

Authorship patterns in psychology: National and international trends

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Controversy surrounds the nature and extent of changing authorship patterns in science. Some believe that the single-author paper will soon be extinct, while others claim that patterns have remained remarkably constant over the years. Because previous work has been cross-sectional and usually related to other disciplines, accurate statements cannot be made about trends in psychology. Longitudinal data derived from the *American Journal of Psychology*, the *British Journal of Psychology*, and *Psychological Abstracts* were examined and revealed that over the last 50 years, there has been a significant decrease in the frequency of single-author papers. Possible reasons for the increase in collaborative research by psychologists are discussed.

Over 20 years ago, Smith (1958) noted that authorship patterns in psychology were changing. Examining papers presented at annual American Psychological Association meetings over an 11-year period, 1946-1957, he reported a decrease from 75% to 52% in single-author papers, whereas two- and three-author papers had increased. Changing trends have subsequently been identified in a variety of disciplines, including astronomy (Meadows, 1974), physics (Vlachy, 1970), psychology (Lawler, 1963; Over & Smallman, 1973), and sociology (Patel, 1973).

The data, however, are far from uniform. On the basis of figures derived from *Chemical Abstracts* for the 50-year period 1910-1960, Price (1963) asserted "by 1980 the single author paper will be extinct" (p. 89). This statement was challenged. In her examination of a cognate area, biomedical literature for the 40-year period 1934-1963, Clarke (1964) found no evidence to suggest that authorship patterns were changing. Her data, in fact, revealed "no marked trend toward multiple authorship" (p. 822), as the average number of authors per paper had remained steady at 2.3.

Figures from other disciplines underscore the considerable variability that exists. Merton (1965) makes the distinction between patterns found in subjects such as biology, physics, and mathematics, all of which show an increase in multiple authorship, and the social and behavioral sciences, in which two patterns are found; in economics, anthropology, and political science, single-author papers predominate, whereas in sociology and psychology, collaborative work is increasing.

To generalize from one discipline to another is dangerous, and it may, furthermore, be equally dangerous to generalize from data that have a restricted time span

(i.e., figures derived from a few years only). For these reasons, we adopted a longitudinal approach to the examination of authorship patterns in psychology using two of the oldest national journals the *American Journal of Psychology* (AJP) and the *British Journal of Psychology* (BJP), and one international journal *Psychological Abstracts* (PA).

METHOD

The data were collected in the following way. For 93 volumes of the AJP (1888-1980) and 72 volumes of the BJP (1904-1980), the number of authors were counted for each paper. For the 64 volumes of PA (1927-1980) the greater amount of data necessitated the use of a sampling procedure. A computer program was therefore written that produced a set of uniformly distributed random numbers for each volume. If the abstract that corresponded to the number generated was satisfactory (i.e., was not of a book, book review, thesis, film, or technical report), the number of authors was noted; if the abstract was unsatisfactory, the next suitable abstract was selected.

RESULTS

For convenience, data from the AJP and the BJP were combined into three-volume blocks, and those from PA, into two-volume blocks. Figures 1, 2, and 3 show for each journal the percentage of papers that had one, two, or three or more authors. While the information in the figures is self-explanatory, regression analyses were nevertheless carried out, confirming linear trends for the AJP and PA data. For the BJP, although linear regressions were significant, it was found that a quadratic polynomial most closely approximated the actual data. Figures detailing correlations, slopes, and intercepts are available on request.

DISCUSSION

Notwithstanding the recent transitory increase in the number of single-author papers appearing in PA, the combined data clearly show that, as indexed by changes in authorship patterns,

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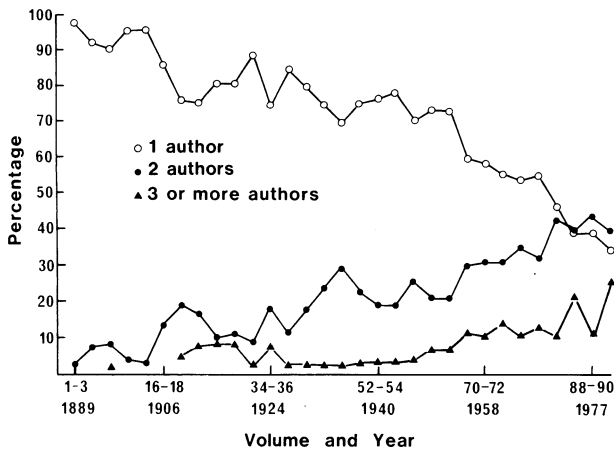


Figure 1. Percentage of papers appearing in the *American Journal of Psychology* with one, two, or three or more authors.

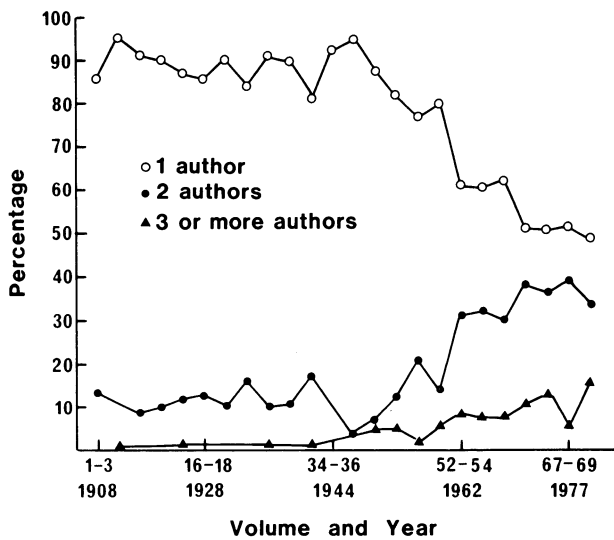


Figure 2. Percentage of papers appearing in the *British Journal of Psychology* with one, two, or three or more authors.

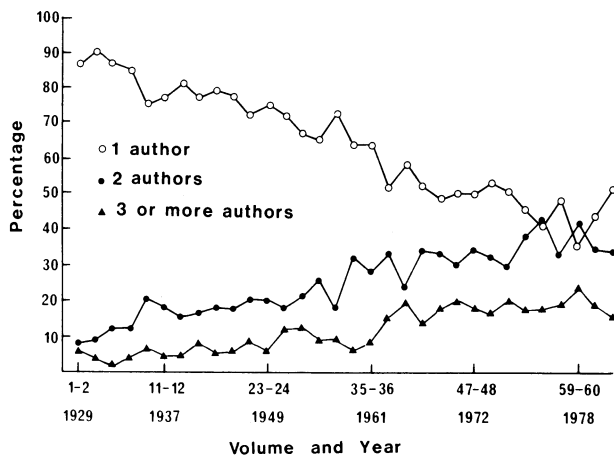


Figure 3. Percentage of papers appearing in *Psychological Abstracts* with one, two, or three or more authors.

collaborative research in psychology has significantly increased over the last 50 years. What has brought this about? Collaboration occurs for many reasons, but perhaps the most fundamental one is that the increasing complexity of the subject matter necessitates a team approach. It is becoming increasingly rare today for one person to be an expert in all relevant skills: data collection, writing, and, perhaps most important, in the quantification and interpretation of results (Eaton, 1951; Presser, 1980; Smith, 1958). In this connection, Berelson (1960) has reported that in word disciplines (such as education and philosophy), the rate of single authorship is 80% and 95%, whereas in data disciplines (such as biology and physics), the rates are only 30% and 33%. Present figures serve to document the fact that psychology may be in a transition phase, becoming more of a data discipline, with the greater skill specialization that results promoting a team approach and, as a consequence, increasing multiple authorship.

The pressure to publish is the second major reason. While there is, surprisingly, more soft opinion than hard fact on the publish-or-perish doctrine (see Lewis, 1977), the sheer number of publications—or, as it is sometimes called, bibliographic yardage—is frequently seen as being desirable for promotion. A study on productivity among sociologists (Nudelman & Landers, 1972) concludes “it is expeditious to collaborate with colleagues” (p. 9); furthermore, coauthorship is viewed as “an efficient form of gamesmanship” (p. 9).

Two studies have suggested that the increased mobility of scientists might be a factor in the rise of multiple authorship. Price and Beaver (1966) report that the movement of scientists between institutions results in a greater number of multiple-author papers, and, subsequently, Patel (1973) found that among multiple-author sociological articles, there is a trend toward increased inter- rather than intrainstitutional collaboration.

Multiple authorship may also be influenced by the finding that research grants are usually given to more than one experimenter. Patel (1973) reported that over a 7-decade period, 1 in 4 multiple-author articles were aided, in comparison to 1 in 14 single-author articles. Whether this is a cause or an effect, however, has yet to be determined empirically.

Departmental size has been suggested by Smith (1958) as another contributing factor. He argues that cooperation is easier in larger departments and larger departments have better equipped and better organized research staffs.

It is interesting to speculate as to the nature of future trends in psychology. For whatever reason or combination of reasons, the data clearly show that multiple authorship is increasing. Does this mean the single-author paper will become something of a rarity in the next 3 or 4 decades? While it is hardly likely that the single-author paper will become extinct, it is safe to say that the increasing complexity of our science, coupled with the continuing belief that publishing is a rewarding enterprise, will continue to create a climate most favorable for collaborative research.

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