

The Enduring Intellectual Legacy of B. F. Skinner: A Citation Count from 1966-1989

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It is frequently claimed that the influence of behaviorism in general and of B. F. Skinner in particular, is declining. Data obtained from the *Social Sciences Citation Index* for the years 1966-1989 document that in the last twenty-four years the number of citations to the works of Skinner has been reasonably steady. There is no evidence of a decline in the absolute number of such citations, suggesting that claims of the demise of behaviorism may be, once again, premature.

Key words: B. F. Skinner, behaviorism, behavior analysis

It is a common practice for psychologists and philosophers to announce the recent or imminent demise of behavior analysis. Such views emerged shortly after the formal beginnings of the field and continue to regularly appear in professional journals and books, and in the popular media. Some examples from 25 years ago may be found in Koch (1964), who commented on "behaviorism's evaporating methodological support" (p. 21), and who stated that "Behaviorism has been given a hearing for fifty years. I think this is generous. I shall urge that it is essentially a role-playing position which has outlived whatever usefulness its role might once have had" (p. 6). Koch (1964) went on to make a very specific claim, that "if one traces through the history of behaviorism from approximately 1913 . . . one finds a story of progressive attenuation of the position from within and, more recently, . . . increasingly a very strong attrition from without" (p. 98). More recently, Cohen (1987) wrote an article entitled "Behaviourism" which appeared in the influential *Oxford Companion to the Mind* and concluded that "Skinner has certainly attracted much respect and fame but his form of classical behaviourism is now less and less in vogue" (p. 74). Some recent popular textbooks maintain similar positions (e.g., Baars, 1986; Kosslyn, 1983).

Prior to abandoning their chosen field

for presumably more fertile arenas, readers of this journal may wish to examine some *data* regarding these claims on the declining influence of behaviorism. Wyatt, Hawkins, and Davis (1986) noted the results of a survey of the authors of psychology textbooks which found that the work of B. F. Skinner was tied for second place in terms of influencing the development of psychology since 1945. They also presented data on the growth of various professional behavioral associations and of the exponential growth in the founding of behavioral journals, all of which seems to reflect favorably upon the vitality of the field.

Within scientific disciplines, a major indicator of the influence an author's works are exerting on a field is the extent to which an author's publications are cited by others (cf. Howard, Cole, & Maxwell, 1987). One could assume that an author whose influence was waning would come to be cited fewer and fewer times with each passing year. Such a prediction is relatively easy to examine empirically through consulting the citation index of the *Social Sciences Citation Index* (SSCI) (Institute for Scientific Information, Inc., 1966-1989) which publishes an annual listing of the works authored by a given writer and cited by *different* writers.

This sourcebook was used to obtain data on the pattern of citations to the works of B. F. Skinner over the last twenty-four years. The *SSCI* reviews for the years 1966-1989 were consulted, and the number of times a work of B. F. Skinner's was cited by authors other than Skinner

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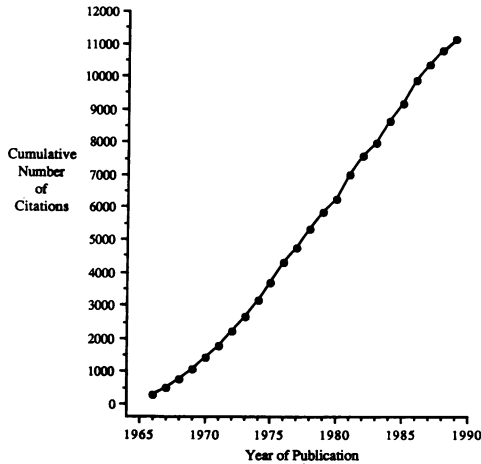


Figure 1. A citation count of the works of B. F. Skinner: 1966–1989.

was tabulated on an annual basis. These dates were selected for convenience purposes: 1989 was the most recent year for which such statistics were available, and 1966 was the last year for which the University of Georgia Library retained hardcopies of the *SSCI*. It was felt, however, that a 24 year retrospective analysis of this nature would be sufficient to reveal any significant trends in the absolute numbers of citations to Skinner's work. These data are presented in Table 1 in terms of the yearly frequency of citations and in the form of the cumulative total number of citations on a year by year basis. Figure 1 presents these data in the form of a cumulative record. The data presented in both Table 1 and Figure 1 document the consistency in the yearly number of citations to the works of B. F. Skinner. While some declines appear to have occurred in the last two years, the absolute numbers are still quite high.

At one level these data are fairly clear. However, several complications make certain statements difficult. This pattern depicts only the *absolute* numbers of citations, and does not address the separate issue of the *relative* growth of behavior analysis, compared to the field of psychology as a whole or to specializations within psychology such as experimental, developmental, clinical, etc. It should also be noted that a citation by another author does not necessarily imply a favorable

TABLE 1

Citation Count of the Works of B. F. Skinner: 1966–1989

| Year | Number of Citations | Cumulative Total |
|------|---------------------|------------------|
| 1966 | 225 | 225 |
| 1967 | 244 | 469 |
| 1968 | 269 | 738 |
| 1969 | 346 | 1,084 |
| 1970 | 321 | 1,405 |
| 1971 | 370 | 1,775 |
| 1972 | 420 | 2,195 |
| 1973 | 477 | 2,672 |
| 1974 | 467 | 3,139 |
| 1975 | 549 | 3,688 |
| 1976 | 592 | 4,280 |
| 1977 | 467 | 4,747 |
| 1978 | 550 | 5,297 |
| 1979 | 550 | 5,847 |
| 1980 | 410 | 6,257 |
| 1981 | 755 | 7,012 |
| 1982 | 541 | 7,553 |
| 1983 | 436 | 7,989 |
| 1984 | 665 | 8,654 |
| 1985 | 500 | 9,154 |
| 1986 | 742 | 9,896 |
| 1987 | 455 | 10,351 |
| 1988 | 432 | 10,783 |
| 1989 | 402 | 11,185 |

reading of one's publications, and no doubt numerous critics of Skinner have cited his work and accordingly been included in the present data.

Nevertheless, even the attention of critics implies the enduring value of Skinner's work, if only as an intellectual foil for the views of the critic. On the other hand, the extent to which Skinner's conceptual and experimental contributions have become so accepted that formal citations are no longer customary (e.g., the concepts of operant reinforcement or extinction) is also ignored in these data. Numerous journals which publish behavior analytic articles now rarely contain explicit citations to Skinner. The above factors introduce sufficient variability into analyses such as this so as to preclude any clear statements as to the relative *growth* or *retrenchment* of the field of behavior analysis. However, the data do suggest that the influence of Skinner, and by inference the field of behavior analysis, has been a continuing one over

the past two decades. The onus is clearly on the detractors of behavior analysis to provide data to support claims to the contrary.

REFERENCES

- Baars, B. J. (1986). *The cognitive revolution in psychology*. New York: Guilford.
- Cohen, D. (1987). Behaviourism. In R. L. Gregory (Ed.), *The Oxford companion to the mind* (pp. 71-74). New York: Oxford University Press.
- Howard, G. S., Cole, D. A., & Maxwell, S. E. (1987). Research productivity in psychology based on publication in the journals of the American Psychological Association. *American Psychologist*, 42, 975-986.
- Institute for Scientific Information, Incorporated. (1966-1989). *Social sciences citation index (Citation index)*. Philadelphia: Author.
- Koch, S. (1964). Psychology and emerging conceptions of knowledge as unitary. In T. W. Wann (Ed.), *Behaviorism and phenomenology: Contrasting bases for modern psychology* (pp. 1-45). Chicago: The University of Chicago Press.
- Kosslyn, S. M. (1983). *Ghosts in the mind's machine*. New York: Norton.
- Wyatt, W. J., Hawkins, R. P., & Davis, P. (1986). Behaviorism: Are reports of its death exaggerated? *The Behavior Analyst*, 9, 101-105.