

Publication Statistics Show Collaboration, Not Competition

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Changing the name from *American Psychological Society* to *Association for Psychological Science* triggered a substantive gestalt switch in my perception of our organization. I welcomed the change as a commitment to the development of an international orientation in psychology. Having received my PhD degree in the US in 1982 and subsequently returning to Germany, I have followed international publication statistics with some interest. Until the early 1980s, only a few German psychologists used international journals as an outlet for their research. During the last 20 years, however, I have witnessed a remarkable change in this respect, especially, in my own field of experimental/cognitive psychology. So I have been wondering how this change compares across different fields of psychology and across various regions of the world. SCImago, a consortium of Spanish researchers, (2007, based on the SCOPUS database) offers statistics detailing the number of citable documents for different subcategories within psychology and for different countries or regions of the world.

The three panels of [Figure 1](#) display the log number of citable documents from 1996 to 2006 for experimental/cognitive (based on 80 journals), neuropsychology/physiological psychology (66 journals), and social psychology (66 journals); 12 journals are included in 2 fields (i.e., there are 200 different journals; caveat: I noticed some serious omissions by miscategorization). Citable documents are based exclusively on scientific articles and reviews from the three previous years of the selected year; that is, graphs are smoothed. Within each panel, I compare the US, Western Europe, and the Asiatic Region; I also include separate statistics for Germany and the United Kingdom.

For whatever a quick look at such statistics is worth, growth is apparent for each of the subfields for Western Europe and the Asiatic Region. Similar trends are also visible for other subcategories of psychology (i.e., clinical, applied, and developmental/educational). Thus, my introspection about changes in productivity is confirmed. I was surprised that the US increase is restricted to the domain of neuropsychology/physiological psychology. The tradeoff may well reflect the impact of changes in funding opportunities my US colleagues tell me about which have caused quite a few colleagues to move into this subfield. I doubt that this is a desirable trend for psychological science.

Comparisons among countries and among subfields of psychology are likely to foster competitive tendencies, but publication statistics can also highlight changes in patterns of cooperation. As scientists, we certainly share a proclivity to think and act on an international level. If you live outside the US, some of your closest colleagues, those who most likely will take the greatest interest in your research, are likely to live in a different country. So I have been wondering whether the undoubtedly increasing number of international contacts also pans out in publication statistics. Has there been a change in the number of articles co-authored by scientists from several countries? SCImago (2007) provides such a statistic for the years 1999 to 2006. Aggregating across *Psychological Science*, *Psychological Review*, *Psychological Bulletin*, *Journal of Experimental Psychology: General*, and *Psychonomic Bulletin & Review*, the percentage of such articles relative to the total number of documents increased quite linearly

from 15 percent to 35 percent during this period. Similar trends were visible in each of these journals. As a check on the reliability of this statistic, I determined the numbers for all volumes of *Psychological Science* from the ISI *Web of Science*; they are displayed in [Figure 2](#) and range from 3 percent in 1990 to 31 percent in 2008! The trend is primarily due to articles with three authors. Clearly, then, psychological research is carried out increasingly in internationally cooperating teams.

With due precaution in interpretation I find such statistics reassuring. They confirm my impression — from leafing through journals and from participating in grant review panels — that the younger cohort of psychological scientists is moving in a constructive and desirable direction. ?

References

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Figure 1. Citable documents (log) from SJR database (SCImago, 2007) over the 1996-2006 period for five different geographic regions/countries and three subfields of psychological science; produced with *ggplot* (Wickham, 2007; R Development Core Team, 2007).

Figure 2. Percentage of articles in *Psychological Science* with authors from several countries. Numbers give the total number of documents in the journal for each year. The shaded area covers ± 1 SE of prediction of linear regression; produced with *ggplot* (Wickham, 2007; R Development Core Team, 2007; the *R* project is the most impressive international cooperation in science — a model of sharing knowledge).