact of data sources on citationcounts and rankings of LIS faculty: Web of Science versusScopus and Google Scholar. *Journal of the American Society for Information Science and Technology*, 58, 2105-2125.
- McKenna IM, Barnes-Holmes D, Barnes-Holmes Y, & Stewart I (2007). Testing the fake-ability of the Implicit Relational Assessment Procedure (IRAP): The first study. *International Journal of Psychology and Psychological Therapy*, 7, 2, 253-268.
- Moreno San Pedro E & Roales-Nieto J (2003). El Modelo de Creencias de Salud: revisión teórica, consideración crítica y propuesta alternativa. I: hacia un análisis funcional de las creencias en salud. *International Journal of Psychology and Psychological Therapy*, 3, 1, 91-109.
- Moyano M, Delgado CJ, & Buela-Casal G (2006). Análisis de la productividad científica de la Psiquiatría española a través de las tesis doctorales en la base de datos TESEO (1993-2002). *International Journal of Psychology and Psychological Therapy*, 6, 1, 111-120.
- Nisonger TE (2004). Citation autobiography: an investigation of ISI data base coverage in determining author citedness. *College and Research Libraries*, 65, 2, 152-163.
- Ortega R, Calmaestra J, & Merchán JM (2008) Cyberbullying. *International Journal of Psychology and Psychological Therapy*, 8, 183-192.
- Orue I & Calvete E (2010). Elaboración y validación de un cuestionario para medir la exposición a la violencia en infancia y adolescencia. [Development and validation of a questionnaire to measure exposure to violence in childhood and adolescence.]. *International Journal of Psychology and Psychological Therapy*, 10, 2, 279-292.
- Otero JM, Castro C, Santiago MJ, & Villardefrancos E (2010). Exploring Stress, Burnout, and Job Dissatisfaction in Secondary School Teachers. *International Journal of Psychology and Psychological Therapy*, 10, 1, 107-123.
- Páez-Blarrina M, Gutiérrez-Martínez O, Valdivia-Salas S, & Luciano MC (2006). Terapia de Aceptación y Compromiso (ACT) y la importancia de los valores personales en el contexto de la terapia psi-

- cológica. [ACT and the importance of personal values in the context of psychological therapy.]. *International Journal of Psychology and Psychological Therapy*, 6, 1, 1-20.
- Papini MR, Wood M, Daniel AM, & Norris JN (2006). Reward loss as psychological pain. *International Journal of Psychology and Psychological Therapy*, 6, 2, 189-213.
- Pauly D & Stergiou KI (2005). Equivalence of results from two citation analyses: Thomson ISI's Citation Index and Google's Scholar service. *Ethics Science Environmental Politics*, 5, 33-35.
- Peláez MA, Labrador FJ, & Raich RM (2005). Prevalencia de los trastornos de la conducta alimentaria: consideraciones metodológicas. *International Journal of Psychology and Psychological Therapy*, 5, 2, 131-144.
- Porta M & Álvarez-Dardet C (2008). How Come Scientists Uncritically Adopt and Embody Thomson's Bibliographic Impact Factor? *Epidemiology*, 19, 3, 370-371.
- Pringle J (2008). Trends in the use of ISI citation databases for evaluation. *Learned Publishing*, 21, 2, 85-91
- Roales-Nieto JG & Segura A (2010). Intergenerational differences in Materialism and Postmaterialism values in a Spanish sample. *International Journal of Psychology and Psychological Therapy*, 10, 3, 499-512.
- Rosas JM, Callejas Aguilera JE, Ramos Álvarez MM, & Abad MJF (2006). Revision of retrieval theory of forgetting: What does make information context-specific? *International Journal of Psychology and Psychological Therapy*, 6, 2, 147-166.
- Ruiz FJ (2010). A Review of Acceptance and Commitment Therapy (ACT) Empirical Evidence: Correlational, Experimental Psychopathology, Component and Outcome Studies. *International Journal of Psychology and Psychological Therapy*, 10, 1, 125-162.
- Saad, G. (2006). Exploring the h-index at the author and journal levels using bibliometric data of productive consumer scholars and business-related journals respectively. *Scientometrics*, 69, 1, 117-20.
- Sanmarco PW (2008). Journal visibility, self-citation, and reference limits: influences on Impact Factor and author performance review. *Ethics in Science and Environmental Politics*, 8, 121-128.
- Sass LA (2003). "Negative symptoms", Schizophrenia, and the Self. *International Journal of Psychology and Psychological Therapy*, 3, 2, 153-180.
- Tomás P, Fuentes I, Roder V, & Ruiz JC (2010). Cognitive Rehabilitation Programs in Schizophrenia: Current Status and Perspectives. *International Journal of Psychology and Psychological Therapy*, 10, 2, 191-204.
- Tood PA & Ladle RJ (2008). Hidden dangers of a 'citation culture'. *Ethics in Science and Environmental Politics*, 8, 13-16.
- Topa Cantisano G & Morales J (2005). Determinantes específicos de la satisfacción laboral, el "burnout" y sus consecuencias para la salud: un estudio exploratorio con funcionarios de prisiones. *International Journal of Psychology and Psychological Therapy*, 5, 1, 73-83.
- Trofimova I (2010). Exploration of the activity-specific model of temperament in four cultures. *International Journal of Psychology and Psychological Therapy*, 10, 1, 77-94.
- Vinaccia S, Tobón S, Moreno San Pedro E, Cadena J & Anaya JM (2005). Evaluación de la calidad de vida en pacientes con diagnóstico de Artritis Reumatoide. *International Journal of Psychology and Psychological Therapy*, 5, 1, 47-61.
- Wainscot JJ, Naylor P, Sutcliffe P, Tantam D, & Williams JV (2008). Relationships with peers and use of the school environment of mainstream secondary school pupils with asperger syndrome (high-functioning autism): A case-control study. *International Journal of Psychology and Psychological Therapy*, 8, 25-38
- Wilcox AJ (2008). Rise and Fall of the Thomson Impact Factor. *Epidemiology*, 19, 3, 373-374.

Received, June 29, 2012

Final Acceptance, September 1, 2012