Participation of Developing Countries in International Scientific Production in Psychology During the Period 2017–2021 Based on the Web of Science Core Collection*

Participación de los países en desarrollo en la producción científica internacional en psicología durante el período 2017–2021 según Web of Science Core Collection

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Abstract

Although developing countries represent a minimal percentage of the world's scientific production with impact, it is necessary to analyze and study them to appreciate their research policies, publication rates and collaborations. For this study, we have selected all the countries that, according to the Human Development Report 2020, have a research and development expenditure below 0.8, which puts 168 countries in the focus of analysis. Focusing on the articles and review articles that these countries have obtained in the 11 categories that exist in Web of Science (SCI, SSCI and ESCI collections) on psychology, all articles with an impact factor in the years 2017 to 2021 have been selected. In total, 21337 articles were extracted, 62% of which were produced in South America and Asia.

The highest number of papers have been published in the categories "Psychology

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Multidisciplinary" (33.7%) and "Psychology Clinical" (16.0%). Journals indexed in developing countries tend to have a more significant impact within their own continent, and the scientific collaboration networks they maintain are predominantly within the same continent. This leads us to the conclusion that scientific production and dissemination in developing countries are severely constrained, possibly due to social, economic, and political factors.

Keywords: scientific production; scientific collaboration; psychology; developing countries; bibliometrics

Resumen

Aunque los países en desarrollo representan un porcentaje mínimo de la producción científica mundial de impacto, es necesario analizarlos y estudiarlos para apreciar sus políticas de investigación, tasas de publicación y colaboraciones. Para este estudio hemos seleccionado todos los países que, según el Informe sobre Desarrollo Humano 2020, no alcanzan el 0,8 % en gasto en investigación y desarrollo, lo que sitúa a 168 países en el foco del análisis. Centrándonos en los artículos y artículos de revisión que estos países han obtenido en las 11 categorías que existen en Web of Science (colecciones SCI, SSCI y ESCI) sobre psicología, se han seleccionado todos los artículos con factor de impacto en los años 2017 a 2021. En total, se extrajeron 21 337 artículos, de los cuales el 62 % se producen en América del Sur y Asia.

El mayor número de artículos se ha publicado en las categorías «Psicología multidisciplinar» (33,7 %) y «Psicología clínica» (16,0 %). Las revistas indexadas en países en desarrollo tienden a tener un impacto más significativo dentro de su propio continente, y las redes de colaboración científica que mantienen se encuentran predominantemente dentro del mismo continente. Esto nos lleva a la conclusión de que la producción y la difusión científicas en los países en desarrollo están muy limitadas, posiblemente debido a factores sociales, económicos y políticos.

Palabras clave: producción científica; colaboración científica; psicología; países en desarrollo; bibliometría.

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Introduction

The analysis and evaluation of the information and knowledge resulting from scientific activity are an essential element for all public research, technology and development programs implemented in a society (Arencibia & De Moya, 2008). For Benítez Solís (1995), the scientific dependence of developing countries is based mainly on the lack of interest on the part of the international scientific community of developed countries toward the research and publications of researchers from developing countries, which, added to the little encouragement from researchers and science promoters in these countries, means that scientific production

in these countries is almost nil. Papers from researcher in developing countries are often not published in top journals, so they must be published in local journals.

The economic growth of developing countries in general, and the BRICS countries (Brazil, Russia, India, China and South Africa), has brough about changes in several areas, including education, research and knowledge generation. Although it is still too early to draw conclusions or to visualize the map of the functioning of the global knowledge society in a few decades' time, some trends can be identified that demonstrate a new configuration of the world in this area. One of the measures to record changes in research output concerns published scientific articles, another measure concerns the location of the main research centers, the researcher-research center-funding relationship and the location of the university in knowledge generation (Albornoz, 2015).

The changes in production (results) show an increased participation of other states and regions in the world. There is a double decentralization movement in the world, through increased participation of other regions and within countries, which leads to increased participation of different regions and provides new bases for networking within states and regions. It is not only the BRICS countries, and especially the People's Republic of China, that have increased the number of scientific publications and thus made it possible to alter the numbers and percentages on the world map of publications (Bhattacharya et al., 2015). Other developing countries have also been strongly linked to this process with a clear political-strategic directionality in some cases and, in others, as a political response to external conditioning factors (Artigas et al., 2022).

Another trend that shows changes in the internationalization of knowledge is the participation of scientists from developing countries in research networks. One indicator for this is collaborative publications, which have increased worldwide, demonstrating the trend toward internationalization of knowledge (Zhao & Guan, 2011). The position of universities in the world ranking, which is one of the indicators that provides a certain visible hierarchy, has a specific component among the developing ones. The growth of the Higher Education and Science (HES) sector is positively associated with its research productivity and has a high potential in developing countries (Narbaev & Amirbekova, 2021). A study conducted on the 28 EU and Latin American and Caribbean (EULAC) countries between 2005 and 2016 highlights the existence of a growing global network of researchers from several countries collaborating on their research (Belli and Balta, 2019).

As we have seen since the global pandemic of COVID-19, the need to manage the mental health of the population has become an indispensable requirement for good social development. We also know that psychological science is well established within the Social Sciences, so it can be a clear sign of the scientific and technological progress of the universities and scientific institutions that make up the developing country and follow its research policies. For these reasons, we have been inclined to focus the study of the scientific production

of developing countries on psychology as a possible expression of more applied research within the spectrum of the Social Sciences.

The general objective of this work is to analyze the international scientific production in psychology in developing countries, during the period 2017-2021, to examine their scientific output throughout this period, their collaboration and publication habits, as well as to know which journals are the most used to disseminate their work.

Method

Materials and Procedure

Of all the scales and levels of measures of countries' economic and social development that currently exist, the one that considers the most factors, and we believe is the most comprehensive, is the Human Development Report 2020 (United Nations Development Program, 2020).

It considers numerous development factors for research and education, bearing in mind that research and development expenditure is both current and capital expenditure, both public and private. It also considers creative work undertaken systematically to increase knowledge, culture and society, and the use of new applications. Both basic and applied research, as well as research arising from experimental development, are considered.

The Human Development Index (HDI) is derived from its parameters, which we have selected in its latest update corresponding to 2020 to show the countries that are currently in the process of development, considering it appropriate to classify them as those with an HDI of 0.8 or less in research and development expenditure.

The total number of countries of with an HDI of 0.8 or less was 168. The list of countries can be found in Supplement These countries are structured according to the division presented by the Human Development Report 2020, so that almost all of them are independent countries at all levels.

However, some exceptions are regions with particular circumstances, such as a split from the country of origin or incomplete independence from other countries (as in the case, for example, of several islands dependent on another larger region).

The production of these countries was analyzed through various indicators from the Web of Science (WoS) database. The procedure consisted of downloading three collections from the WoS Core Collection: SCI, SSCI and ESCI (Emerging Sources Citation Index), the latter used to make visible the developing countries under analyze.

From these countries analyzed, we obtained data on both articles and review articles, referring to the 11 categories of Psychology that WoS covers (Psychology, Psychology applied, Psychology biological, Psychology clinical, Psychology developmental, Psychology educational, Psychology experimental, Psychology mathematical, Psychology multidisciplinary, Psychology psychoanalysis and Psychology social) during the period 2017 to 2021.

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Continent	Countries included in the study	Total
África	Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic Of Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Ghana, Guinea Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Republic of Congo, Republic of Guinea, Rwanda, Sao Tome And Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Sudan, Sudan, Syria, Tanzania, The Gambia, Togo, Tunisia, Uganda, Zambia and Zimbabwe	53
Asia	Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Brunei, Cambodia, East Timor, Georgia, India, Indonesia, Iraq, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Laos, Lebanon, Macau, Maldives, Mongolia, Myanmar, Nepal, North Korea, Oman, Pakistan, Palestine, Philippines, Qatar, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan, Vietnam and Yemen	36
Europe	Albania, Andorra, Belarus, Bosnia and Herzegovina, Bulgaria, Channel Islands, Cyprus, Gibraltar, Isle of Man, Kosovo, Latvia, Liechtenstein, Malta, Moldova, Monaco, Montenegro, North Macedonia, Romania, San Marino and Ukraine	20
North America	Antigua and Barbuda, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Commonwealth of Dominica, Costa Rica, Cuba, Dominican Republic, El Salvador, Greenland, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Martin Island (French), Saint Martin Island (German), Saint Vincent And The Grenadines, The Bahamas, Turks and Caicos Islands and USA Virgin Islands	29
Oceania	American Samoa, French Polynesia, Guam, Kiribati, Mariana Islands, Marshall Island, Nauru, New Caledonia, Palau, Papua New Guinea, Republic of Fiji, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu	16
South America	Argentina, Aruba, Bolivia, Chile, Colombia, Curacao, Ecuador, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela	14
Total		168

Supplement. *List of countries included in the study*
Note: The countries are organized according to the Human Development Report 2020 classification.

Variables

The variables used in this study were the scientific production of the developing countries by continent, which was analyzed through the following bibliometric indicators: the number of articles published in any category of SCIE, SSCI, and ESCI, and the number and percentage of articles published in any of the categories of Psychology. Publication habits were analyzed by taking into consideration two aspects, journals and scientific collaboration.

In the case of journals, the country of publication of the journal, the psychology category in which it is indexed and whether it is in the JCR or not were taken into account. In relation to collaboration, we analyzed the number of works in collaboration with authors from the same continent and from other continents, and the collaboration of the most productive countries in each continent with authors from other countries.

Analysis

Frequency counts and percentage calculations were carried out. The analysis of the collaborative relationships of the most productive countries by continent was carried out based on social network analysis (SNA) using the UCINET program and by creating graphs using Netdraw software (Borgatti, 2002; Borgatti et al., 2013) and counting frequencies.

The size of the nodes indicates the total number of collaborations of the most productive countries, so that the larger the

size of the nodes, the more productive the collaboration. The links indicate the countries that have jointly signed an article, and the thickness of the lines indicates the number of joint papers between two countries. However, the three countries with the highest production per continent were selected for the network analysis.

Results and Discussion

Analysis of the production of articles in psychology in developing countries by continent

Of the 168 countries included in this study, 138 (82.1%) produced output in psychology, while 30 countries did not produce output in this area. In Africa these countries are Chad, Comoros, Djibouti, Equatorial Guinea, Ivory Coast, Republic of Guinea and Sao Tome and Principe. In Asia they are East Timor, Macau, Maldives, North Korea and Turkmenistan.

In North America the countries are Bermuda, British Virgin Islands, Saint Martin Island (French), Saint Martin Island (German), Saint Vincent and The Grenadines, Turks and Caicos Islands and U.S. Virgin Islands. In Europe the countries are Channel Islands and Isle of Man and in Oceania the countries are French Polynesia, Guam, Kiribati, Mariana Islands, Marshall Islands, Palau, Solomon Islands, Tonga and Tuvalu.

As can be seen in Table 1, the production of papers in psychology from developing countries does not exceed 1% of the total production of papers in WoS. South America has the highest percentage in terms of total production, with 2.4% of the total production in psychology, while three continents produced less than 1% of the total number of published works.

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These findings sharply contrast with those presented by Gaillard (2010), who suggests that 20% of scientific publications are authored by developing countries. However, it is essential to consider that Gaillard's study includes countries with very robust production, such as China, South Africa, or Brazil, which have a significantly higher production rate compared to other nations.

Continent	Total articles WoS	Nº (%) Psychology articles	Nº developing and producing countries in psychology	Most productive countries in Psychology Nº(%)
Africa	384252	2532 (0.6%)	53 (46)	Nigeria 437(17.3%) Ghana 288 (11.4%) Kenya 270 (10.7%)
North America	153281	2494 (1.6%)	29 (22)	Mexico 1863(74.7%) Cuba 120 (4.8%) Puerto Rico 110 (4.4%)
South America	248449	5983 (2.45)	14 (14)	Chile 1831 (30.6%) Argentina 1459 (24.4%) Colombia 1423 (23.8%)
Asia	1020582	5987 (0.6%)	36 (31)	India 2397 (40%) Pakistan 780 (13%) Lebanon 482 (8.0%)
Europe	184558	1975 (1.1%)	20 (18)	Rumania 738 (37.4%) Cyprus 512 (25.9%) Ukraine 155 (7.8%)
Oceania	4863	41 (0.8%)	16 (7)	Republic of Fiji 23 (56.1%) New Caledonia 7 (17.1%) Nauru 3 (7.3%) Papua New Guinea 3 (7.3%) Samoa 3 (7.3%)
Total	1995985	19012 (0.9%)	168 (132)	

Table 1. *Scientific production of developing countries by continent (2017–2021)*
Note: Data correspond to WoS (SCI, SSCI, ESCI) psychology categories (2017–2021).

In our study, these countries have not been considered. Additionally, it is crucial to remember that Social and Human Sciences are precisely the branches of knowledge that exhibit the lowest level of collaboration and publication, in contrast to other more applied or technological disciplines (Gazni et al., 2012). Therefore, if we focus on countries with the most significant constraints in terms of economic endowment for research, infrastructure, and development, and evaluate their production from the perspective of social sciences published in WoS, we observe that the production rate is at a minimum.

This minimal scientific output in psychology is slightly higher in South America, North America and Europe. The relatively low production of the Asian continent is surprising, considering that one might expect a higher output in the field of Psychology from Asia, given the relevance of countries such as India and the presence of journals that focus on the continent itself. In a similar vein, a study observed that out of a sample of 262 authors from developing countries who have published in predatory journals, 34.7% of these authors are affiliated with institutions in India, 25.6% from Asia excluding India, followed by African authors with 16.4% of the total (Shen & Bjork, 2015). The increase in publications by Asian and African authors from developing countries in predatory journals, which do not feature in WoS, was also documented by Balehegn (2017).

The continent where developing countries have the highest output in Psychology is South America. Some characteristics associated with publication habits may justify this production. There are three countries with very similar production: Chile, Argentina and Colombia, which have journals published in their own country,

some of which are in the JCR. Another aspect to be highlighted is the language of publication, mainly Spanish, which can facilitate collaboration and the publication of work between institutions and in Ibero-American journals. However, it can also result in the isolation of these countries in terms of article publication and collaboration, given the dominance of English as the predominant language in science (Salager-Meyer, 2008; Li et al., 2023).

Scientific production of articles by category of Psychology in WoS

The total number of papers according to the categories of Psychology in which the journals are indexed is 21,337. Approximately 62% of this output comes from South America and Asia. With respect to the thematic categories of Psychology, the production is mainly concentrated in journals indexed in the Psychology Multidisciplinary category (33.7%) followed by Psychology Clinical (16%). In two categories, production barely exceeds 1%: Psychology Mathematical and Psychoanalysis. All these data can be found in Table 2. An interesting line of research (Li et al., 2023) explores the correlation between the categories managed by a journal, the reception of publications by authors from diverse geographical entities, and the language used, with the level of internationalization of a journal.

Enhancing this factor could contribute to improving geographical diversity, which is crucial for the visibility of emerging countries and the augmentation of their academic production. This holds particular significance for Africa, Oceania, and North America.When the production per continent is analyzed according to the category of Psychology, the Psychology Multidisciplinary category is the one with the highest production of papers in all continents.

Psychology Clinical is the second most represented except in the continents of Asia, where it accounts for 15.9% of the production, and in Oceania, in the Psychology Applied category, it accounts with 13.6%.

Analysis of scientific production in psychology in developing countries by continent and journal of publication

The publication of psychology papers by institutions belonging to developing countries between 2017 and 2021 appeared in a total of 764 journals published in a total of 39 countries. The United States with 369 journals, England with 174, Netherlands with 36, Germany with 22 and Spain with 21 are the countries with the highest number of publications.

In the case of scientific production on the African continent (Table 3), this appeared in journals from 28 countries. American journals are the most widely used when publishing, representing 53.4% of the total number of journals, with 48.4% of the total number of articles published in these journals.

English journals are the second most represented (25% of the total), with 32.4% of the papers published in these journals. When the production from the African continent is analyzed, it is mainly published in JCR journals (83.1%), with a slightly higher number of papers published in these journals (86%) than in those not included in JCR databases (16.9%).

Category Psychology	Africa	North America	South America	Asia	Europe	Oceanía	Total
Psychology	314 (10.8%)	347 (12.2%)	665 (9.9%)	1046 (15.9%)	160 (7.1%)	1 (2.3%)	2533 (11.9%)
Applied	250 (8.6%)	150 (5.3%)	429 (6.4%)	753 (11.5%)	176 (7.8%)	6 (13.6%)	1764 (8.3%)
Biology	78 (2.7%)	232 (8.1%)	339 (5.0%)	156 (2.4%)	43 (1.9%)	4 (9.1%)	852 (4.0%)
Clinical	538 (18.6%)	474 (16.6%)	1012 (15.0%)	986 (15.0%)	402 (17.9%)	3 (6.8%)	3415 (16.0%)
Development	320 (11.0%)	177 (6.2%)	396 (5.9%)	539 (8.2%)	220 (9.8%)	4 (9.1%)	1656 (7.7%)
Educative	66 (2.3%)	125 (4.4%)	405 (6.0%)	224 (3.4%)	172 (7.6%)	4 (9.1%)	996 (4.6%)
Experimental	115 (4.0%)	205 (7.2%)	482 (7.1%)	433 (6.6%)	210 (9.3%)	2 (4.5%)	1447 (6.8%)
Mathemat.	10 (0.3%)	16 (0.6%)	37 (0.6%)	23 (0.5%)	13 (0.6%)	0 (0.0%)	99 (0.5%)
Multidiscipl.	1003 (34.6%)	996 (35.0%)	2673 (39.6%)	1866 (28.4%)	654 (29.1%)	13 (29.5%)	7205 (33.7%)
PsychAnal.	4 (0.1%)	19 (0.7%)	120 (1.8%)	32 (0.5%)	11 (0.5%)	0 (0.0%)	186 (0.9%)
Social	199 (7.0%)	107 (3.7%)	183 (2.7%)	500 (7.6%)	188 (8.9%)	7 (16.0%)	1184 (5.6%)
Total	2897 (13.6%)	2848 (13.4%)	6741 (31.6%)	6558 (30.7)	2249 (10.5)	44 (0.2%)	21337 (100%)

Table 2. *Distribution of the number of articles in WoS Psychology categories (2017–2021)*
Note: The number of articles and reviews per category may exceed totals, as journals can belong to multiple WoS psychology categories.

The scientific output of developing Asian countries (Table 4) appeared in journals from 32 countries. American journals are the most widely used for publication (49.7%), with 49.5% of the total number of articles published in these journals. English journals are the second most represented (24.5%) of the total with 23.9% of the papers published in these journals. Six Asian countries have journals in which psychology papers have been published, with a total of 24 journals being used, which is barely 4.3% of the total number of journals, with 3.8% (208 articles) of the papers being published in these journals. When analyzing the production of this continent, it is mainly published in JCR journals (77.1%). It should also be noted that the number of papers published in JCR journals (72.8%) is higher than the number of papers published in journals that are not included in journals included in JCR databases (27.2%).

In relation to the South American continent (Table 5), psychology articles are published in journals published in 29 countries. American journals are the most widely used when publishing, representing 46.7% of the total number of journals, with 23.0% of the total number of articles published in these journals. English journals are the second most represented (23.6%) of the total, with 11.7% of the papers published in them. The scientific production of articles published in journals published in Colombia (12.8%), Argentina (11.9%), Switzerland (10.3%) and Spain (9.4%) is striking if the total number of journals published in these countries is compared to those published

Country edition journal	Nº journals	Total articles	Nº JCR journals	Nº JCR articles	Nº Nom JCR journals	Nº Nom JCR articles
Australia	3	6	2	2	1	4
Belgium	1	1	1	1	0	0
Canada	1	1	1	1	0	0
Colombia	2	5	2	5	0	0
Costa Rica	1	1	0	0	1	1
Czech Republic	1	1	1	1	0	0
Denmark	1	3	1	3	0	0
England	108	820	94	747	14	73
France	10	76	6	29	4	47
Germany	7	25	6	24	1	1
Hong Kong	1	1	0	0	1	1
Hungary	1	2	0	0	1	2
India	1	15	0	0	1	15
Ireland	1	1	0	0	1	1
Italy	6	14	2	4	4	10
Japan	1	2	1	2	0	0
Mexico	1	1	1	1	0	0
Netherlands	23	88	23	88	0	0
New Zealand	1	1	1	1	0	0
Poland	2	18	0	0	2	18
Romania	1	4	0	0	1	4
Russia	3	17	0	0	3	17
Serbia	1	2	1	2	0	0
South Africa	2	29	1	24	1	5
Spain	10	21	6	11	4	10
Switzerland	9	142	4	114	5	28
Turkey	2	8	0	0	2	8
USA	230	1227	204	1118	26	109
Total	431 (100%)	2532 (100%)	358 (83.1%)	2178 (86.0%)	73 (16.9%)	354 (14.0%)

Table 3. *Africa: Scientific production by country of journal publication and inclusion in JCR.*
Note: Includes journals indexed in JCR and other WoS collections (SCI, SSCI, ESCI).

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Country edition journal	Nº journals	Total Articles	Nº JCR journals	Nº JCR articles	Nº Nom JCR journals	Nº Nom JCR articles
Argentina	2	2	1	1	1	1
Australia	3	44	1	27	2	17
Belgium	1	1	1	1	0	0
Brazil	1	3	1	3	0	0
Canada	2	5	1	2	1	3
China	2	25	2	25	0	0
Colombia	3	4	2	3	1	1
Denmark	1	1	1	1	0	0
England	137	1309	113	1024	24	285
France	8	18	5	11	3	7
Germany	14	80	12	74	2	6
Hong Kong	1	10	0	0	1	10
Hungary	1	3	0	0	1	3
India	2	108	0	0	2	108
Ireland	1	2	0	0	1	2
Italy	8	44	2	7	6	37
Japan	4	9	3	8	1	1
Malta	1	3	0	0	1	3
Netherlands	33	292	31	289	2	3
New Zealand	2	22	1	21	1	1
Peru	1	1	0	0	1	21
Poland	3	20	0	0	3	20
Portugal	1	3	1	3	0	0
Romania	2	15	1	5	1	10
Russia	14	47	2	8	12	39
Serbia	1	8	1	8	0	0
Singapore	1	9	0	0	1	9
South Africa	2	4	1	3	1	1
Spain	17	84	9	45	8	39
Switzerland	11	535	5	454	6	81
Turkey	1	54	0	0	1	54
USA	278	2708	234	1964	44	744
Total	559 (100%)	5473 (100%)	431 (77.1%)	3987 (72.8)	128 (22.9%)	1486 (27.2%)

Table 4. *Asia: Scientific production by country of journal publication and inclusion in JCR.*
Note: Data extracted from WoS (SCI, SSCI, ESCI) for the period 2017–2021.

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Country edition journal	Nº journals	Total Articles	Nº JCR journals	Nº JCR articles	Nº Nom JCR journals	Nª Nom JCR articles
Argentina	8	649	2	190	6	459
Australia	1	1	1	1	0	0
Belgium	1	3	1	3	0	0
Brazil	3	21	1	10	2	11
Chile	3	204	1	83	2	121
Colombia	9	700	3	260	6	440
Costa Rica	2	49	0	0	2	49
Czech Republic	1	1	1	1	0	0
Denmark	1	1	1	1	0	0
England	104	638	87	549	17	89
France	2	3	2	3	0	0
Germany	14	75	13	64	1	11
Ireland	1	1	0	0	1	1
Italy	5	67	1	36	4	31
Mexico	1	19	1	19	0	0
Netherlands	28	199	26	192	2	7
Paraguay	1	93	0	0	1	93
Peru	3	321	0	0	3	321
Poland	1	3	0	0	1	3
Portugal	1	7	1	7	0	0
Romania	1	5	0	0	1	5
Russia	1	1	0	0	1	1
Slovakia	1	1	1	1	0	0
South Africa	1	1	1	1	0	0
Spain	31	517	15	226	16	291
Switzerland	8	566	2	523	6	43
Turkey	1	1	0	0	1	1
Uruguay	1	62	0	0	1	62
USA	206	1261	185	1194	21	67
Total	441 (100%)	5470 (100%)	346 (78.4%)	3364 (61.5%)	95 (21.6%)	2106 (38.5%)

Table 5. *South America: Scientific production by country of journal publication and inclusion in JCR.*
Note: Includes WoS (SCI, SSCI, ESCI) psychology journals indexed during 2017–2021.

in the USA and England. Another aspect to highlight is the scientific production published in journals published in South American journals (Argentina, Brazil, Chile, Colombia, Paraguay, Peru, Uruguay), 2050 articles, which represents 37.5% of the total production, this percentage being 48.3% (2642 articles) in the case of Ibero-American journals (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Paraguay, Peru, Portugal, Spain, Uruguay). When analyzing the total production, it is mainly published in JCR journals (78.4%), with a slightly higher number of papers published in JCR journals (61.5%) than in journals that are not included in JCR databases (38.5%).

The scientific production of developing North American countries (Table 6) appeared in a total of 342 journals published in 22 different countries. US journals are the most represented with 166 journals (48.5%), publishing 31% of the articles. The second country with the largest number of journals is England (66 journals), although Spanish journals (28 journals) account for the largest number of articles (N=278), behind the articles published in journals published in the United States. It should be noted that 76% of the journals are indexed in the JCR, with 67.1% of the articles published in these journals, while 32.9% are published in journals not included in the JCR.

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Country edition journal	Nº journlas	Total Articles	Nº JCR journals	Nº JCR articles	Nº Nom JCR journals	Nº Nom JCR articles
Argentina	8	109	2	48	6	61
Australia	1	1	1	1	0	0
Brazil	4	5	1	1	3	4
Chile	3	52	1	9	2	43
Colombia	9	173	3	67	6	106
Costa Rica	2	41	0	0	2	41
England	66	261	53	196	13	65
France	1	1	0	0	1	1
Germany	9	40	7	34	2	6
Italy	4	6	2	4	2	2
Japan	1	4	1	4	0	0
Mexico	1	14	1	14	0	0
Netherlands	21	139	20	136	1	3
Paraguay	1	88	0	0	1	88
Peru	3	77	0	0	3	77
Poland	1	1	0	0	1	1
Romania	1	4	0	0	1	4
Russia	2	12	0	0	2	12
South Africa	1	1	1	1	0	0
Spain	28	278	14	136	14	142
Switherland	9	235	4	184	5	51
USA	166	692	149	664	17	28
Total	342 (100%)	2234 (100%)	260 (76.0%)	1499 (67.1%)	82 (24.0%)	735 (32.9%)

Table 6. *North America: Scientific production by country of journal publication and inclusion in JCR.* *Note:* Data correspond to the period 2017–2021, according to WoS Core Collection.

With respect to the developing countries of the European continent, scientific production (Table 7) appeared in a total of 419 journals published in 24 different countries. US journals are the most represented with 204 journals (48.7%), publishing 39.4% of the articles. The second country with the highest number of journals is England (108 journals), accounting for 22.4% of the production. It should also be noted that 80.4% of the journals are indexed in the JCR, with 83.5% of the production published in these journals, and only 16.5% of their production is in journals not included in the JCR.

Scientific production in the case of the developing countries of Oceania (Table 8) appeared in a total of 30 journals published in 9 different countries. American and English journals are the most represented with 11 journals (36.7%) and 8 journals (26.7%) respectively, publishing 37.5% and 25% of the articles in these, respectively. It is worth noting that 93.3% of the journals are indexed in the JCR, with 95% of the articles published in these journals, and only 5% of the papers are published in journals not included in the JCR.

Journals most used by developing countries by continent

Among the journals most used to publish psychology papers from developing countries by continent (Table 9), two publications stand out, namely the journal Frontiers in Psychology, which is indexed in the JCR, and the journal Propósitos y Representaciones, published in Peru, which is not included in any of the JCR databases.

These two journals are the most represented when taking into account the publication of the scientific output of all the developing

Country edition journal	Nº journals	Total Articles	Nº JCR journals	Nº JCR articles	Nº No JCR journals	Nº Nom JCR articles
Australia	2	2	2	2	0	0
Belgium	1	2	1	2	0	0
Canada	1	1	1	1	0	0
China	2	3	2	3	0	0
Czech Republic	2	2	2	2	0	0
England	108	411	86	358	22	53
France	3	13	2	3	1	10
Germany	11	74	9	63	2	11
Hungary	1	2	0	0	1	2
Italy	5	23	1	3	4	20
Japan	1	2	1	2	0	0
Malta	1	4	1	4	0	0
Netherlands	26	111	26	111	0	0
Peru	1	33	0	0	1	33
Poland	4	15	1	2	3	13
Portugal	1	6	1	6	0	0
Romania	2	64	1	51	1	13
Russia	14	44	2	7	12	37
Serbia	2	25	1	12	1	13
Slovakia	1	5	1	5	0	0
Spain	12	21	8	17	4	4
Switzerlands	11	238	4	193	7	45
Turkey	3	9	1	1	2	8
USA	204	722	183	682	21	40
Total	419 (100%)	1832 (100%)	337 (80.4%)	1530 (83.5%)	82 (19.6%)	302 (16.5%)

Table 7. *Europe: Scientific production by country of journal publication and inclusion in JCR.* *Note:* Includes data from JCR Psychology categories (2017–2021).

Country edition journal	**Nº journals**	**Total Articles**	**Nº JCR journlas**	**Nº JCR articles**	**Nº Nom JCR journals**	**Nº Nom JCR articles**
Australia	1	3	1	3	0	0
China	1	1	1	1	0	0
England	8	10	8	10	0	0
France	1	1	0	0	1	1
Germany	2	2	2	2	0	0
Italy	1	1	0	0	1	1
Netherlands	4	5	4	5	0	0
Switzerland	1	2	1	2	0	0
USA	11	15	11	15	0	0
Total	30 (100%)	40 (100%)	28 (93.3%)	38 (95.0%)	2 (6.7%)	2 (5.0%)

Table 8. *Oceania: Scientific production by country of journal publication and inclusion in JCR.* *Note:* Data extracted from WoS (SCI, SSCI, ESCI) psychology journals 2017–2021.

Journal	Country edition	Nº Art.	Q 2017	Q 2018	Q 2019	Q 2020	Q 2021
Africa							
AIDS Care Psychological and Socio Medical Aspects of AIDS HIV	England	283	2	2	2	2	3
Frontiers in Psychology	Switzerland	100	2	2	2	2	1
Journal of Interpersonal Violence	USA	98	1	1	1	1	2
Journal of Psychology in Africa	USA	70	4	4	4	4	4
Journal of Adolescent Health	USA	57	1	1	1	1	1
Asia							
Indian Journal of Psychological Medicine	USA	491	-	-	-	-	-
Frontiers in Psychology	Switzerland	407	2	2	2	2	1
Current Psychology	USA	178	3	2	2	1	3
Personnel Review	England	129	2	2	2	2	2
Psychological Studies	India	107	-	-	-	-	-
South America							
Frontiers in Psychology	Switzerland	483	2	2	2	2	1
Propósitos y Representaciones	Peru	171	-	-	-	-	-
Interdisciplinaria	Argentina	162	-	-	-	-	-
Universitas Psychologica	Colombia	147	4	4	4	4	4
Revista Iberoamericana de Diagnóstico y Evaluación e Avaliçao Psicologica	Argentina	125	4	4	4	4	4
North America							
Frontiers in Psychology	Switzerland	132	2	2	2	2	1
Eureka Revista Científica de Psicología	Paraguay	88	-	-	-	-	-
Behavioural Processes	Netherlands	50	2	2	2	2	2
Physiology Behavior	USA	40	2	2	2	2	1
Propósitos y Representaciones	Peru	18	-	-	-	-	-
Europe							
Frontiers in Psychology	Switzerland	182	2	2	2	2	1
Current Psychology	USA	59	3	2	2	1	3
Journal of Evidence Based Psychotherapies	Romania	51	4	4	4	4	4
Personality and Individual Differences	England	46	2	2	2	2	2
Propósitos y Representaciones	Peru	33	-	-	-	-	-
Oceania							
Psychiatry Psychology and Law	Australia	3	3	3	3	3	3
Total Countries							
Frontiers in Psychology	Switzerland	1308	2	2	2	2	1
Indian Journal of Psychological Medicine	USA	499	-	-	-	-	-
Current Psychology	USA	366	3	2	2	1	3
AIDS Care Psychological and Socio Medical Aspects of AIDS HIV	England	361	2	2	2	2	3
Journal of Interpersonal Violence	USA	288	1	1	1	1	2
Propósitos y Representaciones	Peru	237	-	-	-	-	-
Universitas Psychologica	Colombia	193	4	4	4	4	4
Eureka Revista Científica de Psicología	Paraguay	181	-	-	-	-	-
Physiology Behavior	USA	177	2	2	2	2	1
Interdisciplinaria	Argentina	176	-	-	-	-	-

Table 9. *List of journals with the highest number of papers published by continent.*
Note: Each sub-table corresponds to a continent (Africa, Asia, Europe, Oceania, South America, North America).

countries. It is worth highlighting the role played by some journals published in developing countries in the visibility of the work published by these countries, such as the journals Propósitos y Representaciones published in Peru, *Universitas Psychologica* published in Colombia, *Eureka Revista Científica de Psicología* published in Paraguay or *Interdisciplinaria* published in Argentina, although only one of these journals (*Universitas Psychologica*) is included in the JCR.

In the case of South America, among the five journals where the largest number of articles are published, four of them are published on the same continent, specifically two in Argentina (*Interdisciplinaria and Revista Iberoamericana de Diagnóstico y Evaluación e Avaliçao Avaliçao Psicologica*), one in Peru (*Propósitos y Representaciones*) and one in Colombia (*Universitas Psychologica*). Something similar happens in Europe, with three European journals among the 5 most used, and in Oceania, where the journal *Psychiatry Psychology and Law* published in Australia stands out.

Not only the country of publication is relevant, but also the name of the journal. If we consider the case of Asia, among the most used journals, one is published in Asia and another, despite being published in the United States, has the name of an Asian country in its title, such as the *Indian Journal of Psychology Medicine*. This last situation also occurs on the African continent with the Journal of Psychology in Africa.

Among the most used journals, some of them are not included in the JCR, as is the case in Asia, South America, North America and Europe. Specifically, among the 10 journals most used by developing countries to publish their work, four of them are not included in the JCR, such as the *International Journal of Psychological Medicine, Propósitos y Representaciones, Interdisciplinaria and Eureka Revista Científica de Psicología.*

This fact is of fundamental importance for developing countries since we are aware that their resources can be limited. If a portion of the journals used by these countries for publication and research is not included in databases that require additional financial resources, it exacerbates the gap in scientific development. We understand that Open Access (OA) structures and initiatives alleviate access limitations to the circulation of scientific knowledge in developing countries (Minniti et al., 2018). OA fosters global collaboration and knowledge sharing, thereby driving substantial changes in scholarly communication (Bosman & Kramer, 2018). However, not all Article Processing Charges (APC) are perceived as reasonable by developing countries (Segado-Boj et al., 2022), and not all Open Access (OA) opportunities are considered equitable for non-high-income countries (Druelinger & Ma, 2023). These authors strongly advocate for the adoption of diamond open access over gold open access to support researchers from developing countries. This shift would enhance global academic equity and contribute to epistemic diversity in knowledge production. In fact, the more scientific knowledge is openly accessible, the higher the level of transparency, reproducibility, and efficiency in the process, yielding clear benefits for society (Molloy, 2011). It would be prudent to consider

expanding OA access to promote more equitable access to scientific knowledge for all countries and researchers while also encouraging international cooperation (Melero et at., 2022). Thus, UNESCO's recommendations on open science (UNESCO, 2021) encompass all science-generating agents—researchers, publishers, editors, institutions, and funding agencies. These recommendations aim to promote open knowledge, fostering its global configuration and crystallization. Such an approach, guided by quality parameters, could help mitigate the scientific-technological gap and address the existing economic and social development disparities between countries (Salager-Meyer, 2008).

In relation to this aspect, we must also consider, as Balehegn (2017) denounces, the use of predatory journals from developing countries is increasing considerably, especially by young and inexperienced authors who have not been able to detect the difference between Open Access and these journals of dubious quality. This practice should be considered by developing countries, since it not only compromises the quality of their scientific production, and the peer review system so necessary for scientific objectivity but may even lead to economic abuses that will not being rcognized as legitimate scientific literature. It is therefore essential that developing countries develop scientific policies for the protection and generation of new journals and scientific knowledge belonging to legitimate Open Access platforms. In addition, institutions should instruct authors in the detection of predatory journals as opposed to journals that belong to OA. Moreover, the perception that many publishers have about their journals is of openness in favor of OA generating policies, however there are still some barriers to be solved, such as favoring preprints, open research data and open peer review, since the idea that free could become synonymous with low quality is a reality (Melero et al., 2022).

Furthermore, it has been observed that editorial boards of journals typically have minimal representation from academics in developing countries (Cummings & Hoebink, 2016). This lack of representation not only hinders the visibility of science from developing countries but also makes it challenging for these countries to improve their situation (Salager-Meyer, 2008). It is important to recognize that while science is fundamental for the industrialized world, it holds even greater significance for the developing world. The inclusion of developing countries in the visible academic sphere is essential for nurturing science, offering non-Western perspectives and enriching scientific knowledge (Salager-Meyer, 2008).

Analysis of scientific collaboration between continents

When analyzing scientific collaboration between continents (Table 10), among the developing countries, the greatest collaboration is with authors affiliatd with European institution (27.7%), followed by those from Asia (23.6%).

In the specific case of scientific collaboration on each continent, it would be expected that this collaboration would be concentrated mainly among researchers belonging to institutions on the same continent. This

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Continent	Africa	Asia	Europe	North America	Oceania	South America	Total
Africa	3504 (30.7%)	2178 (10.3%)	3443 (13.8%)	1196 (9.9%)	197 (13.6%)	909 (4.9%)	11427 (12.7%)
Asia	2178 (19.1%)	7493 (35.4%)	6714 (27.0%)	2257 (18.7%)	478 (33.0%)	2053 (11.0%)	21173 (23.6%)
Europe	3443 (30.1%)	6714 (31.7%)	6348 (25.5%)	2715 (22.4%)	192 (13.3%)	5453 (29.2%)	24865 (27.7%)
North America	1196 (10.5%)	2257 (10.6%)	2715 (10.9%)	3357 (27.7)	151 (10.4%)	2415 (12.9%)	12091 (13.5%)
Oceania	197 (1.7%)	478 (2.3%)	192 (0.8%)	151 (1.3%)	45 (3.1%)	385 (2.1)	1448 (1.7%)
South America	909 (7.9%)	2053 (9.7%)	5453 (22%)	2415 (20.0)	385 (26.6%)	7445 (39.9)	18660 (20.8%)
Total	11427 100%	21173 100%	24865 100%	12091 100%	1448 100%	18660 100%	89664 100%

Table 10. *Scientific collaboration between continents according to the continent of origin of the authors.* *Note:* Co-authorship network based on WoS records 2017–2021.

is true for Africa, Asia, North America and South America, but not for Europe and Oceania. While in Europe the greatest collaboration is with South America (29.2%) and Asia (27.0%), in Oceania the greatest collaboration is with Asia (33.0%) and South America (26.6%). This circumstance may be related to socio-cultural aspects and the physical proximity of the developing European countries to the Asian region. A similar case occurs with Oceania, which shows greater collaboration first with authors from Asian countries and second with those from South American.

These findings may corroborate that geographic distance and language facilitate collaboration (Li et al., 2023; Salager-Meyer, 2008). It can also be concluded that this collaboration between developing countries according to continent shows the role played by authors belonging to European institutions, as the continent with the highest number of collaborations in total with the rest of the continents.

Collaborative networks of developing countries with the highest production of psychology articles

An analysis of collaborative networks between the three most productive countries in each continent was carried out. (Figure 1) shows the collaboration network of the African continent. In the case of the African continent, the three countries with the highest production during the period analyzed were Nigeria, Kenya and Egypt. The network consists of a total of 159 countries. The network analysis indicates that there is a collaborative relationship between these three countries with authors from different African institutions, mainly from Nigeria, Kenya, Egypt, Ghana, Uganda, South Africa and Algeria, and outside the African continent with researchers from the United States, Mexico, England, Colombia, India and Germany.

In Africa, there is a very strong relationship of collaboration between countries on the same continent. In this sense, it should be noted that there are problems that are the object of study that are addressed by all

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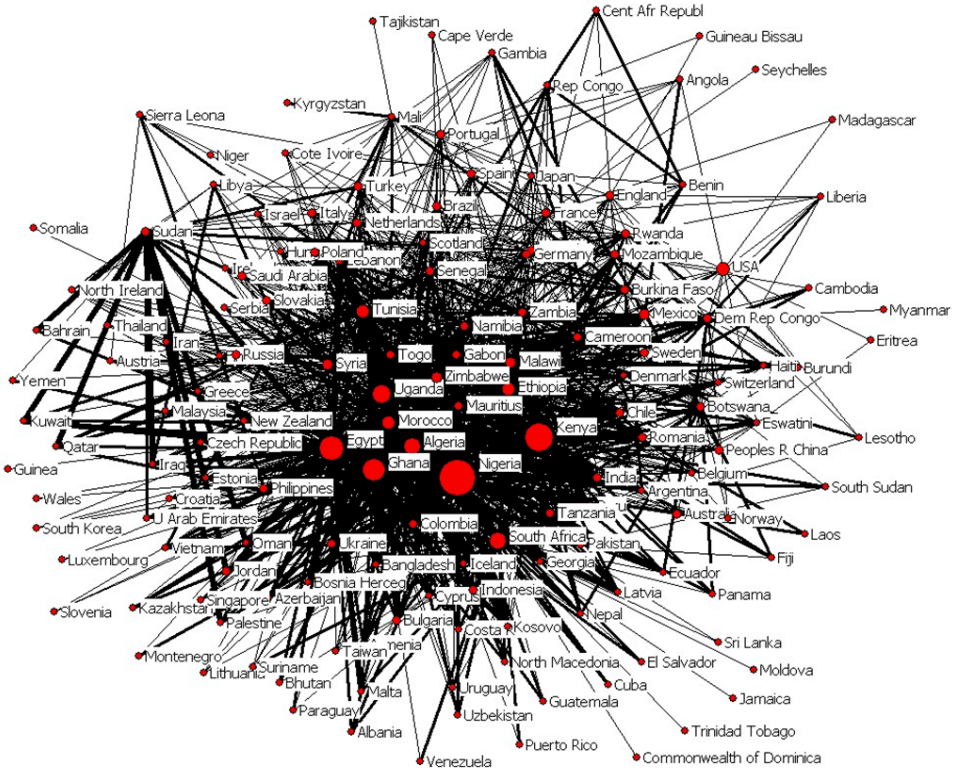

Figure 1. *Partnership network of Africa's most productive emerging countries.*

the countries, such as *AIDS*. The existence of a specific journal on this subject, such as *AIDS Care Psychological and Socio Medical Aspects of AIDS HIV*, or a journal focused on the continent itself, such as the Journal of Psychology in Africa, should be considered, with these two journals being among the five most used by authors from the African continent. Something similar happens in Asia, and specifically in India, if we consider the *Indian Journal of Psychological Medicine*.

In the case of Asia, the most productive countries during the period studied were India, Indonesia and Lebanon (Figure 2). The network analysis shows that these three countries collaborate with a total of 129 countries.

The greatest scientific collaboration takes place between researchers from these three countries, with the collaboration between India and Lebanon standing out. There is also collaboration with researchers from other continents, mainly from the United States, England, Australia, the Netherlands and the People's Republic of China.

In the case of North America, the most productive countries during the period analyzed were Mexico, Cuba and Costa Rica (Figure 3). The network is made up of a total of 129 countries. As can be seen in the figure, the role of Mexico stands out, not only for its scientific production but also for its role as an intermediary between all the countries that make up the network. Another aspect to highlight is intra-continental scientific collaboration, with other countries on the continent itself, such as the United States and Canada, and with countries on other continents, such as India, Spain, Colombia, Chile and Peru.

The most productive countries in South America during the period studied were Chile, Colombia and Argentina (Figure 4). These countries collaborate with a total of 126 countries, with the greatest scientific collaboration taking place between the three most productive countries, followed by collaboration with countries from other continents such as Spain, the United States, Mexico and England.

Figure 5 shows the collaboration network between developing countries on the European continent. In the case of Europe, the most productive countries were Romania, Cyprus and Bulgaria. These countries collaborate in their scientific output with a total of 130 countries. The greatest scientific collaboration takes place with authors from Romania, Cyprus and Spain, followed, at a great distance, by countries belonging to other continents, such as Chile, Mexico, Colombia and Argentina.

In the case of Oceania (Figure 6), the most productive country by far during the period studied is the Republic of Fiji, followed by New Caledonia and Nauru. In this case, the developing countries of this country collaborate with a total of 101 countries, with the greatest collaboration with India, Australia, the United States and New Zealand. Three countries, Australia, India, New Zealand and Mexico, play an important intermediary role in the network. It can also be seen that the strongest relationships are between Fiji, Mexico and Panama.

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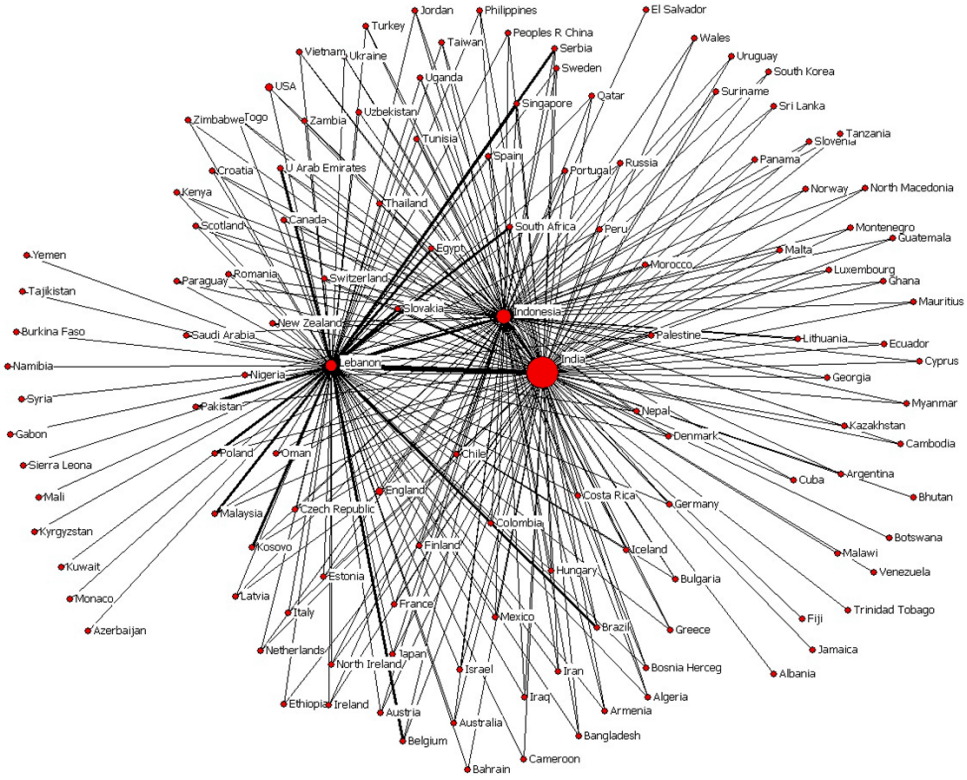

Figure 2. *Partnership network of Asia's most productive emerging countries.*

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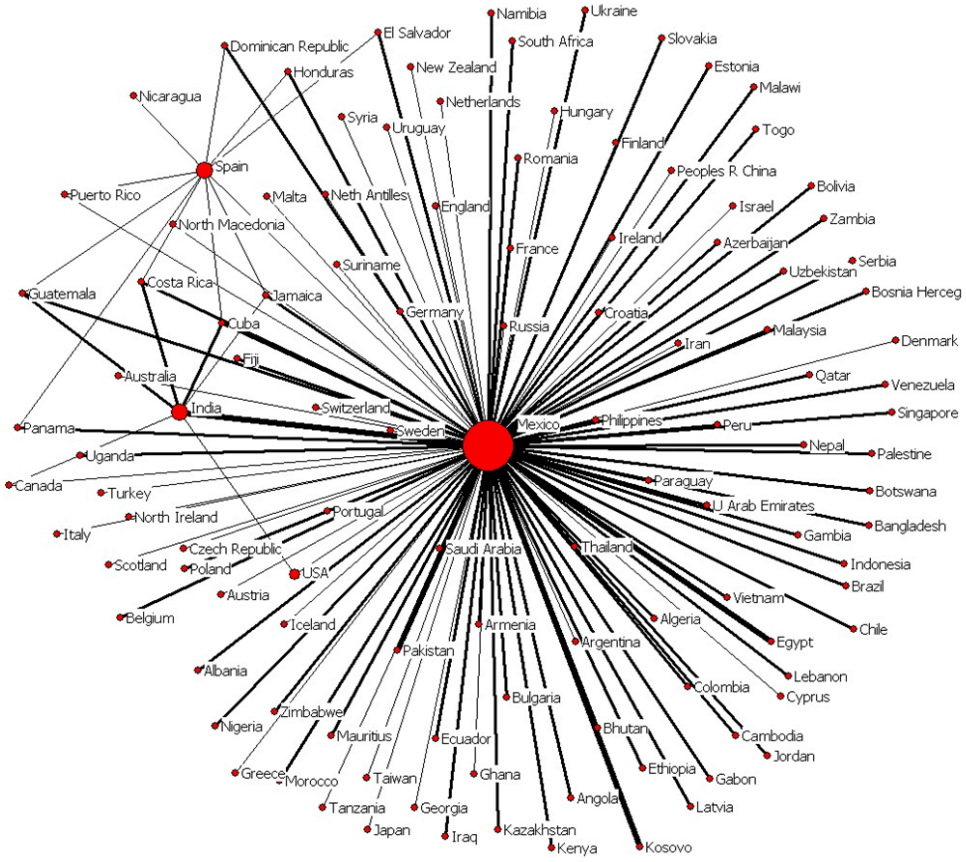

Figure 3. *Partnership network of North America's most productive emerging countries.*

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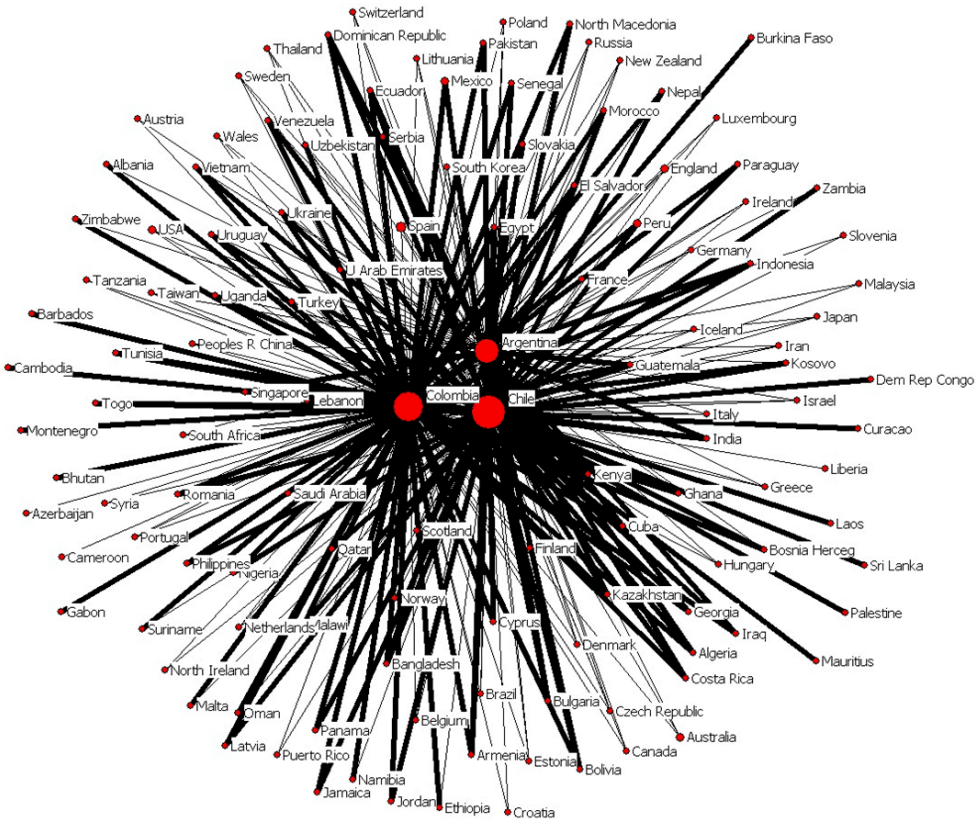

Figure 4. *Partnership network of South America's most productive emerging countries.*

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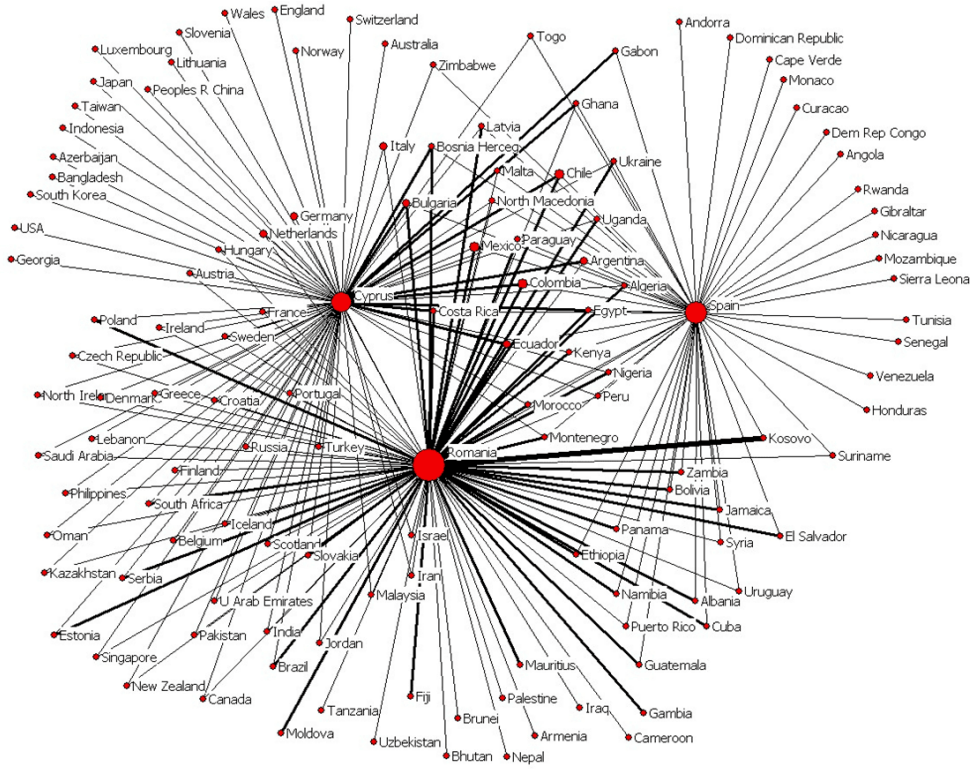

Figure 5. *Partnership network of Europe's most productive emerging countries.*

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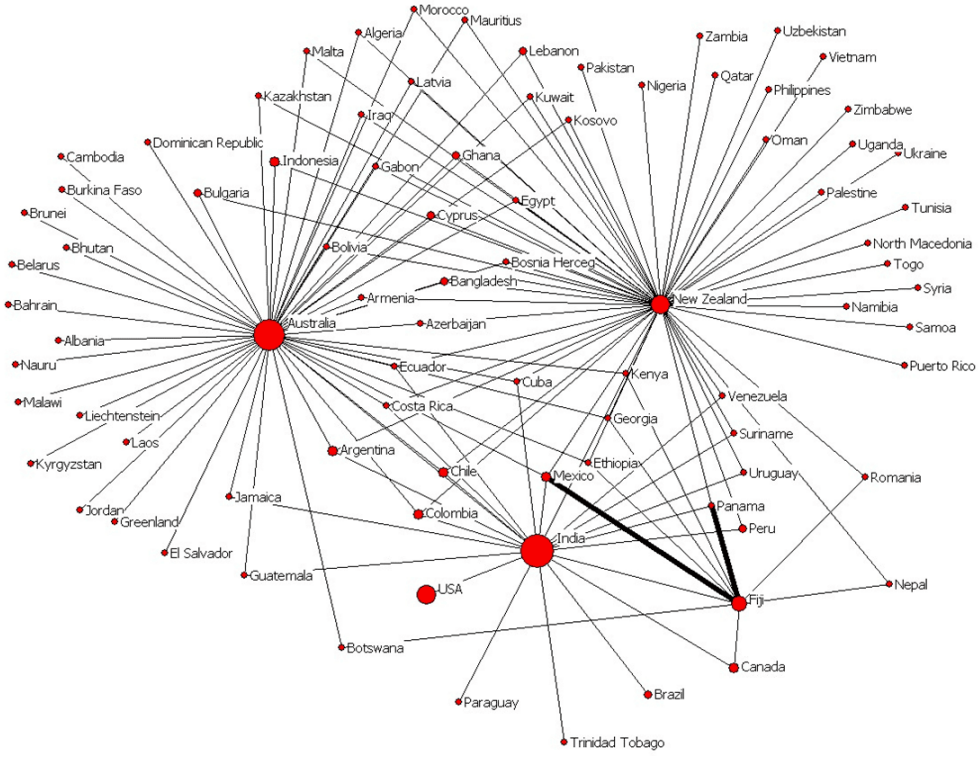

Figure 6. *Partnership network of Oceania's most productive emerging countries.*

The present study must take into consideration other variables, including socio-economic and political variables, which may influence the habits of scientific production, publication and collaboration. Per capita income or publications per million inhabitants were not considered, factors that could have shifted the analysis toward other countries. The lack of taking other variables into consideration is one of the main limitations of the present study, as well as the fact that we have only analysed publication in journals indexed in WoS, without considering other databases such as Scopus, which has a larger number of journals, or Google Scholar as a free public search engine. Future studies should address, at a micro level, the specific characteristics relateed to publication habits.

Conclusions

Knowing the publication habits of developing countries in Psychology is a way of making researchers and institutions working in a particular area in these countries visible. Understanding the limited impact of developing countries on scientific production is vital. This is not only an academic matter but also crucial for comprehending and promoting economic and social development, which is closely tied to the advancement of scientific and technological development.

The social sciences are often closely linked to the surrounding culture, society, language, and public policies, which are frequently perceived as more 'national' than 'international.' However, the results prompt us to contemplate the necessity of internationalization across all countries, seeking a more global and multifaceted response to issues related to psychological phenomna. Additionally, there is a call for internationalization among developing countries themselves, aiming to establish journals with greater visibility and impact.

The findings presented here lead to the conclusion that the production of psychology research in developing countries is remarkably low. Globally , these countries contribute less than 1% of the total articles published in WoS, an almost statistically insignificant figure. Therefore, it is imperative to recognize the need for concerted efforts within the field of psychology to enhance the minimal academic representation of developing countries. This endeavor aims to provide the scientific discipline with diverse of perspectives and approachs, ultimately strengthening its ability to observe and understand psychological phenomena.

Factors such as access to academic databases, financial resources for publishing, language, institutional and national collaboration networks, the specific branch of psychology under study, and the choice of journal for disseminating research findings are crucial in determining the visibility of psychological science produced in developing countries.

This necessary enhancement of academic production must be built upon a scientific policy framework and financial and technological support. Such provisions should empower institutions and, consequently, researchers, fostering broader collaboration networks at both national and international levels.

When analyzing the relationships of the most productive developing countries, in many cases the greatest collaboration occurs with authors from the same country or the same continent. For this reason, it is crucial for countries to prioritize the use of the English language to expand collaboration networks. Additionally, efforts should be made to integrate academics from developing countries into journal editorial boards and strengthen both intra- and intercontinental institutional ties.

It can be concluded that the psychology research output in developing countries is very limited, and that this limitation, along with its dissemination and scientific collaboration, may be conditioned by factors related to scientific documentation, as well as by social, economic and political factors.

References

Arencibia, J. R., & De Moya Anegón, F. (2008). La evaluación de la investigación científica: una aproximación teórica desde la cienciometría. *Revista Cubana de Información en Ciencias de la Salud, 17*(4).

Artigas, W., Wongo Gungula, E. W., & Laakso, M. (2022). Open access in Angola: a survey among higher education institutions. *Scientometrics, 127*, 3977–3993. https://doi.org/10.1007/s11192-022-04410-w

Balehegn, M. (2017). Increased publication in predatory journals by developing countries' institutions: What it entails? And what can be done? *International Information & Library Review*. https://doi.org/10.1080/10572317.2016.1278188

Belli, S., & Balta, J. (2019). Stocktaking scientific publication on bi-regional collaboration between Europe 28 and Latin America and the Caribbean. *Scientometrics, 121*(3), 1447–1480. https://doi.org/10.1007/s11192-019-03266-x

Benítez Solís, J. (1995). La ciencia en países subdesarrollados. *Revista Ecuatoriana de Medicina Crítica, 3*, 41–42.

Bhattacharya, S., Shilpa, & Kaul, A. (2015). Emerging countries' assertion in the global publication landscape of science: A case study of India. *Scientometrics, 103*, 387–411. https://doi.org/10.1007/s11192-015-1551-4

Borgatti, S. P. (2002). *NetDraw Software for Network Visualization*. Analytic Technologies: Lexington.

Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing Social Networks*. Thousand Oaks, CA: Sage Publications.

Bosman, J., & Kramer, B. (2018). Open access levels: A quantitative exploration using Web of Science and oaDOI data. *PeerJ Preprints, 6*, e3520v1. https://peerj.com/preprints/3520/

Cummings, S., & Hoebink, P. (2016). Representation of academics from developing countries as authors and editorial board members in scientific journals: Does this matter to the field of development studies? *The European Journal of Development Research, 29*(2). https://doi.org/10.1057/s41287-016-0002-2

Druelinger, D., & Ma, L. (2023). Missing a golden opportunity? An analysis of publication trends by income level in the Directory of Open Access Journals 1987–2020. *Learned Publishing, 36*, 348–358. https://doi.org/10.1002/leap.1543

Gaillard, J. (2010). Measuring research and development in developing countries: Main characteristics and implications for the Frascati Manual. *Science, Technology & Society, 15*(1), 77–111. https://doi.org/10.1177/097172180901500104

Gazni, A., Sugimoto, C. R., & Didegah, F. (2012). Mapping world scientific collaboration: Authors, institutions, and countries. *Journal of the American Society for Information Science and Technology, 63*(2), 323–335. https://doi.org/10.1002/asi.21688

Li, J., Yang, X., Lu, X., & Wu, D. (2023). Making journals more international: Language subject differences and impact performance. *Learned Publishing, 36*, 596–618. https://doi.org/10.1002/leap.1567

Melero, R., Boté-Vericad, J. J., & López-Borrull, A. (2022). Perceptions regarding open science appraised by editors of scholarly publications published in Spain. *Learned Publishing, 36*, 178–193. https://doi.org/10.1002/leap.1511

Minniti, S., Santoro, V., & Belli, S. (2018). Mapping the development of Open Access in Latin America and Caribbean countries: An analysis of Web of Science Core Collection and SciELO Citation Index (2005–2017). *Scientometrics, 117*, 1905–1930. https://doi.org/10.1007/s11192-018-2950-0

Molloy, J. C. (2011). The Open Knowledge Foundation: Open data means better science. *PLoS Biology, 9*(12), e1001195. https://doi.org/10.1371/journal.pbio.1001195

Narbaev, T., & Amirbekova, D. (2021). Research productivity in emerging economies: Empirical evidence from Kazakhstan. *Publications, 9*(4). https://doi.org/10.3390/publications9040051

Programa de las Naciones Unidas para el Desarrollo (PNUD). (2020). *Informe sobre el desarrollo humano 2020: La próxima frontera. El desarrollo humano y el Antropoceno*. United Nations.

Salager-Meyer, F. (2008). Scientific publishing in developing countries: Challenges for the future. *Journal of English for Academic Purposes, 7*, 121–132. https://doi.org/10.1016/j.jeap.2008.03.009

Segado-Boj, F., Prieto-Gutiérrez, J. J., & Martín-Quevedo, J. (2022). Attitudes, willingness, and resources to cover article publishing charges: The influence of age, position, income level, country, discipline, and open access habits. *Learned Publishing, 35*(4), 489–498. https://doi.org/10.1002/leap.1455

Shen, C., & Björk, B. C. (2015). "Predatory" open access: A longitudinal study of article volumes and market characteristics. *BMC Medicine, 13*(1), 1. https://doi.org/10.1186/s12916-015-0469-2

UNESCO. (2021). *UNESCO Recommendation on Open Science*. UNESCO Biblioteca Digital. https://unesdoc.unesco.org/ark:/48223/pf0000379949

Zhao, Q., & Guan, J. (2011). International collaboration of three "giants" with the G7 countries in emerging nanobiopharmaceuticals. *Scientometrics, 87*, 159–170. https://doi.org/10.1007/s11192-010-0311-8

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