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## ON RESEARCH IN PSYCHOLOGY: PUBLICATION, EVALUATION, PREVENTION OF PATHOLOGIES OF SCIENCE

Is it possible to find any specificity of research carried out by psychologists in their own country, justifying publication also in their native language? The question posed by Brzeziński (2014) requires considering different types of psychological research: studies regarding universal issues have to be diffused in a shared scientific format and in an international language, while studies regarding specific applicative aspects, linked to particular contexts, can be published in a language easily accessible to the psychologists living in a specific country. This kind of research and publication, if conducted with correct methodology, should not be considered of secondary scientific value. As regards the question of what indices should be used to determine a psychologist's position in world science, I will discuss the assumption of "objectivity" in this kind of evaluation: objectivity is very difficult to obtain using numeric criteria, while pre-determined scientific and teaching criteria and thresholds could be more suitable to achieve a full evaluation for habilitation or for other scientific or academic purposes. As regards reactions to scientific pathologies such as fabrication, falsification, or plagiarism of data, meta-analysis based on cumulative research on research could permit to detect unexpected outliers and to discover "file drawer effects," allowing replications and enhancing respect for scientific rules and ethics.

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The answers to the first two questions posed by Brzeziński (2014) require considering different types of psychological research. Theoretical and experimental research regarding processes (cognitive, emotional, neuropsychological, interpersonal) that are basically universal has to be realized and diffused accord-

ing to methodological guidelines shared all over the world, and also in a format and language universally accepted (i.e., APA style, English language), independently of where the author(s) and the publisher are located.

Experimental and quasi-experimental studies regarding specific applicative aspects, more interesting and useful in a particular country, should be conducted according to the methodological guidelines indicated above, but they may be published in a place and in a language accessible to the psychologists living in that specific country (e.g., Polish or Italian).

I think the differentiation among different types of research – and the publication of the results – should take into account not only the *context* (where the study is conducted) or the *purpose* (scientific purposes or the formation of specialists for psychological practice) but mainly the *object* of scientific work. As examples, I would quote applicative studies:

- in the educational field, referring to very particular systems of formation (e.g., modalities to treat learning disabilities or vocational counseling in specific school settings);
- in forensic psychology, since laws and procedures concerning certain issues (e.g., adoption, medically assisted procreation, separation and divorce, etc.) are very peculiar to specific countries;
- in the psychometric field, e.g. adaptations of psychological tests in national samples.

The results of these studies could be less attractive for international scientific publishers (except journals devoted to intercultural studies) and more appealing to scholars who have an interest in the particular problem addressed. This research could be published (surely, without derogating from universally valid methodological norms): in national peer-reviewed journals (avoiding “bookbinder’s syntheses” or publishing houses located “in a brother-in-law’s shed”); in a language easily accessible to all the psychologists interested in using these specific results (some national journals adopt a more expensive but useful double language format).

The same could be said for scientific debates on themes specific for a national context: for example, on issues regarding psychologists in schools, job placement centers, work and organizational problems, prevention programs for health, and so on. Also methodological issues could be treated in a national language to disseminate updated scientific knowledge among students and practitioners.

Many years ago, when I published a textbook on meta-analysis resuming the issue of guidelines for conducting scientifically cumulative studies and reporting the main results in several applicative fields (Di Nuovo, 1996), I chose the Italian

language and an Italian publisher. I preferred to publicize a methodology unfamiliar in Italy at that time in this way rather than submit my work to a prestigious international publishing house, since many good studies on this subject had already been published in English.

It is important not to prejudicially assume that this kind of research and publication – if conducted with correct methodology – is of secondary scientific value, also for the purposes of academic evaluation; in this way the participation of young researchers can be encouraged.

Therefore, I agree – on the conditions specified above – with Brzeziński's positive answer to the second question: "*Should psychologists publish (also) in their native language and should they publish their work also in their own country?*" The scientific publication in the native language, regarding the themes outlined above, is useful for preventing all the scientific knowledge of the psychologists working in a specific country, as well as the updating of the acquired information, from being based on the reductive translations of Wikipedia (or similar) entries into the language of that country.

Regarding Question 3, "*What indices are used (or should be used) to determine a psychologist's position in world science?*", I have no trust in any kind of "number games," deriving from some bizarre combination of bibliometric indices. Numbers (e.g., indices based on citations, such as the h-index, the g-index, or others) are linked to criteria that are not "objective," as they are naïvely presumed to be. In fact, citations depend on:

- the possibility of publishing in open-access journals (often requesting to pay, thus adding a financial argument to the scientific one);
- the participation in big networks of researchers, with more facility of being involved in the game (enterprising?) of reciprocal citation;
- working in scientific fields (e.g., neurosciences) where the system of quotation and the number of (real or fictitious) coauthors allow to obtain more citations.

Citation indices should be weighted by the academic age of the researcher and related to specific fields of research, since publication policies are very different between specific fields of a complex discipline, such as history of psychology, neuropsychology, methodology, and educational, social, or forensic psychology. An example of this difference is that monographs are preferred in some of these fields as the outcome of research work, while brief articles with data from single experiments are favored in others. How could numerical indices compare such different worlds, with dissimilar theoretical approaches, methods, academic traditions, and practices?

In Italy, a very complex system of “medians” (i.e., median values of indices obtained by the whole population of researchers in each scientific field) has been devised for habilitation applications, with many debates and diatribes about criteria fair for some candidates and subgroups and unfair for others. In some scientific fields bibliometric indices were taken into account in building these “medians” (i.e., the quantity of articles and the sum of citations in ISI or Scopus journals, the h-index), while nonbibliometric criteria (e.g., the number of books or articles also in Italian) were used in other fields, such as sociology, philosophy, or pedagogy. The inclusion of psychological disciplines – general, educational, and social psychology, work, dynamic, and clinical psychology, including methodologies – among sciences using bibliometric criteria for academic evaluation provoked markedly biased outcomes inside the heterogeneous world of psychology, but particularly unfair if compared with the abovementioned neighbor disciplines, where more loose criteria were used.

In general, despite what is generally presumed, “objectivity” is very difficult to achieve using numeric criteria. It can be added that positive citations are not distinguished from negative ones, and falsifications and improper procedures (Brzeziński’s Question 4) are not easy to detect by means of automatic indices alone. In order to assure a fair evaluation of psychologists’ position in world science, I would prefer a more traditional procedure in which a commission of experts (with the aid of external reviewers) would evaluate applicants for habilitation or other scientific or academic purposes, taking into account several criteria, such as: correctness and updating of the theoretical background of the overall research aims stated in the curriculum vitae; coherence of the field of study; appropriateness of methods and techniques; quality and originality of results; type of publications and places of publication; citations related to each specific type of publication.

In the case of applications for academic positions, the capacity for and expertise in applying scientific results to teaching should also be evaluated. It is not numerical indices that are useful (numbers often obscure substantial quality with artificial objectivity!) but a thought-minded and critical appraisal, made by a competent and responsible commission, of the whole curriculum vitae – i.e., the scientific, teaching, and professional history – of each candidate.

In conclusion, I agree with the statement found in DORA (2012): “do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles,” and with the conclusions of the Foundation for Polish Science (2014): “peer review evaluation should definitely be used, in which carefully selected academics assess the originality of individual

scientific contributions of other researchers, while the h-index and the number of citations may play an auxiliary role.”

As regards Question 4, concerning the conclusions from and reactions to scientific pathologies (i.e., fabrication, falsification, plagiarism), Brzeziński’s opinion is that psychologists should make their raw data available and share them with other researchers, if requested, to permit external replications of empirical studies. I suggest that meta-analysis, based on cumulative research on research, could permit to explore the distribution of experimental effects obtained in specific fields and issues, detecting the outliers and explaining the variance among studies on the same topic using methodological variables as mediating predictors (Schulze, 2004; Borenstein, Hedges, Higgins, & Rothstein, 2009). It is possible to discover the “file drawer effects” (Rosenthal, 1979) by directly asking authors for information about unpublished research, besides providing raw data for implementing cumulative analyses. Such control of the literature could be useful also for allowing replications and enhancing respect for scientific rules and ethics.

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