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Abstract

Positive Psychological Capital or PsyCap takes its cue from Martin Seligman's Positive Psychology and, to date, lays the foundations for the orientation of human behaviour, whether individual or group, towards the full positive expression of its potential. It finds its most substantial application in the organisational sphere, as human capital is unique and irreplaceable. This research aims to locate and identify the existing literature on Positive Psychological Capital through bibliometric methodology, Web of Science was relied upon. The search returned a total of 593 articles published from 1997 to 2022. The results were extracted, sorted and processed using Excel. The number of publications has increased since 2011 asserting itself over 10 years, up to 2021, which records almost double the number of publications of the previous years; 2022, in view of the first two months of productivity, already yields records that allow estimating a continuously rising production trend. The most productive author on this topic is Fred Luthans, whose co-authorship network has been identified in this study. Due to Luthans and his closest collaborators, the United States constitutes the most productive geographic area, although a strong poignancy in China is detected, which generates significant productivity data on the object of study and its implications. Business Economics is the area with the highest frequency and only afterwards, with lower frequency, come Psychology and Behavioural Sciences respectively. Looking critically further, it can be deduced how PsyCap is strongly and transversally implicated in different contexts and how, although rooted in Psychology, it finds application in the field of economics and business as a main concern.

Keywords: bibliometrics, positive psychological capital, psycap

1. Introduction

Placing Positive Psychological Capital or PsyCap at the centre of this study stems from an interest in methods and interventions in Organizations based on Positive Psychology, concept owed to Martin Seligman.

Following studies on Learned Helplessness, which began in 1967 at the University of Pennsylvania and led to the theory in 1975, was realised how depressive and pessimistic feelings can be pervasive (Seligman, 2000) in the human mind following stressful events. The tendency to interpret events negatively, bordering on the belief of inability or unwillingness to face life's challenges, has unwittingly laid the foundations for a positive psychology. There is a paradigm reversal whereby emphasis is placed on the role of positive resources and the individual's potential.

To date, these have become recognised and popularised in the contexts of Social, Work and Organisational Psychology. The field that benefits most, as a result of this study, is the business and economics field. In fact, the concept of Psychological Capital was born in the organisational context;

Luthans and Youssef in 2004, already pointed out that Human Resources can be a competitive advantage since they are unique and there is no way for competitors to match them. There is no physical, structural or financial resource that can replace Human Resources into the organizations.

If Positive Psychology is about helping people live more productive and meaningful lives (Seligman & Csikszentmihalyi, 2000) and stimulating the full realisation of the potential inherent in human beings, PsyCap is a fundamental construct for wellbeing and growth, both individual and organizational (Reio & Ghosh, 2009) based on appreciation and positive emotions.

It is possible to state that a positive psychology may be applied on different contexts, where an optimal functioning of people is required; positive organizational psychology intends to focus on the positive aspects of the optimal functioning of people – individuals and groups - into the organizations (Martín-Del-río et al., 2021). Considering this assessment, likewise the positivity/negativity dualism already advanced by Seligman following his studies on learned helplessness, there is already a reversal of emphasis in research. If, at first, this was aimed at emphasising more the negative aspects of organisations and their pathogenesis, which can be traced back to burnout, stress, shortcomings and relational problems among its members, today we are witnessing an emphasis on the positive aspects, such as eustress, change management, strengths and psychological skills for the development and enhancement of professional performance.

As a construct, PsyCap may be identified as the one that underlies to empowerment; it encourages people to recognize the power that is in themselves (Margiadi & Wibowo, 2019). PsyCap can be defined as "the state of positive psychological development of an individual" (Luthans et al., 2007) and consists of four dimensions: hope, efficacy, resiliency and optimism. When considered as a single construct, their potential is maximised. The HERO acronym (Luthans & Youssef-Morgan, 2017) occurs to indicate them and it is known as the HERO Model. PsyCap's contribution to date is validated and supported as a construct, which rests on the notions of traditionally understood economic-financial capital and human and social capital. From this perspective, given its broad scope, PsyCap is proposed as a resource to build out new values and to valorise the ones already owned (financial capital), knowledge (human capital), social relationships (social capital), promoting the development of the actual self and the possible self (Luthans & Youssef, 2007); that is, that potential zone of who one is and who one can become. The aim of this review is detecting and analyzing the scientific production on Positive Psychological Capital in order to carry out a bibliometric analysis that can provide tangible and objective information on the subject and its development through the existing literature.

2. Methodology

To accomplish this study, bibliometric methodology was used. The definition of the discipline and the introduction of the term 'bibliometrics' is due to Alan Pritchard who, in 1969, proposed replacing the term 'statistical bibliography' with 'bibliometrics' (Fonseca, 1973) as the former one was considered inadequate to indicate the application of mathematics and statistical methods to books, volumes, records and other forms of written communication. The quantitative approach offered by bibliometrics is a pledge of the objectivity of the results. In actual fact, this methodology is based on the counting of publications and elements inferred from bibliographic units and, to date, it is an effective and constantly expanding tool, useful for scientific purposes but also in the framework of document management in libraries. The data from bibliometric analysis are useful, indeed, for all operations concerning not only the selection, acquisition, access and use of bibliographic collections, but also for those of discarding and preserving material (Anziliero, 2018). The method makes use of efficient techniques objectifying scientific productivity (Rodríguez et al., 2009) in order to push the analysis in depth, to bring out and measure an increasing number of significant and representative connections between documents.

The terms 'Positive Psychological Capital' OR 'Psycap' OR 'Positive Capital' are searched on WOS filtered by topic and article; no time limit is specified. The search was conducted in March 2022 and returns 593 results ranging from 1997 to the first two months of the year 2022. Once the sample has been obtained, the data is moved to Excel where records are held by variables: years of production, journals, authors, keywords, areas of interest and number of citations.

The data are transposed onto frequency distributions and to process them, the following bibliometric indicators are used: publications per year - and their graphical representation – to temporally contextualise scientific productivity, distribution of authors per publications to outline the role and prominence of the authors with regard to the specific topic, distribution of works on journal likewise the previous indicator clarifies the role of the journal with regard to the specific subject area. Citation analysis makes it possible to estimate the author's contribution to scientific productivity, investigation areas provides an insight into the different fields of application of the subject matter and, finally, the content analysis returns the most representative categories incorporated within the topic of investigation via (keywords).

Cole and Cole Classification (1973) makes it possible to identify the major producers down to the bystanders. A catalogue of the most productive authors on PsyCap has been made and among all of them the unquestionable prolific producer is Fred Luthans, whose Invisible College, i.e. a mapping of the relationships between scientists who have contributed within a collaborative network, has been reported (Peñaranda-Ortega & Osca-Lluch, 2013). Through the application of Bradford's Law, it was possible to graphically represent the productivity of journals and articles on the subject. As a result of Bradford's graph, the group of journals with the highest number of articles on Positive

Psychological Capital can be found within the core. Bradford's core constitutes one third of the total bibliographic coverage on PsyCap; to achieve total bibliographic coverage on the subject, a much larger number of journals must be added to the core consisting of a few specialised journals, which follows an exponential growth trend (Ardanuy, 2012). In each area, in addition to the number of articles, the number of journals in which they were published is also indicated; this value has an exponential upward trend in areas 1 and 2, starting from the initial value indicated in the core.

3. Results

3.1 Publications per Year

In the examined period, the distribution shows a very limited production activity in the very first years of the historical series; although a steady increase is shown from 2000 onwards, the share of works published in the first 20 years is just over a third of the total (37.61%). From 2018 to 2022, there is a significant increase in the number of papers; in fact, almost half of the publications (48.9%) are concentrated in this last five-year period.

From 2018 to 2021, there is a considerable increase in the number of papers, which is also confirmed as a trend in 2022 (Year 2022 shows only partial data, representative of the two-month period January - February).

Table 1

Publications per Year

Publication Year	Frequency	%	Cumulated %
1997	1	0.17	0.17
1998	1	0.17	0.34
2001	1	0.17	0.51
2002	1	0.17	0.67
2004	3	0.51	1.18
2005	1	0.17	1.35
2006	1	0.17	1.52
2007	2	0.34	1.85
2008	3	0.51	2.36
2009	2	0.34	2.70
2010	6	1.01	3.71
2011	12	2.02	5.73
2012	16	2.70	8.43
2013	15	2.53	10.96
2014	28	4.72	15.68
2015	43	7.25	22.93
2016	32	5.40	28.33
2017	55	9.27	37.61
2018	67	11.30	48.90

2019	71	11.97	60.88
2020	75	12.65	73.52
2021	127	21.42	94.94
2022	30	5.06	100.00
	593	100.00	

The graph shows the growing trend in quantity concerning publications over the years examined, a trend that, after a slight decrease in 2016, continues to increase steadily. Interesting is the figure for 2021, in which the growth is almost double the previous year. This tendency also seems to be confirmed for 2022, as an estimate based on the consolidated data available for January and February.

Figure 1

Publications per Year - Distribution

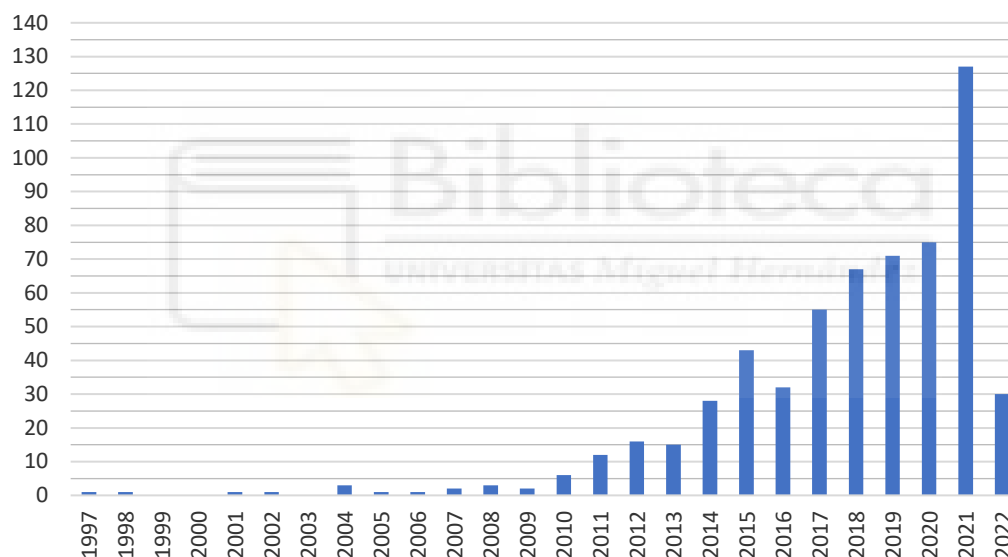


Figure 1: *Year 2022 only partial data for the two-month period January - February

3.2 Distribution of Authors per Publications

The distribution of the 1436 authors according to the 593 papers published, totalling 1873 signatures, allows to assess their level of productivity, which averaged 1.3 papers per capita. There is considerable variability in the number of signatures attributable to individual authors, ranging from 22 articles signed by a single author (0.07%), to 1208 authors (84.12%) who signed a single article. The average number of signatures is 3.2 per published work.

Table 2*Distribution of Authors per Publications*

N Publications	N Authors	%	Cumulated %	Signatures	%	Cumulated %
22	1	0.07	0.07	22	1.17	1.17
17	1	0.07	0.14	17	0.91	2.08
13	1	0.07	0.21	13	0.69	2.78
11	1	0.07	0.28	11	0.59	3.36
8	1	0.07	0.35	8	0.43	3.79
7	4	0.28	0.63	28	1.49	5.29
6	6	0.42	1.04	36	1.92	7.21
5	8	0.56	1.60	40	2.14	9.34
4	16	1.11	3.00	64	3.42	12.76
3	48	3.34	6.06	144	7.69	20.45
2	141	9.82	15.88	282	15.06	35.50
1	1208	84.12	100.00	1208	64.50	100.00
	1436	100.00		1873	100.00	

3.3 Cole and Cole Classification

Based on the classification method defined by Cole and Cole (1973), the most productive core consists of four authors, who have 10 or more publications to their credit; although they represent a very small percentage (0.28%), they signed 3.36% of the total papers. The next category includes nineteen authors (1.32%) of average productivity, with a share of five or more articles per capita. The last two categories refer respectively to authors with low productivity (small-scale producers) and authors with only one article signed (bystanders), but together they account for more than 98% of the total.

Table 3*Cole and Cole (1973) Classification*

Authors	Frequency	%	Cumulated %	Articles	%	Cumulated %
Major Producers	4	0.28	0.28	63	3.36	3.36
Moderate Producers	19	1.32	1.60	112	5.98	9.34
Small Scale Producers	205	14.28	15.88	490	26.16	35.50
Bystanders	1208	84.12	100.00	1208	64.50	100.00
	1436	100.00		1873	100.00	

3.4 Most Productive Authors

This section features Fred Luthans as the most prolific author, with 22 articles published over 13 years from 2008 to 2020, while in descending order of publications, we find James B. Avey, Carolyn M. Youssef. Their activity in this field begins at the same time as Luthans, but ends earlier, covering a time interval of 7 and 4 years respectively; last comes L. Wang, whose production began in 2012 and continues to the present day, being temporally detached from the first three authors. It should

be noted that among the four largest producers, there is a large gap in the level of productivity, with the first one having published twice as many articles as the last one on the list. Three out of four major authors published within universities in the United States of America and only one from China.

Table 4

Most Productive Authors

Authors	Frequency	Affiliation	Publication Years
Luthans, Fred	22	University of Nebraska System, United States	2008 - 2020
Avey, James B.	17	Central Washington University, United States	2008 - 2014
Youssef, Carolyn M.	13	Bellevue University, United States	2010 - 2013
Wang, L.	11	China Medical University, People's Republic of China	2012 - 2021

- Fred Luthans is a professor at the University of Nebraska-Lincoln, specialising in Organisational Behaviour. At the University he holds the title of University and George Holmes Distinguished Professor of Management Emeritus. Luthans is considered a pioneer for his dedication to the study of Organisational Behaviour and Positive Psychological Capital. His publications in PsyCap focus on the importance of the construct as a determinant of wellbeing able to amplify an optimal functioning as an individual, in groups, in life and organisations. In 2017, Professor Luthans was honoured with the Lifetime Achievement Award from the Organisational Behaviour Division of the Academy of Management for his career achievements.
- James B. Avey is currently a Distinguished Professor of Research in the College of Business at Central Washington University. He holds a PhD in Leadership, Human Resource Management and Organisational Behaviour from the University of Nebraska-Lincoln. His publications focus on Positive Psychological Capital, ethical leadership and psychological ownership.
- Carolyn M. Youssef is the Redding Endowed Chair of Business at Bellevue University. She is considered an authority in the field of Positive Psychological Capital, due to her efficient co-authoring of research. Her articles show a strong interest in positive psychology and its implementation in the workplace in order to increase the potential of Human Resources in organisations.
- Wang, L. works at the Department of Social Medicine at China Medical University (PRC). He conducts co-authored cross-sectional studies on healthcare personnel and patients. The crucial role of PsyCap in job satisfaction is explored, also attempting to provide an assessment (Fu et al., 2013) taking into account the large population growth and the transformation of the Chinese health system. In addition, the role of PsyCap in mental health

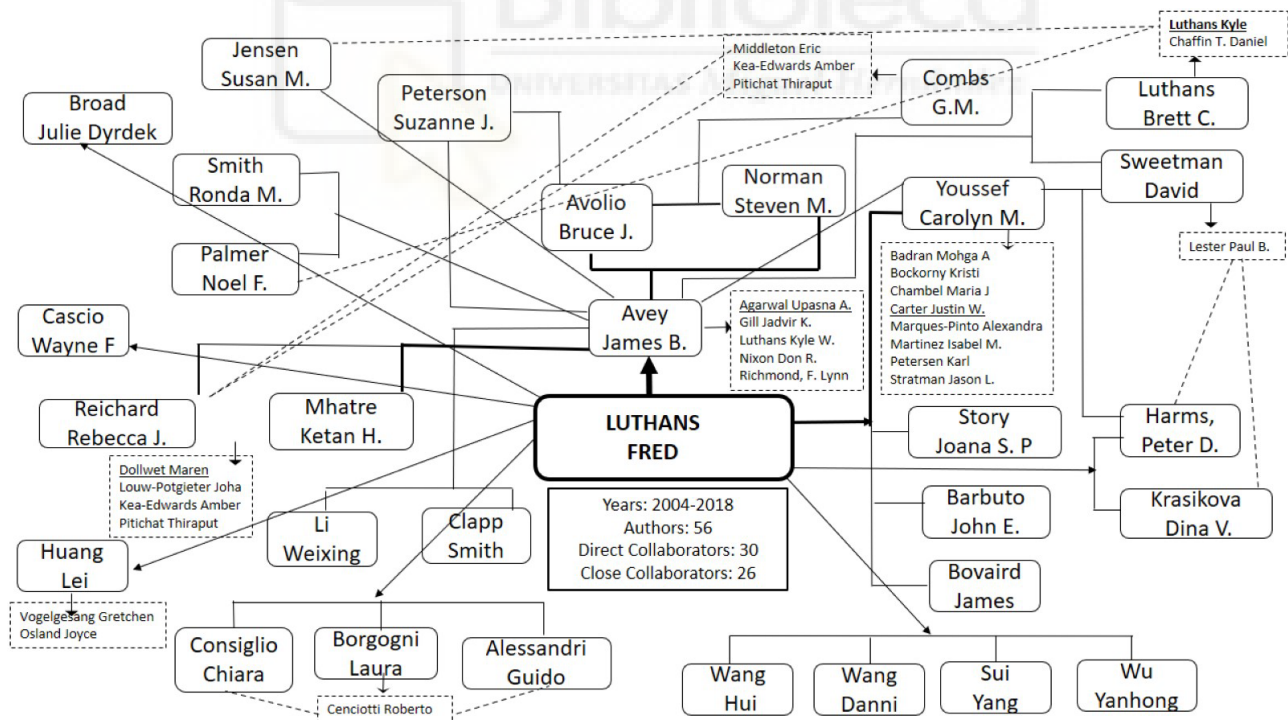
is considered, especially in those conditions of adversity that predispose cancer patients to anxiety and depression, in order to understand how hope, self-efficacy, resilience and optimism may mediate (Cui et al., 2021).

3.5 Invisible College

The Invisible College represents the graphical transposition of the networks of relationships between a given author, Fred Luthans, and his direct contributors, as co-authors for at least one publication. Close collaborators are also indicated in the map: although they have not published together with Luthans, these ones are co-authors with one of his direct associates in other publications. The Invisible College of Fred Luthans refers temporally to works published by the author between 2004 and 2018. James B. Avey is the author who shows the greatest professional cooperation with Luthans, with 12 co-publications while 6 direct contributors have co-authored between 2 and 5 publications with Luthans. The other 23 Direct Contributors count only one piece written in collaboration with Luthans. One third of the direct collaborators are also close co-authors, some of them interconnected between several authors, among whom Kyle Luthans stands out.

Figure 2

Fred Luthans Invisible College



3.6 Distributions of Works on Journals

The publication of articles is concentrated on a minority number in the whole amount of journals surveyed. From the total of 593 articles on the subject, most are concentrated in a small number of

journals, probably specialised in the field; in fact, just under 5% of the 343 journals considered, published more than 25% of the total articles, with an average value of 1.7 articles per journal.

Table 5

Distribution of Works on Journals

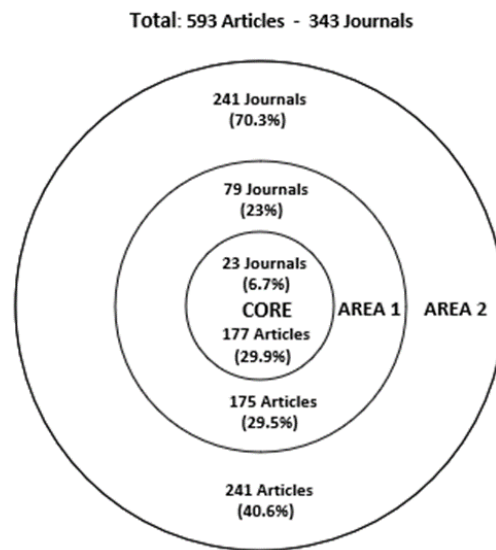
N° Articles	N° Journals	%	Cumulated %	Works	%	Cumulated %
27	1	0.29	0.29	27	4.55	4.55
17	1	0.29	0.58	17	2.87	7.42
14	1	0.29	0.87	14	2.36	9.78
10	1	0.29	1.16	10	1.69	11.46
9	2	0.58	1.74	18	3.04	14.50
8	2	0.58	2.32	16	2.70	17.20
7	2	0.58	2.90	14	2.36	19.56
6	3	0.87	3.77	18	3.04	22.59
5	3	0.87	4.64	15	2.53	25.12
4	7	2.04	6.68	28	4.72	29.85
3	17	4.96	11.64	51	8.60	38.45
2	62	18.08	29.72	124	20.91	59.36
1	241	70.26	100.00	241	40.64	100.00
113	343	100.00		593	100.00	

3.7 Journals Productivity – Bradford's Law

The distribution of the number of articles published per journal is effectively depicted by the graph prepared by applying Bradford's law (1934). In the Core, 23 journals (6.7%) stand out, in which 177 articles are concentrated, denoting a high level of productivity, amounting to around 30% of the total. Area 1, which considers journals with an average level of productivity, comprises 79 journals (23%) with a total of 177 articles, corresponding to a further 30% of the published works. In a concentric expansion of the first two areas, we observe Area 2, which refers to the remaining 241 journals (70.3%) with low and sporadic productivity, with a total of 241 articles (40.6%), corresponding to only one article published per journal.

Figure 3

Journals Productivity – Bradford Scattering Area



3.8 Most Productive Journals

The specific analysis of trade journals in the field highlights the three with more than 10 articles published. As an association of the journal occurs, this has been reported. The Impact Factor is also recounted and both the three e journals rank between the second and third quartile.

Table 6

Most Productive Journals - Bradford's Law Core Area

Journals	Articles	Association	IP	Category	Quartile
Frontiers in Psychology	27		2.988	Psychology, Multidisciplinary	Q2
International Journal of Environmental Research and Public Health	17	MDPI Multidisciplinary Digital Publishing Institute	3.390	Environmental Sciences	Q2
Journal of Leadership & Organizational Studies	14	SAGE Publications in Association with Midwest Academy of Management	3.448	Management	Q3

3.9 Citations Analysis

This distribution shows the highest frequency (>1000) referring to a single paper, while there is a considerable number of publications (n= 361) with fewer than 10 citations. The cumulative frequencies confirm this evidence: a small percentage of papers correspond to many citations, while more than 96% of the pieces are below 100 citations.

Table 7

Citations Analysis

Citations	Frequency	%	Cumulated %
1000+	1	0.17	0.17
999-500	4	0.67	0.84
499-300	3	0.51	1.35
299-200	3	0.51	1.85
199-150	3	0.51	2.36
149-100	8	1.35	3.71
99-50	33	5.56	9.27
49-10	177	29.85	39.12
9-0	361	60.88	100.00
	593	100.00	

3.10 Most Cited Papers

Articles cited more than 150 times are listed; the list consists of 14 articles.

Luthans, Fred., Avolio, B. J., Avey, J. B., Norman, S.M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60, 541-572. DOI: 10.1111/j.1744-6570.2007.00083.x (1417 Citations).

Luthans, F., Youssef, C. M. (2004). Human, social and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics*, 33, 143-160. DOI: 10.1016/j.orgdyn.2004.01.003 (612 Citations).

Avey, J. B., Reichard, R. J., Luthans, F., Mhatre, K. H. (2011). Meta-Analysis of the Impact of Positive Psychological Capital on Employee Attitudes, Behaviors, and Performance. *Human Resource Development Quarterly*, 22, 127-152. DOI: 10.1002/hrdq.20070 (608 Citations).

Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., Combs, G. M. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior*, 27, 387-393. DOI 10.1002/job.373 (546 Citations).

Luthans, F., Norman, S. M., Avolio, B. J., Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate - employee performance relationship. *Journal of Organizational Behaviour*, 29, 219-238. DOI: 10.1002/job.507 (508 Citations).

Avey, J. B., & Luthans, F., & Jensen, S. M. (2009). Psychological Capital: a positive resource for combating employees stress and turnover. *Human Resource Management*, 48, 677-693. DOI: 10.1002/hrm.20294 (451 Citations).

- Luthans, F., Avey, J. B., Avolio, B. J., Peterson, S. J. (2010). The Development and Resulting Performance Impact of Positive Psychological Capital. *Human Resource Development Quarterly*, 21, 41-67. DOI: 10.1002/hrdq.20034 (411 Citations).
- Avey, J. B., & Luthans, F., & Smith, R. M., & Palmer, N. F. (2010). Impact of Positive Psychological Capital on Employee Well-Being Over Time. *Journal of Occupational Health Psychology*, 15, 17-28. DOI: 10.1037/a0016998 (365 Citations).
- Avey, J. B., Luthans, F., Youssef, C. M. (2010). The Additive Value of Positive Psychological Capital in Predicting Work Attitudes and Behaviors. *Journal of Management*, 36, 430-452. DOI: 10.1177/0149206308329961 (273 Citations).
- Newman, A., Ucbasaran, Deniz., Zhu, F., Hirst, G. (2014). Psychological capital: A review and synthesis. *Journal of Organizational Behavior*, 35, 120-138. DOI: 10.1002/job.1916 (257 Citations).
- Luthans, F., Youssef-Morgan, C.M. (2017). Psychological Capital: An Evidence-Based Positive Approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 399-366. DOI: 10.1146/annurev-orgpsych-032516-113324 (247 Citations).
- Allen, F., & Carletti, E., & Marquez, R. (2011). Credit Market Competition and Capital Regulation. *Review of Financial Studies*, 24, 983-1018. DOI: 10.1093/rfs/hhp089 (188 Citations).
- Lee, C. C., Hsieh, M. F. (2013). The impact of bank capital on profitability and risk in Asian banking. *Journal of International Money and Finance*, 32, 251-281. DOI: 10.1016/j.jimonfin.2012.04.013 (162 Citations).
- Wang, H., Sui, Y., Luthans, F., Wang, D., Wu, Y. (2014). Impact of authentic leadership on performance: Role of followers' positive psychological capital and relational processes. *Journal of Organizational Behavior*, 35, 5-21. DOI: 10.1002/job.1850 (161 Citations).

3.11 Thematic Areas Classification

Table 8 shows the 21 main research areas in which more than 10 papers were published. The cumulative frequencies show that the top three areas account for almost 50% of the total. In particular, the focal area is Economics, with 289 published articles corresponding to more than 20%, followed by the area pertaining to Psychological Sciences, with 263 articles (18.37%), and Behavioural Sciences, 157 articles corresponding to almost 11% of the total. The following investigation areas, which together account for 40.38% of the publications, present a small number of published works, being far behind the first three and standing individually at percentages of less than 5%. Finally, the figure for the 141 research areas, i.e. 10.13%, which do not exceed 10 publications, should be noted.

Table 8*Investigation Areas*

Research Areas	Frequency	%	Cumulated %
Business Economics	289	20.18	20.18
Psychology	263	18.37	38.55
Behavioral Sciences	157	10.96	49.51
Public Environmental and Occupational Health	66	4.61	54.12
Social Issues	60	4.19	58.31
Education and Educational Research	57	3.98	62.29
Social Sciences and Other topics	48	3.35	65.64
Environmental Sciences Ecology	46	3.21	68.85
Health Care Sciences Services	46	3.21	72.07
Mathematics	37	2.58	74.65
Science Technology and Other Topics	30	2.09	76.75
Psychiatry	26	1.82	78.56
Nursing	25	1.75	80.31
Sociology	25	1.75	82.05
Engineering	23	1.61	83.66
Geography	21	1.47	85.13
Computer Science	16	1.12	86.24
Public Administration	16	1.12	87.36
Pediatrics	13	0.91	88.27
Demography	12	0.84	89.11
Pathology	11	0.77	89.87
Others 10 or less	145	10.13	100.00
	1432	100.00	

3.12 Content Analysis

Descriptors were analysed and, as result, 213 keywords were identified, for a total of 823 frequencies. Using the Carpintero and Peiró (1981) method, the frequency level of the significant keywords was calculated, which was found to be 11.88. All the KW with a frequency greater than 11 were then considered significant. The four identified categories are associated to their most frequent keywords. In the Sample category, the 7 reference keywords recur 289 times, or 33.10% of the total frequencies. It should be noted that 213 descriptors, although they individually have a frequency of less than 11, counted 415 frequencies, or 47.54% of the total. The descriptors were grouped according to the characteristics that show a common link. In the first category, qualitative variables referring to samples were grouped for descriptive purposes. China is the only keyword that refers to a specific geographical area. The effects of PsyCap in Chinese Organizational system stand out sharply, with reference to the studies conducted by Wang L. who particularly refers to the Chinese healthcare system, but it is plausible to infer that this may have other applications in different areas of organisations. The same evaluation certainly applies to cross sectional studies, which emerges among the descriptive groupings of the category referring to methodology.

The descriptors belonging to the category of Psychological Variables take up the resources of the individual discussed to this point, meaningful and essential, that enable to cope with stressful situations and adversity. Furthermore, with reference to the environment, the only key word that emerges is workplace. The categories and descriptors taken into analysis prove to be effectively representative of the investigation.

Table 9

5. Content Analysis

Category	KW	Frequency	%
Sample	Humans; Male; Female; Adult; China; Middle Aged; Young Adult	289	33.10
Methodology	Surveys and Questionnaires; Cross Sectional Studies	85	9.74
Psychological Variables	Stress Psychological; Resilience Psychological; Job Satisfaction; Self Efficacy	70	8.02
Environment	Workplace	14	1.60
Others with Frequency <11		415	47.54
		873	100.00



4. Discussion and Conclusions

Through the bibliometrics, this work aims to provide an insight into the scientific production related to Positive Psychological Capital.

The bibliometric analysis focuses on outcomes of production activity with the aim of both discovering the quantitative relationships between publications, authors and research areas, and measuring the quality (or performance) of researchers. Through the indicators used, it was possible to reach objective and comprehensive conclusions regarding scientific production on PsyCap, and this study, in addition to providing objective data on the thematic area, has also led to the demands addressed to positive psychology, not only in the individual sphere, but also in the relational and organisational one above all, as this study shows. Investigation of the annual productivity confirms that publications are continuously increasing; contextualised to the implicit and explicit demands of a globalised world in search of innovation, it was decided to investigate the 2022 trend considering only the first two months of the year. Although the reference may be small, it is enough to estimate the constant growth of publications, which already amount to 30 in the first two months of the year. The ever-increasing productivity is lined up to confirm the implications of PsyCap in those dimensions where it is necessary for the individual to refer to his or her own internal resources in order to assert their distinctive uniqueness and inescapability. Cole and Cole's classification allows to appreciate the dedication to the subject by the major producers; moreover, identifying the most productive authors

highlighted how the three most prolific, Fred Luthans, James B. Avey, Carolyn M. Youssef are in close interrelationship with each other, confirmed by Fred Luthans' dense network of collaboration. Their dedication and authority is confirmed by the scientific community's choice to refer to them; in fact, their articles are among the most cited (150 citations or more). Among the most productive authors, there is only one representation outside of the United States, and that is author L. Wang, who contributes to the dissemination of the importance of PsyCap in the Chinese healthcare system, which suffers from the pressures imposed by globalisation by placing a fundamental demand on the emotionality of individuals, in this case patients and healthcare personnel, exposed to the transience of life within organisations.

Therefore, it is possible to affirm the transversal qualities of PsyCap and to understand how and why its productivity has been growing steadily over the years; almost as if it were a necessity to make it meaningful in different areas. In order to objectivise this assumption, the use of Bradford's law, which finds its complementarity as an indicator in this direction and effect, along with the areas of investigation have been analysed. Through the application of Bradford's law and the graph, representative of the areas of dispersion, it is feasible to appreciate the dissemination of PsyCap as a subject, as well as a specific and distinct one, in relation to total productivity. This indicator already provides the basis for understanding that Positive Psychological Capital is not just about a specific area of interest. On the contrary, through the application of a law highlighting its dispersion, the effect of the topic on other regions of knowledge, can be deduced. In a complementary manner, the observation on the areas of investigation fits in. The three most productive journals were identified. Not all of them show an association and fall between the second and third representative quartile of scientific production on the subject. The data were extracted from the Journal Citation Report, which made it possible to trace the Journal Impact Factor that identifies the frequency with which an average article from a journal is cited in a particular year. The areas of investigation were examined. Although the areas of Psychology and Behavioural Science rank after the area of Business Economics, the critical and logical observation that psychology vividly lays the foundation for PsyCap is not lost. However, its applications are reflected, as a result, in the economy that drives the globalised society and is counted as an area of increased productivity to benefit from. For the content analysis, the method of Carpintero and Peiró (1981) was used, which led to a calculation to establish the significance level of the keywords. These were grouped by category. In particular, the groupings once again show the strong implication of PsyCap in the organisational sphere and, remarkably, in the Sample category, there is only one descriptor referring to nationality, precisely China.

In conclusion, from the evidence that has emerged, there are inherent characteristics in Positive Psychological Capital that make its application transversal. The growing scientific productivity reflects a require to learn about the subject matter and to enable its adoption at an interdisciplinary level in view of the demands of modernity by providing a response supported by Positive Psychology.

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