

KEEPING UP WITH THE BIAL FOUNDATION PERFORMANCE: A BIBLIOMETRIC ASSESSMENT

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FUNDAÇÃO

Bial

Instituição de utilidade pública
Institution of public utility

Aims & Method

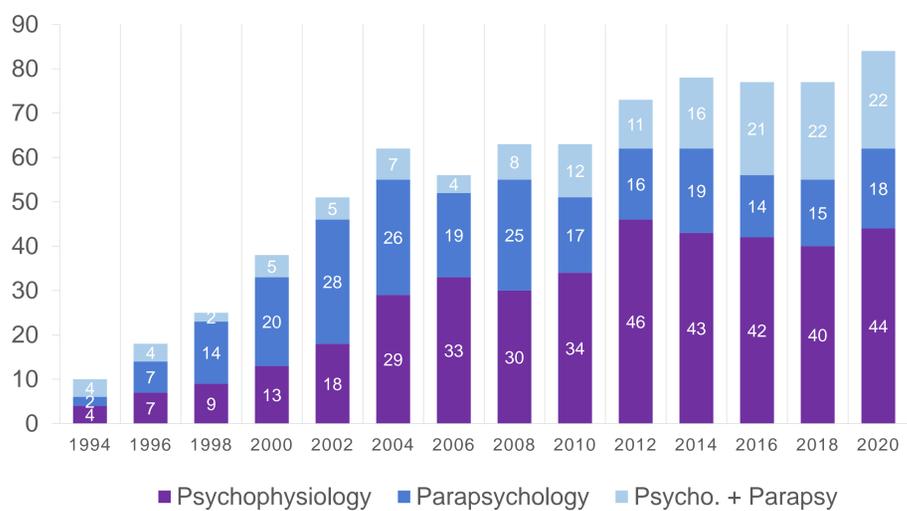
Aims: To analyse and to monitor the productivity, and related outcomes, of the projects supported by the BIAL Foundation from 1994 until today.

Method:

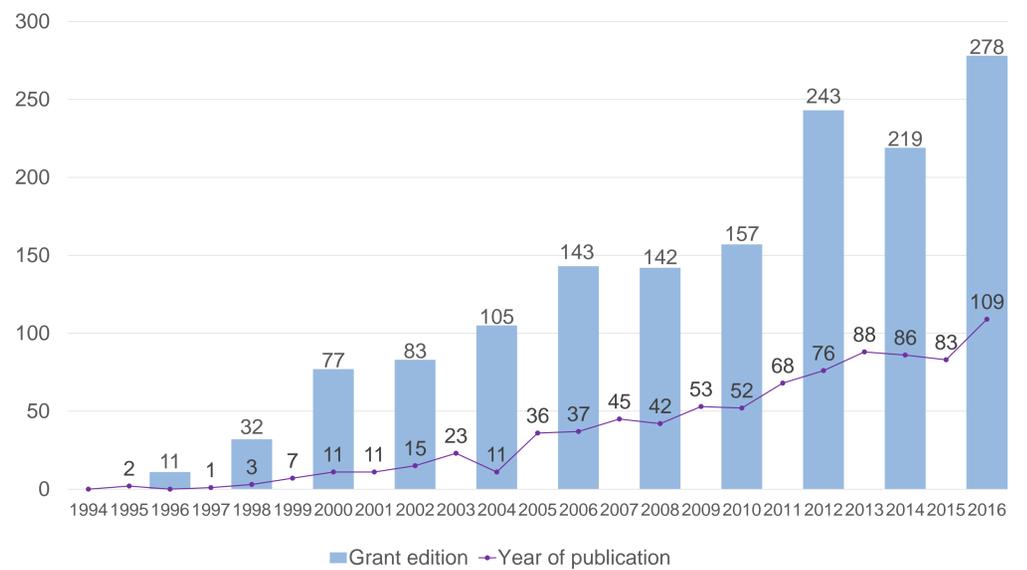
- Projects' productivity** - measured by the number of papers published in academic journals indexed by Scopus or Web of Science (WoS).
- Publications' impact** - assessed by:
 - the number of citations per item retrieved from WoS Core Collection in March 2022, total number of times cited and the average citations per item.
 - BIAL Foundation's h-index, where *h* equalled the number of publications for which it received at least *h* citations each.
 - distribution of papers published between 2011 and 2021 by percentiles of citations, comparing the actual number of citations with the expected number of citations for papers in the same research field and publication year.
 - the Highly Cited Papers, featuring those that ranked in the top 1% most cited papers for field and publication year in WoS.
- Journals' quality** - assessed by their impact factor and mainly by their quartile score (provided by Journal Citation Reports) to mitigate differences between research fields. Selection of the best quartile score when a journal was associated to more than one subject category and as result had different positions in the quartile ranking (Q1, Q2, Q3 or Q4).

1. Funded projects and its productivity

Funded projects by grant edition



Indexed publications by grant editions and year of publication



The BIAL Foundation has supported **775 research projects**, out of which **175 are in progress**, in the areas of Psychophysiology (392 grants, 51%), Parapsychology (240 grants, 31%) and Interdisciplinary (Psychophysiology and Parapsychology - 143 grants, 18%). These projects have been carried out by **1624 researchers**, in universities and research centers from **29 countries**.

Excluding the last 2 grant Editions (2018/19 and 2020/21), in which most projects are still ongoing or starting, a total of 614 projects showed a **ratio of indexed publications per project of 2.43**. This represents an **improvement**, given that in previous analysis, made in 2018, following the same criteria, the ratio was 1.76.

From 1995 to 2022, there were **1606 indexed publications**. In the current year, **16 papers** were already published or are in press.

From 2017 to 2021 it was published **730 indexed papers**, representing on average **146 indexed papers per year**.

These findings showed a **progressive increase** of indexed publications along the years.

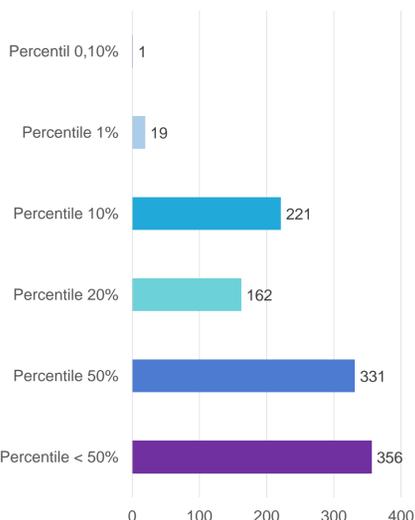
2. Publications' impact

Number of citations

Total Publications	Sum of Times Cited	Average citations per item	h-index
1528	35.146	23.00	83

83 papers obtained at least 83 citations. Two papers were **cited 538 times** each.

Number of publications by percentiles of citations



Highly Cited Paper

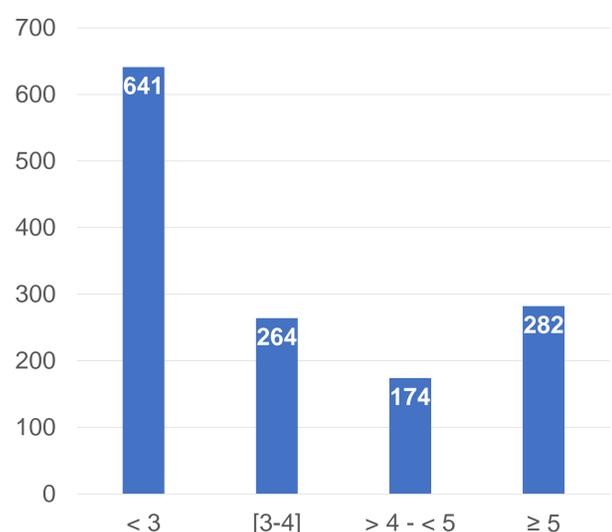
Examples of highly cited papers include:

- Biological Psychiatry:** Interoception and Mental Health: A Roadmap
- PLOS ONE:** The varieties of contemplative experience: A mixed-methods study of meditation-related challenges in Western Buddhists
- Physiological Reviews:** Brain mechanisms of insomnia: new perspectives on causes and consequences
- The Neuroscientist:** Transcranial Electrical Stimulation: What We Know and Do Not Know About Mechanisms
- PLOS Biology:** Commensal bacteria and essential amino acids control food choice behavior and reproduction
- Neuron:** The Neural Basis of Timing: Distributed Mechanisms for Diverse Functions
- Science Advances:** Human consciousness is supported by dynamic complex patterns of brain signal coordination

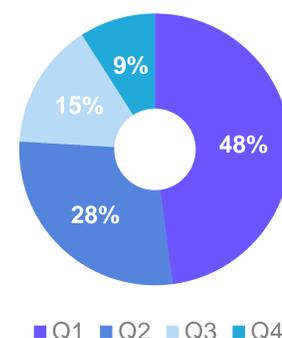
241 papers were among the top 10% most cited papers, representing an **increase of 213%** when compared to previous assessment made in 2018.

3. Journals' quality

Number of publications by journal impact factor



% of publications by quartile score



Overall, **1361 papers** were published in journals with an **average impact factor of 4,016**.

Conclusion

The use of up-to-date bibliometric indicators provides a basis for ongoing evaluation and to guide the strategy of future scientific projects supported by the BIAL Foundation. These results demonstrate the excellence of the research work under the scope of the Grants Program for Scientific Research supported by BIAL Foundation.

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Fundação BIAL

Background: Bibliometric indicators are a useful tool to assess the quality of several research outcomes. In 2014, we created an online database to gather the outcomes derived from projects supported by BIAL Foundation, thus enabling a more systematic and comprehensive evaluation of their research impact.

Aims: To analyze and monitor the productivity, and related outcomes, of the projects supported by the BIAL Foundation from 1994 until today.

Method: The productivity of projects was measured by counting the number of papers published in academic journals indexed on Web of Science (WoS) or Scopus. To examine the impact of publications we retrieved the number of citations per item from the WoS Core Collection in March 2022. The BIAL Foundation *h*-index was calculated by combining the total number of papers published (i.e., productivity) and the number of citations for each paper (i.e., impact). Moreover, for papers published between 2011 and 2021, the number of citations were compared with the expected number of citations for papers in the same research field and publication year, based on field baselines percentiles dataset of Essential Science Indicators (ESI), updated on January 13th, 2022. We also retrieved information regarding the Highly Cited Papers (those that ranked in the top 1% by citations for research field and publication year in WoS). Regarding journals' quality, it was assessed by the impact factor and, mainly, by the quartile score (i.e., Q1, Q2, Q3, and Q4), which was provided by Journal Citation Reports, to mitigate differences between research fields. It is noteworthy, that when a journal occupied different positions in the quartile ranking depending on the subject category with which it was associated, we chose the higher rank.

Results: Since 1994, there were 775 projects supported through the Grants Program for Scientific Research, in the areas of Psychophysiology (392 projects; 51%), Parapsychology (240 projects; 31%) and Interdisciplinary (i.e., a combination of Psychophysiology and Parapsychology; 143 projects; 18%). Moreover, the Foundation also supports four additional projects focused on specific topics of interest. Regarding projects' productivity, between 1994 and 2022, there were 2075 publications (article, book chapter, conference paper, conference proceedings, editorial material, journal, letter, and online paper), out of which 1606 were published in indexed journals. From those, 1361 were published in journals with an average impact factor of 4.016. We counted 35.146 citations, with 1430 publications being cited on average 23 times ($M=23.00$), ranging from 0 to 538. Most of papers were published in journals of quartile 1 ($n=647$; 48.24%) and quartile 2 ($n=378$; 28.43%). The BIAL Foundation *h*-index was 83. Between 2011 and 2021, from the 1017 publications, 21% ranked in the top 10% by citations for field and publication year.

Conclusions: The use of up-to-date bibliometric indicators provides a basis for evaluating ongoing and to guide the strategy of future scientific projects supported by the BIAL Foundation. These results demonstrate the excellence of the research work under the scope of the Grants Program for Scientific Research supported by BIAL Foundation.

Keywords: BIAL Foundation grants, Indexed publications, Citations, Impact factor, Quartiles.