

Geropsychology and Psychology in the Last Quarter of the 20th Century

Bibliometrical Results for the German-Speaking Versus Anglo-American Research Community

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This paper presents bibliometrical results on the development of gerontopsychology in the last quarter of the 20th century. Analyses are based on the psychology literature documented in PsycINFO, covering mainly publications from the Anglo-American region, and PSYINDEX, covering publications from the German-speaking countries, for the years 1977 to 2000. Results show that both literature bodies on gerontopsychology have steadily grown, in absolute terms, since the beginning of the last quarter of the 20th century. The geropsychology literature in the German-speak-

ing countries has grown faster than the Anglo-American literature. In terms of a relative frequency view, the findings support the notion that geropsychology has found a clear and stable position within psychology as a whole in both research communities, contributing 1–3% to the overall psychology literature and 8–15% (PsycINFO) respectively 30–50% (PSYINDEX) to the overall developmental psychology literature since 1978.

Keywords: Gerontopsychology, bibliometrical analysis, German-Anglo-American comparison, developmental psychology, history of psychology

The present work aims to add a quantitatively oriented piece of information to the existing body of narrative treatises on the history of geropsychology (e. g., Achenbaum, 1995; Baltes & Baltes, 1992; Birren, 1961a,b, 1996; Birren & Schroots, 2000, 2001; Thomae, 1994). The basic idea of this kind of analysis is that trajectories inherent in the quantitative evolution of the literature tell us something substantial about the developmental dynamics and standing of geropsychology within its parent discipline (i. e., psychology) as well as about the developmental dynamics and standing of its subfields.

The first major treatise on the history of geropsychology was Birren's well-known two-part article in the first volume of *The Gerontologist* (Birren, 1961a,b). Birren suggested at that time the following differentiation within the historical development of geropsychology: (1) the early period, 1835–1918; (2) the beginning of systematic studies, 1918–1940; and (3) the period of expansion 1946–1960. In the early 1960s geropsychology entered into what might be called (4) a consolidation peri-

od of its development, which in hindsight can be seen as roughly ending around the end of the 1970s/beginning of the 1980s, a point in time when geropsychology became (5) a well-established gerontological *and* psychological subdiscipline (Achenbaum, 1995; Birren & Schroots, 2000, 2001). With respect to historical issues,

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Klaus Riegel's (1977) chapter in the first edition of his volume is now a classic review of the literature which, assisted by S. Brumer, consisted of a painstaking bibliometrical analysis covering the period between 1920 and 1972. Riegel found that geropsychology publications accelerated particularly after World War II up to 1972 with a climax of 247 publications in the year 1969.

The present analysis aims to extend this early work concerned with the evolution of the geropsychology literature by addressing two aspects of its recent developmental dynamic. First, the development and role of geropsychology as a subfield of psychology is an important topic of our analysis. A second guiding idea for this work was to provide a comparison between geropsychology developments in the Anglo-American region and German-speaking countries based on the assumption that such international contrasts add to our understanding of the field and counteract an overly narrow country-specific view in whatever direction (see also Birren & Schroots, 2000, for an international perspective). To our knowledge, no such bibliometric analysis has been conducted before.

Method

The present analysis is based on an online/CD-ROM search of the psychology literature documented in PsycINFO and PSYINDEX covering the years 1977 to 2000. It is significant to know that overlap between literature documents in PsycINFO and PSYINDEX does not exceed 5–7%. Thus, double counting cannot substantially have impacted on any trend reported in this paper. As descriptors to detect geropsychological work, the index terms "aged" and "very old" as well as the Classification Code (CC) "gerontology" were used in logical "or" conjunction. With respect to the identification of the geropsychology subfields considered in this work, the following index terms were used for cognitive functioning: "cognitive development," "intellectual development," "intelligence," "memory," and "cognitive abilities." The subfield of life experiences/coping was addressed by use of the index terms "life experiences" and "coping behavior," while the subfield life satisfaction/well-being was addressed by exactly the same index terms. Finally, geropsychology research concerned with behavioral competence was identified by use of the index terms "activities of daily living," "competence," "leisure time," and "recreation."

Besides one central result addressing the development of the quantitative literature in absolute terms, all other findings of the present work are based on relative frequencies, with the absolute number of literature citations taken as the basis for this calculation for each year of publication, respectively. Subfields of psychology used as a background of comparison for the development of the geropsychology literature were identified by the Classification Codes (CC).

Results

Development of Geropsychology Within Psychology as its Parent Discipline

Figure 1a depicts the recent development of geropsychology literature citations in absolute terms. One remarkable aspect of the developmental trajectories found in both regions is the clear increase since 1978 and a plateau beginning around 1986–88 and lasting until the end

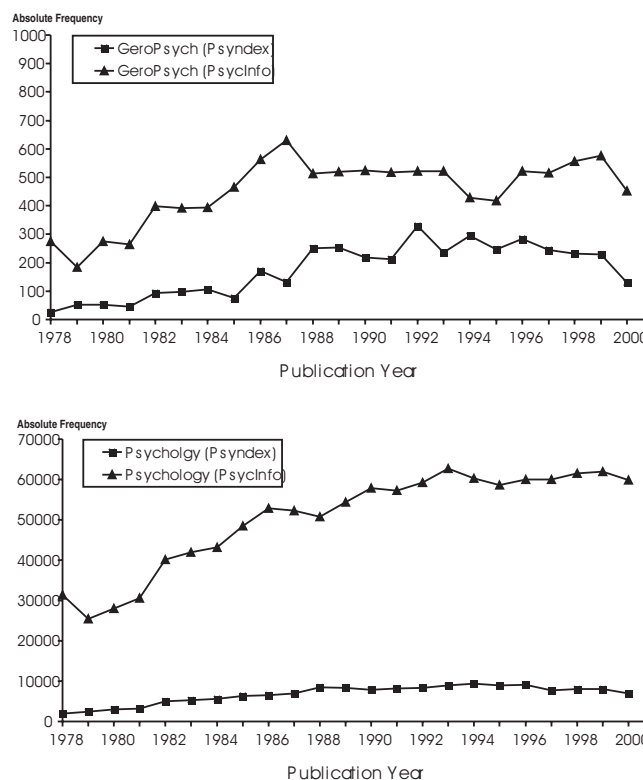


Figure 1 Absolute frequencies of geropsychology (a, top) and psychology (b, bottom) literature citations 1978–2000 in PsycINFO and PSYINDEX.

of the century (the decrease in 2000 should be ignored because of incomplete documentation in both systems). Obviously, the plateaus depicted in Figure 1a are at different levels, very roughly amounting to 500–600 literature citations per year in PsycINFO and 200–300 literature citations per year in PSYINDEX.

It is also remarkable that geropsychology literature citations in the Anglo-American region have roughly doubled between 1978 and the beginning of the plateau phase, which in a sense echoes Riegel's (1977) estimation that the geropsychology literature has doubled every 8.3 years between 1873 and 1972. In contrast, the rate of increase in the German-speaking region is much higher during this period of time, amounting roughly to a factor of 10 between 1978 and the beginning of the plateau phase.

Moreover, as can be seen by also taking Figure 1b into consideration, which depicts psychology as a whole, the trajectory of the geropsychology literature of German-speaking countries, in absolute terms, is roughly similar to the development of psychology in this region in general. In contrast, the Anglo-American psychology literature as a whole kept growing until the early 1990s, whereas growth in the subfield of geropsychology had already stopped in the second half of the 1980s.

Development of the Geropsychology Literature Compared to Other Psychology Subfields

Figure 2a shows the development of geropsychology literature in the Anglo-American region compared to the growth of developmental psychology (considered here only *without* work on human aging), environmental psychology, and experimental psychology. In particular, the relative frequencies of these bodies of literature compared to all psychology literature citations of each year between 1978 and 2000 are depicted. As can be seen, the Anglo-American geropsychology literature consistently comprised about 1% of the total psychology literature across the observation period.

The 1% rate of the Anglo-American geropsychology literature between 1978 and 2000 is clearly and consistently higher than the rate of the other rather new psychology subdiscipline considered here, namely, environmental psychology. Furthermore, Figure 2a also shows that the proportion of experimental psychology literature has decreased between 1978 and the early 1990s, followed by a sort of recovery since that time and the end of the century. In contrast, the literature on developmental psychology (excluding aging research) shows a slight but rather consistent decreasing tendency across the observation period. Obviously, and as to be expected, both

of these bodies of literature have a much higher share of the research market compared to geropsychology, but always below 10% of the total.

The development of geropsychology literature in the German-speaking region shows both similarities and differences compared with the Anglo-American region (Fig. 2b). In both regions, the geropsychology literature is clearly and consistently larger than that of environmental psychology between 1978 and 2000. It is worth noting, however, that the percentage of the geropsychology literature in the German-speaking research community always comprises more than 1% of the total psychology literature and even shows considerable increase of up to 3% by the end of the 1980s. That is, although the absolute number of publications in geropsychology has remained at the same level since the end of the 1980s, the *relative*

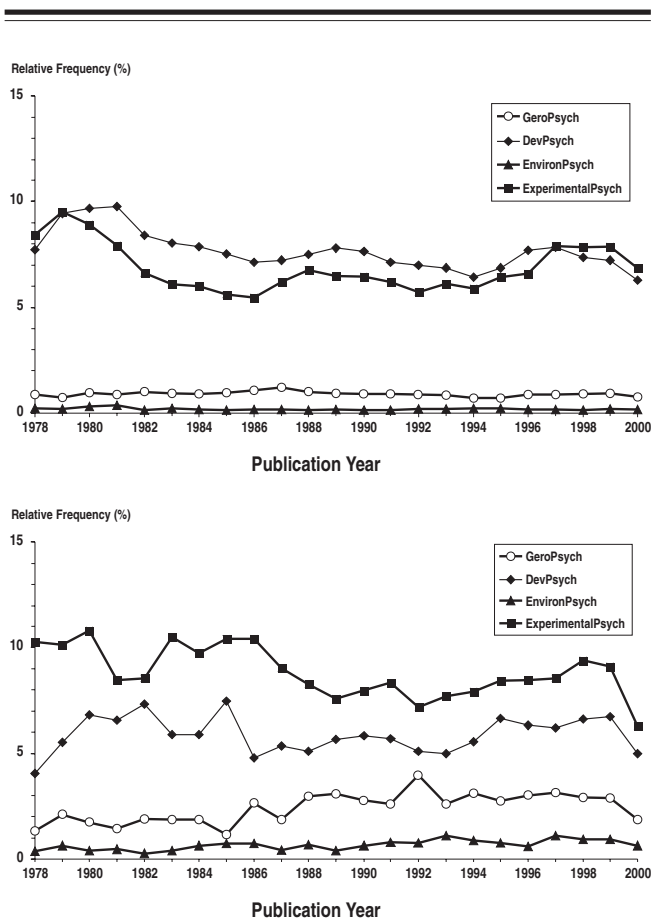


Figure 2 Relative frequencies of geropsychology literature citations as compared to developmental psychology (excluding aging), environmental psychology, and experimental psychology 1978–2000 in PsycINFO (a, top) and PSYINDEX (b, bottom).

contribution of the geropsychology literature to psychology as a whole has markedly increased since that time in the German-speaking countries. This trend cannot be observed in the Anglo-American region. Another difference between both regions is reflected in the relative frequency of the developmental psychology literature, which tends to be lower in the German-speaking countries, oscillating across the observation period somewhat, but remaining close to 5%. Finally, the proportion of research dedicated to experimental psychology in the German-speaking region tends to be higher, although it reveals a similar developmental trajectory compared to the Anglo-American region.

Next, we were interested in the contribution of the geropsychology literature to the developmental psychology in total (that is, including all ages). Figure 3 shows there is a clear difference between the Anglo-American and German geropsychology in this regard. While geropsychological publications in the Anglo-American region rather consistently constitute 10% of the total developmental psychology literature (with the exception of one publication year, 1993), the geropsychological literature from German-speaking countries consistently amounts to much more of the developmental literature, peaking at about 50% in the early 1990s (1992). Furthermore, although there is much fluctuation in the literature development in the German-speaking region, it has tended to increase since 1978. Hence, particularly in the German-speaking countries, geropsychology has become a very substantial portion of the developmental psychology literature since 1978, comprising between roughly 30% to 50% of the developmental literature

since the second half of the 1980s. This trend is less clear in the Anglo-American region.

Discussion

Our bibliometrical results show that both literature bodies on geropsychology have steadily grown, in absolute terms, since the beginning of the last quarter of the 20th century. The geropsychology literature in the German-speaking countries has grown faster than the Anglo-American literature. Possible reasons may lie either (1) in a time delay in the evolution of geropsychology research and its consolidation in the German-speaking countries or (2) in special research interests in geropsychology basing on the prominent European traditions in aging research (e. g., Quételet, 1835; Bühler, 1933; Thoma, 1959). To sum up, geropsychology has reached a stage of mature development at the close of the 20th century, having left behind what Birren (1961a) called its early period.

Another result is that in both the Anglo-American and German-speaking research community the geropsychology literature has remained relatively stable in absolute terms since the late 1980s. With respect to this plateau phase of geropsychology publication activity, at least two interpretations, one more positive, the other more negative, seem reasonable to us. From a more positive point of view, reaching the plateau reflects the beginning of a mature science period, producing a constant output on the relative highest level since its unfolding as a scientific discipline. The more negative explanation for this trend would refer to a decrease in the resources devoted to international geropsychology research across the years.

In terms of a relative frequency view, our findings support the notion that geropsychology has found a clear and stable position within psychology as a whole in both research communities, contributing between 1% and 3% to the overall psychology literature since 1978. However, in both regions, the relative contributions of geropsychology to the total psychology literature were also clearly and consistently higher compared than environmental psychology, another "trendy" and interdisciplinary subfield of psychology. Its contribution to the total psychology literature, however, is tentatively lower compared to a third "trendy" subfield not explicitly addressed in the present work, namely, health psychology, which lies above 4% in the German-speaking countries and significantly above 1% in the Anglo-America region since 1990 (Krampen & Montada, 1998, 2000).

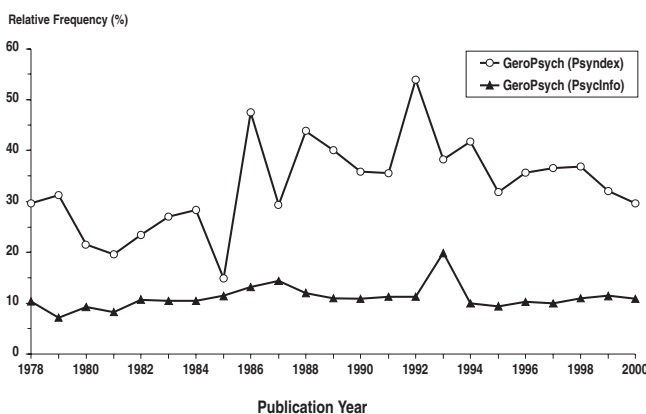


Figure 3 Relative frequencies of geropsychology literature citations of all developmental psychology literature citations 1978–2000 in PsycINFO and PSYINDEX.

Differences between both regions were found with regard to the relative contribution of geropsychology to developmental psychology as a whole, which was much higher in the German-speaking countries. The major reason for this may lie in the strong tradition of child psychology in North America, thus reducing the overall proportion of developmental psychology in the Anglo-American geropsychological literature.

Obviously, bibliometrical analyses of the kind presented here provide only a limited tool for historical analysis. Although they can tell us something about the growth of a science, they afford only a very coarse picture—and say nothing, for example, of the “good” or “bad” ideas or methods inherent to branches of scientific inquiry. It might also be worth the effort to complement such an analysis by taking advantage of other means of quantitative literature analysis such as citations rate analysis (e. g., Fischer, 2000), which were beyond the scope of this paper. On the other hand, taken together with narrative historical perspectives, bibliometrical analyses can add to a more comprehensive and multifaceted view of scientific evolution.

References

- Achenbaum, W.A. (1995). *Crossing frontiers: Gerontology emerges as a science*. New York: Cambridge University Press.
- Baltes, P.B., & Baltes, M.M. (1992). Gerontologie: Begriff, Herausforderung und Brennpunkte. In P.B. Baltes & J. Mittelstraß (Eds.), *Zukunft des Alterns und gesellschaftliche Entwicklung* [The future of aging and social development] (pp. 1–34). Berlin: De Gruyter.
- Birren, J.E. (1961a). A brief theory of the psychology of aging. Part 1. *The Gerontologist*, 1, 69–77.
- Birren, J.E. (1961b). A brief theory of the psychology of aging. Part 2. *The Gerontologist*, 1, 127–134.
- Birren, J.E. (Ed.). (1996). *Encyclopedia of gerontology. Age, aging, and the aged*. San Diego: Academic Press.
- Birren, J.E., & Schroots, J.J.F. (Eds.). (2000). *A history of geropsychology in autobiography*. Washington, DC: American Psychological Association.
- Birren, J.E., & Schroots, J.J.F. (2001). The history of geropsychology. In J.E. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (5th ed., pp. 3–28). San Diego: Academic Press.
- Bühler, C. (1933). *Der menschliche Lebenslauf als psychologisches Problem* [The human life course as a psychological problem]. Leipzig: S. Hirzel.
- Fischer, K. (2000). Scientiometrische Verfahren als Instrumente der Emigrationsforschung [Scientometric methods as instruments of emigration research]. In C. Fleck (Ed.), *Soziologische und historische Analysen der Sozialwissenschaften* [Sociological and historical analyses of social sciences] (pp. 213–246). Opladen/Wiesbaden: Westdeutscher Verlag.
- Krampe, G., & Montada, L. (1998). Health psychology: Bibliometrical results on the emergence and rapid consolidation of a new field of research and application. *Psychology and Health*, 13, 1027–1036.
- Krampe, G., & Montada, L. (2000). Zum Entwicklungsstand der Gesundheitspsychologie im Kontext der Grundlagen- und Anwendungsfächer der Psychologie [On the state of development of health psychology in the context of basic and applied disciplines of psychology]. *Zeitschrift für Gesundheitspsychologie*, 8, 1–7.
- Quêtelet, A. (1835). *Sur l'homme et le développement de ses facultés* [On man and the development of his faculties]. Paris: Bachelier.
- Riegel, K.F. (1977). Theory of psychological gerontology. In J.E. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 70–102). New York: Van Nostrand Reinhold.
- Thomae, H. (1959). Entwicklungsbegriff und Entwicklungstheorie [Concept and theory of development]. In H. Thomae (Ed.), *Handbuch der Psychologie* [Handbook of psychology] (3rd ed., pp. 3–20). Göttingen: Hogrefe.
- Thomae, H. (1994). Geschichte des Alters und der Altersforschung [History of age and research on aging]. In E. Olbrich, K. Sames & A. Schramm (Eds.), *Kompendium der Gerontologie, Abschnitt III-1* [Compendium of gerontology, Section III-1] (pp. 1–19). Lagerlechfeld: Ecomed.