TAKING STOCK: THE FIRST 25 YEARS OF THE JOURNAL OF APPLIED BEHAVIOR ANALYSIS

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Some aspects of the performance of the *Journal of Applied Behavior Analysis (JABA)* are described on the occasion of the journal's 25th anniversary. Comparative circulation data are presented. *JABA's* influence on the scientific community is measured by examining the citation history of articles that it has published, with attention to both frequency and source of the citations. The influence that other journals have on *JABA's* authors is assessed through an analysis of citations made by those authors in this journal's reference lists. The citation history indicates clearly that *JABA* has made substantial contributions toward producing methods useful in coping with a wide variety of problem behaviors, from profound developmental disabilities (such as autism) to the simpler behavioral problems that interfere with normal functioning in home and at school. Recently, the journal has devoted many issues and parts of issues to special topics, in a concerted effort to reflect the increasing breadth of applied behavior analysis.

DESCRIPTORS: *Journal of Applied Behavior Analysis*, publication history, applied behavior analysis

The *Journal of Applied Behavior Analysis (JABA)*, whose first issue appeared in 1968, is celebrating its 25th birthday. The story of *JABA's* founding by the Society for the Experimental Analysis of Behavior (SEAB) was briefly recounted in a special section of the *Journal of the Experimental Analysis of Behavior (JEAB)* that celebrated SEAB's and *JEAB's* 30th anniversaries (Hineline & Laties, 1987; Laties, 1987; see also Bailey, 1987; Wolf, 1993; Wright, 1993). About 5 years ago, several authors helped celebrate *JABA's* 20th anniversary by considering the outlook for this journal in light of some of its major contributions and possible shortcomings during the preceding two decades (Baer, 1987; Baer, Wolf, & Risley, 1987; Hopkins, 1987; Iwata, 1987; Kunkel, 1987; Wolf, Braukmann, & Ramp, 1987). Recent articles by others have examined other aspects of the journal's

progress. For example, Kennedy (1992) presented a content analysis of the use of social validity measures by *JABA* authors, and Northup, Vollmer, and Serrett (1993) discuss in this issue trends in the characteristics of *JABA* articles.

What follows is a summary of some data on *JABA's* performance along a few objectively measured dimensions: its success in attracting subscribers, its influence on other journals, and the influence that other journals have on it.

Circulation

JABA was born at a propitious time for behavioral science and immediately attracted an impressive number of subscribers. About 1,500 subscriptions were sold before the first (Spring) issue was mailed in mid-April 1968. By the time the Summer issue appeared, circulation had doubled to 3,000. At the end of the first year, paid subscriptions totaled 4,271, consisting of 761 institutions (mostly libraries) plus 1,558 individual and 1,952 student subscribers.

For 1992, *JABA* had a total circulation of 4,636,

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Table 1
Comparative Data on Journal Circulation (1992)

Journal (publisher)	Paid circulation
<i>American Journal on Mental Retardation</i> (AAMR)(U)	11,600
<i>Behavior Modification</i> (Sage)	1,322
<i>Behavior Therapy</i> (AABT)	2,731
<i>Behavioral Assessment</i> (Pergamon)(SPD) ^a	1,200
<i>Behaviour Research & Therapy</i> (Pergamon)(U) ^b	4,300
<i>Child & Family Behavior Therapy</i> (Haworth)(SPD)	532
<i>Cognitive Therapy & Research</i> (Plenum)	1,023
<i>Education & Training in Mental Retardation</i> (CEC)(U)	9,100
<i>Journal of Abnormal Psychology</i> (APA)	6,745
<i>Journal of Applied Behavior Analysis</i> (SEAB)	4,636
<i>Journal of Applied Psychology</i> (APA)	5,647
<i>Journal of Behavior Therapy & Experimental Psychiatry</i> (Pergamon)(SPD)	2,000
<i>Journal of Behavioral Medicine</i> (Plenum)	1,740
<i>Journal of Consulting & Clinical Psychology</i> (APA)	10,488
<i>Journal of Counseling Psychology</i> (APA)	7,454
<i>Journal of Educational Psychology</i> (APA)	4,838
<i>Journal of Experimental Psychology: Learning, Memory & Cognition</i> (APA)	3,503
<i>Journal of Mental Deficiency Research</i> (Blackwell)(U)	1,100 ^c
<i>Journal of the Association for Persons with Severe Handicaps</i> (TASH)(SPD) ^d	7,600
<i>Journal of the Experimental Analysis of Behavior</i> (SEAB)	2,357
<i>Psychological Assessment</i> (APA)	5,917
<i>Psychological Bulletin</i> (APA)	7,572
<i>Psychological Record</i> (Kenyon College)	1,180
<i>Research in Developmental Disabilities</i> (Pergamon)(SPD)	600

Note. AABT: Association for the Advancement of Behavior Therapy; AAMR: American Association on Mental Retardation; APA: American Psychological Association (see *American Psychologist*, 1992, 47, 968); CEC: Council for Exceptional Children; NASP: National Association of School Psychologists; SEAB: Society for the Experimental Analysis of Behavior; SPD: *Standard Periodical Directory* (16th ed.), 1993; TASH: The Association for Persons with Severe Handicaps; U: *Ulrich's International Periodicals Directory* (31st ed.), 1992-1993. Circulation data are from 1992 statements of ownership in the journals, except for those labeled "U" or "SPD."

^a Merged into *Behaviour Research & Therapy* in 1993.

^b This number has remained unchanged since the 1980 edition.

^c Renamed *Journal of Intellectual Disability Research* in 1991.

^d Controlled circulation; sent to all TASH members.

made up of 1,923 institutions, 1,927 individuals, and 786 students—almost three times as many institutions, about the same number of individuals, but many fewer students. Table 1 contains 1992 paid circulation data for some of the journals that cite *JABA* often or are cited heavily by *JABA*, as well as for other well-established journals that are useful as benchmarks in assessing our performance.

However, presenting only the figures for 1968 and 1992 omits both the delightful circulation peaks reached during the 1970s and the depressing downturn of the subsequent years, the latter an experience shared by all publishers as support for research and graduate education, particularly in the social sciences, eroded. *JABA*'s total circulation

reached 7,097 in 1975 but then declined.

JABA's total circulation for 1992 was off by 26% from its 1979 figure of 6,290. In comparison, *Behavior Therapy* (BT) dropped from 3,276 to 2,731 (14%), *Behavior Modification* (BM) from 2,232 to 1,322 (41%), *JEAB* from 3,062 to 2,357 (23%), and *Psychological Bulletin* (PB) from 9,887 to 7,572 (23%). However, *Journal of Applied Psychology* (JAP) was down only 9%, from 6,153 to 5,647, and *Journal of Consulting and Clinical Psychology* (JCCP) actually rose from 9,741 to 10,488. *JABA*'s institutional subscriptions peaked at 2,344 in 1979. Since then, the erosion of library budgets has caused the loss of about 400 institutional subscribers.

JABA's 1992 institutional circulation of 1,923 approximated that of some of the journals published by the American Psychological Association (e.g., *Developmental Psychology*, 2,223; *Journal of Counseling Psychology*, 2,305; *Journal of Experimental Psychology: Learning, Memory and Cognition*, 1,893). But it fell short of matching *PB*, 2,778; *JAP*, 2,726; *JCCP*, 2,599; *Journal of Educational Psychology*, 2,912; or *Journal of Abnormal Psychology*, 2,935. These numbers are a good estimate of the probable maximums that can be reached for journals in psychology. *Psychological Assessment*, founded quite recently in 1989, had only 895 institutions in 1992, a figure that testifies to how difficult it has become to convince librarians to add new journals.

JABA's Influence on the Scientific Community

Citation frequency and impact: JABA's relative standing among social science journals. The extent to which a scientific contribution has been cited in the literature is one measure of its influence (Garfield, 1972). Citation analysis has been made feasible by the extensive compilations of the citation histories of both individual papers and the journals in which they appear by the Institute for Scientific Information (ISI). Since 1974, annual volumes of *Journal Citation Reports (JCR)* have documented the standing of journals on highly relevant performance measures, including *times cited* and *impact factor*. *Times cited* is a cumulation of the number of times that articles from a particular journal have been cited during a year. *Impact factor*, on the other hand, measures citations per published article and therefore tries to diminish the influence of journal size. It is a ratio of the citations and the number of citable articles published, and is usually based on the frequency with which articles that appeared in the immediately prior 2 years have been cited during a particular year (e.g., total citations during 1988 to articles published in the journal during 1986 and 1987, divided by the number of articles the journal published during those 2 years).

Table 2 presents these measures for *JABA* plus 24 others of interest, including most that cite or are

cited in *JABA* frequently. The data, which apply to journal performance during 1988, are presented in three ways: as raw scores, as ranks within the relevant SSCI databases ($N = 1,382$ journals for times cited, 1,370 for impact factor), and of those ranks converted into percentiles. Expressing these ranks in percentiles shows more clearly that *JABA*, as well as several of the behavioral journals that cite it or are heavily cited within it (e.g., *BT*, *JEAB*), stand well within the top group of social and behavioral science journals on both measures. An impact factor of 0.50 translates into about the 58th percentile, 1.00 the 83rd, 1.50 the 90th, 2.00 the 95th, and 2.50 the 97th percentile. (Impact factors for 1992 are given for the journals that most frequently cite *JABA* in the far left column of Table 4.)

JABA's impact factor has varied between 0.98 and 2.07 over the years in a somewhat haphazard fashion since it was first made available in 1975, when it was 1.20. Since 1977, it has been 2.07, 1.85, 1.79, 1.60, 1.84, 1.62, 1.16, 1.36, 0.98, 1.26, 1.44, 1.39, 1.04, 1.15, 1.24, and 1.46. The associated percentiles of the impact factors between 1977 and 1992 were between 82 and 97 ($M = 90.6$; median = 90.5). A similar analysis for times cited yielded percentiles between 95 and 98 ($M = 96.8$; median = 97).

Citation frequency and impact: Comparisons among ISI "clinical psychology" journals. One could argue that comparing journals such as *JABA* with the whole SSCI data base is foolish because the data base contains many journals from much smaller fields where a few hundred citations per year would be the equivalent of a few thousand for journals in larger fields. (In 1988, only 242 of the 1,382 journals in the data base were cited more than 500 times.) *JABA* is classified under clinical psychology by *JCR* when it places journals into subject categories. Although far from a perfect fit, our presence there makes possible comparisons with a somewhat more homogeneous reference group.

In 1988, *JABA* was 8th of 42 journals listed in that category and ranked by impact factor. (No ranking by times cited was presented.) It had been cited 1,486 times during that year. Because 122

Table 2
Journal Performance Measures: Times Cited and Impact Factor (*Journal Citation Reports*, 1988)

Journal	Times cited			Impact factor		
	Cites	Rank	%*	IF	Rank	%*
<i>American Journal of Mental Retardation</i>	1,310	84	94	0.89	283	79
<i>Behavior Modification</i>	352	327	76	0.64	428	69
<i>Behavior Therapy</i>	1,314	82	94	1.44	119	91
<i>Behavioural Psychotherapy</i>	93	839	39	0.60	463	66
<i>Behaviour Research & Therapy</i>	1,596	62	96	1.73	76	94
<i>Clinical Psychology Review</i>	324	356	74	1.29	146	89
<i>Cognitive Therapy & Research</i>	784	140	90	1.30	143	90
<i>Education & Training in Mental Retardation</i>	199	527	62	0.32	795	42
<i>Exceptional Children</i>	989	112	92	2.62	29	98
<i>Journal of Applied Behavior Analysis</i>	1,486	73	95	1.39	134	90
<i>Journal of Applied Psychology</i>	3,426	19	99	2.13	49	96
<i>Journal of the Association for Persons with Severe Handicaps</i>	199	27	62	1.23	154	89
<i>Journal of Consulting & Clinical Psychology</i>	5,895	8	99	2.01	57	96
<i>Journal of Behavior Therapy & Experimental Psychiatry</i>	427	278	80	0.45	624	54
<i>Journal of Autism & Developmental Disorders</i>	682	162	88	1.21	160	88
<i>Journal of the Experimental Analysis of Behavior</i>	2,125	41	97	1.48	109	92
<i>Journal of Experimental Child Psychology</i>	1,181	90	94	0.97	248	82
<i>Journal of Learning Disabilities</i>	1,003	108	92	1.04	217	84
<i>Journal of Speech & Hearing Disorders</i>	908	123	91	0.76	345	75
<i>Journal of Speech & Hearing Research</i>	1,559	68	95	1.06	211	85
<i>Journal of Special Education</i>	346	334	76	0.48	584	57
<i>Mental Retardation</i>	371	317	77	0.48	584	57
<i>Psychological Bulletin</i>	6,321	6	99	4.55	7	99
<i>Psychological Record</i>	348	330	76	0.51	551	60
<i>School Psychology Review</i>	295	385	72	0.93	261	81

* % = % below.

of those citations had been to the 88 articles published during 1986 and 1987, its impact factor was 1.39. Some of the journals above us were *Psychological Medicine* (first, impact factor of 2.21), *Journal of Clinical and Experimental Neuropsychology* (second, 2.14), *Journal of Clinical Psychiatry* (third, 2.02), *JCCP* (fourth, 2.01), *Journal of Abnormal Psychology* (*JAbP*; fifth, 1.87) and *BT* (seventh, 1.44). Among those below were *BM* (21st, 0.64), *Behavioural Psychotherapy* (*BP*; 22nd, 0.60), and *Journal of Behavior Therapy and Experimental Psychiatry* (*JBTEP*; 33rd, 0.45).

Whereas the impact factor is useful in estimating the average citability of a journal's articles, it is also important to consider the total number of citations attracted by a journal. Times cited figures for 1988 for some of the journals mentioned above have already been given in Table 2. Even within this

smaller category, we are dealing with a very wide range of sizes, from *JCCP*, which in 1988 attracted 5,895 citations (and that year published 141 articles) to *JABA* and *BT* with 1,486 and 1,314 citations (and 41 and 48 articles, respectively) down to journals with fewer than 500 citations.

In 1992, we ranked 9th of 44 journals by impact factor. Above us were *JCCP*, this time first with 2.83, plus all the others that preceded us in 1988 as well as *Clinical Psychology Review* (third, 2.56), and *BT* (seventh, 1.78). Below were *BM* (23rd, 0.75), *JBTEP* (33rd, 0.40), and *BP* (36th, 0.32).

Citation histories of individual JABA papers. The rapidity with which *JABA* established its place in the sun is shown in Figure 1. The early citation history of the 10 articles comprising the journal's first issue (the graph shows their progress through 1980) testifies to the scholarly influence of these classic papers: Two were cited at least 100 times

through 1973 and continued to accelerate for almost a decade, two more hit that mark the following year, and another two achieved it 2 years later. Two of the remaining four (the ones just below 100 in 1980) reached that number about 5 years later. Citations of one more, Ayllon and Azrin (1968a), which described a way to increase the efficacy of reinforcement within the context of a token economy that had been established in a mental hospital, were undoubtedly overshadowed by the appearance later in the same year of Ayllon and Azrin (1968b), the influential monograph on the token economy that itself has received over 700 citations.

This history of *JABA*'s initial issue is continued in Table 3, which lists the 29 *JABA* papers that were cited 125 or more times through 1986; these data come from an unpublished study by ISI that listed the most highly cited papers appearing in each of the journals covered in the *Social Science Citation Index (SSCI)*. These 29 papers give a good picture of how the journal has contributed to the progress of behavior analysis, with most areas within the field being represented. The top six papers from the first issue can be found among them. We have added data from subsequent volumes of *SSCI*, and the far right column gives cumulative citations through 1992. Some papers that appeared 20 or more years ago continued to be actively cited. Taken together, the 10 papers of the first issue were cited about 2,500 times through 1992. This early burst of intellectual energy is congruent with an observation made by Garfield (1987) who, in commenting on citation classics in the social and behavioral sciences, noted that "many classics were published in the first volumes of a specialty journal associated with the emergence of the then new field" (p. xii). Authors of most of these highly cited papers were invited by ISI to submit reminiscences concerning the circumstances surrounding their contributions to the "Citation Classics" section of the weekly editions of *Current Contents*. Many of them did so, and references to the essays are included in the Appendix.

One more fact, courtesy of the enormously helpful technical staff at ISI: Slightly more than one

Figure 1. Citation history, 1968 through 1980, of the articles from the first issue of the *Journal of Applied Behavior Analysis*. Complete references for the top six curves (Baer, Wolf, & Risley; Keller; Hall, Lund, & Jackson; Thomas, Becker, & Armstrong; Risley; and Zielberger, Sampen, & Sloane) are in Table 3. Azrin and Ayllon is listed among the general references. The remaining reference is Powell, J., & Azrin, N. H. (1968). The effects of shock as a punisher for cigarette smoking. 1, 63-71. The figure is reprinted from Laties (1987).

third of the approximately 1,200 papers published by *JABA* were cited 25 or more times through 1992.

Sources of citations to JABA articles. Which journals publish the articles that cite papers in *JABA*? First and foremost is *JABA* itself, whose authors cite other *JABA* articles frequently. Table 4 shows the principal sources of citations to *JABA* during the 5-year period of 1988 through 1992. Of the grand total of 7,054 recent citations to *JABA* articles, 1,341 originated within the journal itself (19%). The yearly *self-cited* rates (*JABA* author citations of papers published in *JABA* expressed as a percentage of the total number of citations received by the journal) varied from 11% to 28%, the latter figure for 1992 being relatively high. In 1974, the first year for which data are available, 143 references to *JABA* papers made up

Table 3
Most Often Cited Papers from the *Journal of Applied Behavior Analysis*

Rank		Citations through	
		1986	1992
1	Bear, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. <i>1</i> , 91-97.	762	916
2	Stokes, T. F., & Baer, D. M. (1977). An implicit technology of generalization. <i>10</i> , 349-367.	458	717
3	Wolf, M. M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. <i>11</i> , 203-214.	314	527
4	Keller, F. S. (1968). "Good-bye, teacher. . ." <i>1</i> , 79-89.	375	427
5	Kazdin, A. E., & Bootzin, R. R. (1972). The token economy: An evaluative review. <i>5</i> , 343-372.	280	299
6	Hartmann, D. P. (1977). Considerations in the choice of interobserver reliability estimates. <i>10</i> , 103-116.	191	289
7	Hall, R. V., Lund, D., & Jackson, D. (1968). Effects of teacher attention on study behavior. <i>1</i> , 1-12.	263	281
8	Madsen, C. H., Becker, W. C., & Thomas, D. R. (1968). Rules, praise, and ignoring: Elements of elementary classroom control. <i>1</i> , 139-150.	255	268
9	Lovaas, O. I., & Simmons, J. Q. (1969). Manipulation of self-destruction in three retarded children. <i>2</i> , 143-157.	228	263
10	Foxx, R. M., & Azrin, N. H. (1973). The elimination of self-stimulatory behavior by overcorrection. <i>6</i> , 1-14.	239	260
11	Lovaas, O. I., Koegel, R., Simmons, J. Q., & Long, J. S. (1973). Some generalization and follow-up measures on autistic children in behavior therapy. <i>6</i> , 131-166.	208	250
12	Risley, T. R. (1968). The effects and side-effects of punishing the autistic behaviors of a deviant child. <i>1</i> , 21-34.	209	228
13	O'Connor, R. D. (1969). Modification of social withdrawal through symbolic modeling. <i>2</i> , 15-22.	179	196
14	O'Leary, K. D., Becker, W. C., Evans, M. B., & Saudargas, R. A. (1969). A token reinforcement program in a public school: A replication and systematic analysis. <i>2</i> , 3-13.	185	194
15	Phillips, E. L. (1968). Achievement Place: Token reinforcement procedures in a home-style rehabilitation setting for "pre-delinquent" boys. <i>1</i> , 213-223.	181	194
16	Thomas, D. R., Becker, W. C., & Armstrong, M. (1968). Production and elimination of disruptive classroom behavior by systematically varying teacher's behavior. <i>1</i> , 35-45.	177	190
17	Bijou, S. W., Peterson, R. F., & Ault, M. H. (1968). A method to integrate descriptive and experimental field studies at the level of data and empirical concepts. <i>1</i> , 175-191.	157	179
18	Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive in a classroom. <i>2</i> , 119-124.	165	178
19	Azrin, N. H., & Foxx, R. M. (1971). A rapid method of toilet training the institutionalized retarded. <i>4</i> , 89-99.	149	165
20	Brodin, M., Hall, R. V., & Mitts, B. (1971). The effect of self-recording on the classroom behavior of two eighth-grade students. <i>4</i> , 191-199.	146	163
21	Wahler, R. G. (1969). Setting generality: Some specific and general effects of child behavior therapy. <i>2</i> , 239-246.	149	160

Table 3
(Continued)

Rank		Citations through	
		1986	1992
22	Phillips, E. L., Phillips, E. A., Fixsen, D. L., & Wolf, M. M. (1971). Achievement Place: Modification of the behaviors of pre-delinquent boys within a token economy. 4, 45-59.	140	152
23	Zeilberger, J., Sampen, S. E., & Sloane, H. N. (1968). Modification of a child's problem behaviors in the home with the mother as therapist. 1, 47-53.	148	150
24	Ayllon, T., Layman, D., & Kandel, H. J. (1975). A behavioral-educational alternative to drug control of hyperactive children. 8, 137-146.	131	149
25	Wahler, R. G. (1969). Oppositional children: A quest for parental reinforcement control. 2, 159-170.	136	147
26	Winett, R. A., & Winkler, R. C. (1972). Current behavior modification in the classroom: Be still, be quiet, be docile. 5, 499-504.	137	146
27	Budzynski, T. H., & Stoyva, J. M. (1969). An instrument for producing deep muscle relaxation by means of analog information feedback. 2, 231-237.	139	145
28	Bolstad, O. D., & Johnson, S. M. (1972). Self-regulation in the modification of disruptive classroom behavior. 5, 443-454.	128	142
29	Lovitt, T. C., & Curtiss, K. A. (1969). Academic response rate as a function of teacher- and self-imposed contingencies. 2, 49-53.	125	131

60% of the total 239 citations of *JABA* articles. The contribution of internal citations to total citations decreased rapidly as outside citations increased. In 1975, it was 42% (288 of 688), and in 1977, it was 18% (361 of 1,978). During the 1980s, it varied between 8% (153 of 1,795 in 1984) and 15% (284 of 1,896 in 1982).

In 1988, the last year for which data from *SSCI* are readily available for all journals, *JABA* had a self-cited rate of 11%. Some other journals' rates that year were: *Journal of Applied Psychology*: 15%; *BM*: 6%; *BP*: 17%; *BRT*: 14%; *BT*: 7%; *JCCP*: 6.9%; *Journal of Autism and Developmental Disabilities*: 30%; *Journal of the Association for Persons with Severe Handicaps*: 30%.

The 5,713 citations of *JABA* articles during the 1988 to 1992 period that did *not* come from within *JABA* came from a wide variety of other journals: in 1988, 168 others; in 1989, 171; in 1990, 180; in 1991, 175; and, in 1992, 166. Because the 32 journals listed in Table 4 accounted for about 3,690 citations over the 5 years, the remaining journals contributed slightly more than 2,000.

Although there is great year-to-year variability

in citations from any particular journal, the major portion of citations, about 40%, comes from the journals devoted to the general field of behavioral psychology: *JABA* itself, *BM*, *BT*, *CFBT*, *TBA*, *BP*, *CPR*, *JPTEP*, and *JEAB*. The specialty journals in the developmental disabilities cite *JABA* next most frequently, contributing about 25% of the total.

Citations to a single year of JABA. The journals that showed the most evidence of influence by *JABA* were determined in a second way by counting citations to all articles published in *JABA* for the single year of 1985. This serves as a check on the applicability of the Table 4 data, which reflect the whole 25-year life of the journal, to its more recent history. Citations were counted in volumes of *SSCI* through 1992 and are shown in the far right column of Table 4. A total of 84 other journals cited 1985 *JABA* articles at least once. The journals in the table are now listed in order of their mean citations per year to articles published at any time in *JABA*. That order would not have to be changed much to match the order of citations to the 1985 volume of *JABA*.

Table 4
Sources of Recent Citations to the *Journal of Applied Behavior Analysis*

Im- pact fac- tor 1992	Citing journal	Citations					Times cited per year	Cita- tions of 1985 JABA*
		1988	1989	1990	1991	1992		
1.46	<i>Journal of Applied Behavior Analysis</i>	157	135	246	408	395	268	113
0.61	<i>Research in Developmental Disabilities</i>	47	25	74	101	127	75	31
0.56	<i>Education & Training in Mental Retardation</i>	41	96	63	47	37	57	24
0.75	<i>Behavior Modification</i>	63	55	34	38	84	55	12
0.76	<i>Journal of the Association for Persons with Severe Handicaps</i>	46	85	55	35	21	48	44
0.79	<i>School Psychology Review</i>	87	18	16	36	39	39	9
0.72	<i>American Journal on Mental Retardation</i>	47	43	34	30	18	34	10
0.56	<i>Mental Retardation</i>	67	16	37	20	19	32	7
1.78	<i>Behavior Therapy</i>	35	50	26	18	11	28	13
0.64	<i>Journal of Special Education</i>	21	14	13	76	16	28	6
0.93	<i>Behavioral Assessment^a</i>	39	33	24	11	23	26	1
0.93	<i>Journal of Autism & Developmental Disorders</i>	25	28	32	19	19	25	17
0.31	<i>Child & Family Behavior Therapy</i>	<6	34	48	24	10	24	1
0.73	<i>Exceptional Children</i>	30	8	23	30	24	23	6
0.73	<i>The Behavior Analyst</i>	35	16	38	11	12	22	7
0.32	<i>Behavioural Psychotherapy</i>	21	16	26	12	18	19	6
2.56	<i>Clinical Psychology Review</i>	<6	15	33	29	8	18	6
0.40	<i>Journal of Behavior Therapy & Experimental Psychiatry</i>	44	<6	12	21	9	18	3
0.20	<i>Psychology in the Schools</i>	10	16	<6	41	15	17	3
0.70	<i>Journal of Mental Deficiency Research^b</i>	18	<6	19	23	15	16	8
1.55	<i>Journal of the Experimental Analysis of Behavior</i>	7	30	20	<6	11	15	4
0.28	<i>Psychological Reports</i>	15	14	15	26	<6	15	2
0.74	<i>Topics in Early Childhood Special Education</i>	<6	<6	17	24	20	13	8
0.76	<i>Journal of Speech & Hearing Disorders</i>	<6	31	14	<6	8	12	7
0.36	<i>Psychological Record</i>	13	9	10	<6	24	12	2
0.41	<i>Journal of School Psychology</i>	<6	8	18	12	9	10	1
2.83	<i>Journal of Consulting & Clinical Psychology</i>	15	12	<6	7	11	10	1
0.78	<i>Journal of Experimental Child Psychology</i>	32	<6	<6	<6	<6	9	1
0.27	<i>Topics in Language Disorders</i>	31	<6	<6	<6	<6	9	3
0.93	<i>Journal of Speech & Hearing Research</i>	<6	<6	<6	25	8	8	0
0.30	<i>Irish Journal of Psychology</i>	29	<6	<6	<6	<6	8	0
4.96	<i>Psychological Bulletin</i>	<6	<6	6	25	<6	8	5
2.00	<i>Advances in Child Development and Behavior</i>	<6	26	<6	<6	<6	8	1
Summary								
Citations							Total	
from JABA		157	135	246	408	395	1,341	
from the 32 other journals listed		842	722	730	762	634	3,690	
from other journals		487	390	411	377	358	2,023	
Total citations		1,486	1,247	1,387	1,547	1,387	7,054	

Table 5
Journals That Cited *JABA* Relatively Frequently

<i>JABA</i> 's rank among cited journals	Citing journal	<i>JABA</i> 's percent-age	Comments
1	<i>Behavior Modification</i>	6.7	2nd: <i>BT</i> & <i>JCCP</i> , 6.1% each
	<i>Topics in Language Disorders</i>	3.3	2nd: <i>JEdP</i> , 3.2%
	<i>Irish Journal of Psychology</i>	5.4	2nd: <i>AJMR</i> , 3.5%
2	<i>Research in Developmental Disabilities</i>	6.9	1st: <i>AJMR</i> , 10.9%
	<i>The Behavior Analyst</i>	6.4	1st: <i>JEAB</i> , 15.9%
	<i>Journal of the Association for Persons with Severe Handicaps</i>	5.2	1st: self, 6.8%
	<i>Journal of Psychopathology & Behavioral Assessment</i>	3.8	1st: <i>JCCP</i> , 5.7%
	<i>School Psychology Review</i>	4.1	1st: self, 4.9%
	<i>Behavioural Psychotherapy</i>	3.3	1st: <i>BRT</i> , 6.0%
	<i>American Journal on Mental Retardation</i>	2.7	1st: self, 13%
3	<i>Journal of Behavior Therapy & Experimental Psychiatry</i>	6.2	1st: self, 8.7%; 2nd: <i>BRT</i> , 8.6%
	<i>Education & Training in Mental Retardation</i>	5.1	1st: <i>AJMR</i> , 8.3%; 2nd: <i>EC</i> , 5.6%
	<i>Mental Retardation</i>	2.2	1st: self, 8.6%; 2nd: <i>AJMR</i> , 7.4%
	<i>Journal of Special Education</i>	2.8	1st: <i>EC</i> , 5.1%; 2nd: <i>AJMR</i> , 4.1%

Note. *AJMR*: American Journal on Mental Retardation; *BRT*: Behaviour Research and Therapy; *BT*: Behavior Therapy; *EC*: Exceptional Children; *JCCP*: Journal of Consulting and Clinical Psychology; *JEdP*: Journal of Educational Psychology; *JEAB*: Journal of the Experimental Analysis of Behavior.

These are *JABA*'s ranks among cited journals by each citing journal listed. The relative importance of *JABA* to each journal is measured by comparing that journal's citations to *JABA* during 1988 with the total 1988 citations it made to all journals. The absolute numbers of citations to *JABA* during 1988 already appear in Table 4, except for the *Journal of Psychopathology & Behavioral Assessment*, which cited *JABA* 23 times that year. All figures were derived from the *SSCI* citing behavior tables for these journals in Garfield (1989).

The journals that contributed citations were placed into five categories: behavioral psychology (e.g., *JABA*, *BT*, *BM*); general psychology (e.g., *JCCP*, *Psychological Bulletin*); education (e.g., *School Psychology Review*, *Journal of Educational Psychology*); developmental disabilities (e.g., *AJMR*, *RDD*, *MR*); and rehabilitation/speech/medicine (e.g., *International Journal of Rehabilitation Research*, *Journal of Speech and Hearing Disorders*). The citation percentages for these categories were, in the order given above, 39%, 13%, 7%, 36%, and 6%.

Relative importance of JABA to other behav-

ioral journals. Table 4 presented the absolute numbers of citations for those journals that cite *JABA* most frequently. In order to determine the relative importance of *JABA* to a particular journal, to at least approach the question of what proportion of its intellectual product is influenced by what our authors write, we have expressed citations to *JABA* as a percentage of the citations made in the citing journal to all other journals, doing this for all journals that cited *JABA* 15 or more times during 1988. *JABA* was an important target of citations from the journals listed in Table 5. Not surprisingly, this analysis reaffirms the importance of the

Note. This table includes all sources that cited *JABA* either 10 or more times per year or 25 or more times in at least 1 of the 5 years. The 1988 data are from *SSCI Journal Citation Reports* (1989, p. 498). The rest, including the impact factor data in the far left column, were obtained directly from the Institute for Scientific Information, Philadelphia (Linda Corson, June 17, 1993). Precise data are not available if fewer than six citations were made; in such cases, estimates of three citations were used to calculate means.

^a Citations, 1986 through 1992, to *JABA*, 1985, Vol. 18.

^b Merged into *Behaviour Research & Therapy* in 1993.

^c Name changed to *Journal of Intellectual Disabilities Research* in 1992.

Table 6
Journals Frequently Cited in Recent *JABA* Reference Lists

Cited journal	Citations					Times cited per year
	1988	1989	1990	1991	1992	
<i>Journal of Applied Behavior Analysis</i>	157	135	246	408	395	268
<i>Journal of the Experimental Analysis of Behavior</i>	12	<6	22	27	83	29
<i>Journal of the Association for Persons with Severe Handicaps</i>	8	7	25	42	43	25
<i>American Journal on Mental Retardation</i>	11	14	15	16	33	18
<i>Behavior Therapy</i>	19	16	18	21	13	17
<i>Analysis & Intervention in Developmental Disabilities</i> ^a	14	10	20	23	18	17
<i>Behavior Modification</i>	15	6	16	22	26	17
<i>Journal of Autism & Developmental Disorders</i>	11	7	14	13	28	15
<i>Behavioural Analysis & Modification</i> ^b	<6	<6	6	36	24	14
<i>Education & Training in Mental Retardation</i>	7	8	<6	8	32	12
<i>Journal of Organizational Behavior Management</i>	<6	<6	<6	6	45	12
<i>American Psychologist</i>	8	<6	6	17	19	11
<i>Mental Retardation</i>	6	<6	8	18	12	9
<i>Applied Research in Mental Retardation</i> ^c	5	11	<6	10	10	8
<i>Behavioral Assessment</i> ^c	<6	<6	11	12	12	8
<i>Journal of Behavior Therapy & Experimental Psychiatry</i>	6	9	12	9	<6	8
<i>Behaviour Research & Therapy</i>	7	8	10	7	<6	7
<i>Journal of Experimental Child Psychology</i>	<6	8	<6	10	10	7
<i>Psychological Bulletin</i>	<6	<6	9	8	6	6
Total citations to all journals	664	579	967	1,655	1,980	
<i>JABA</i> text pages published	430	456	544	804	918	

Note. Fewer than six citations were coded as three in computing means.

^a Combined to form *Research in Developmental Disabilities* in 1987.

^b Ceased publication in 1981.

^c Merged into *Behaviour Research & Therapy* in 1993.

citation sources that have been revealed in several other ways already. The only surprise was to find that *JABA* had, for one brief moment, become the most important source of enlightenment for the *Irish Journal of Psychology*.

Citations by JABA Authors: Which Journals Publish Articles That Influence Them?

The references listed by *JABA* authors reveal some of the sources of their own writing behavior. As Moore (1992) noted, "from a functional perspective, the importance of the articles is reflected in the extent to which they function as discriminative stimuli for the subsequent behavior of those who read them" (p. 1). Table 6 presents data on

the recent citation behavior of those writing for this journal. Early in the life of the journal, *self-citing* (i.e., citations of *JABA* papers as a percentage of all papers cited in *JABA*) was quite high; it was 39% in 1974 and 34% in 1975. During the 1980s, it varied between 20% and 26% and, from 1988 through 1992, it averaged 23%. The proliferation of behavioral journals in the 1970s and 1980s probably accounts for the downward drift in self-citations (cf. Wyatt, Hawkins, & Davis, 1986).

About 77% of citations by *JABA* authors during the 5-year period were spread among other sources, including books as well as journals. (The largest number of such sources was 657 in 1992.) There is an understandably strong relationship between citation patterns from and to a journal, the processes

Table 7

Cumulative Percentage of Citations Given by Journal Authors Who Published in 1988 to Articles Appearing During Years Indicated (Abbreviations As Given in the Text)

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	Citing half-life
<i>BM</i>	0.3	2.5	8.8	15.4	22.8	32.7	37.9	44.6	48.8	55.0	9.1
<i>BRT</i>	1.9	10.7	21.5	30.8	37.9	46.4	52.4	59.2	63.7	68.6	6.5
<i>BT</i>	1.9	8.1	15.9	23.6	31.6	39.1	46.9	54.1	60.3	65.8	7.4
<i>JABA</i>	1.2	6.7	16.7	23.0	32.5	40.0	48.2	55.0	62.0	67.5	7.2
<i>JCCP</i>	1.2	5.9	15.5	25.7	35.3	43.9	50.9	57.4	62.8	67.5	6.8
<i>RIDD</i>	0.6	3.2	11.6	22.3	30.2	38.3	47.3	54.9	62.2	67.8	7.3

being quite dependent upon one other. The apparent discrepancy between the relative importance of *Research in Developmental Disabilities* as a source of citations to *JABA* (see Table 4) and its absence among the journals of Table 6 that were targets of citations from *JABA* is due to its appearance on the scene with that name only in 1987, being the product of a merger of two other journals that do appear in Table 6: *Analysis and Intervention in Developmental Disabilities* and *Applied Research on Mental Retardation*.

Year-by-year variability among which journals were cited obviously reflected variation in subject matter. Particularly wide fluctuations, such as the sudden appearance of the *Journal of Organizational Behavior Management* with 45 citations by *JABA* authors during 1992, were due to two special sections in the Fall issue on "Performance Management for Business and Industry" and "Performance Management for Sports and Exercise." These sections were also partially responsible for the sharp increase in citations of *JEAB* papers, several authors drawing inspiration from basic research on such topics as behavioral momentum and the matching law.

Note that the large increases in citations given by *JABA* authors for 1991 and 1992 were mainly the product of an increase in the number of text pages published those years. However, citations per page did increase over this period, from 1.5 per page in 1988 to 2.2 per page in 1992.

Table 7 provides information on the citing practices of authors from various journals, indicating

how they distributed their citations through time. The data show little difference in citing behavior among the subset of applied journals, most having a *citing half-life* of about seven years, meaning that was the number of years going backwards through time that would account for half of the citations made by authors.

Discussion

It seems clear that this journal has been successful in contributing methods useful in coping with problem behavior at many levels. *JABA*'s authors have addressed questions on a wide variety of problem behaviors, ranging from such profound developmental disabilities as autism all the way to less intrusive behavioral problems that may interfere with normal functioning at home or in the schoolroom.

The contributions applied behavior analysis has made to the field of developmental disabilities have been tremendous. But there are many new frontiers for behavior analysis to enter. This journal will continue to play a key role in advancing behavioral solutions to many of our culture's most pressing social problems. Many of the advances in behavioral technology, known generically as behavior therapy, behavior modification, and behavioral teaching, have their origins in the pages of *JABA*. Techniques and programs such as differential social reinforcement, token economies, prompt hierarchies, self-management, and effective and nonintrusive forms of time-out, have produced lasting changes in the delivery of psychological and educational services.

Recent developments, such as functional analysis methodologies, are changing the fundamental character of behavioral intervention, giving it a more analytic flavor and grounding it more closely within basic behavioral principles.

The current vision of *JABA's* future, apparent in the behavior of the two most recent editors, Scott Geller and Nancy Neef, has been one of diversification. Applying behavior analysis to new arenas has been a goal realized during the past few years in several issues that contained sections devoted to specialized topics. These sections have considered subjects as diverse as road safety, community intervention, the education crisis, social validity, sports and exercise, improving social competence, performance management for business and industry, and the interrelationships among science, theory, and technology. This trend towards diversity continues in the present issue with a section on behavioral pediatrics. Two additional topics, school psychology and the integration of basic and applied research, will be addressed in 1994.

Behavioral journals have proliferated over the past 30 years; chronologically, *JABA* was the *third* such journal established of the 25 identified by Wyatt et al. (1986). The contents of them all attest to the impact that behavioral solutions to social problems have had so far. *JABA's* masthead states that it is "primarily for the original publication of reports of experimental research involving applications of the experimental analysis of behavior to problems of social importance." That broad mission is one that everyone associated with *JABA* proudly embraces. Was there ever a better reason to publish a journal?

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APPENDIX

Essays by authors on "Citation Classics" that were published in the *Journal of Applied Behavior Analysis*

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Note. All but four of these essays (Keller, O'Leary et al., Wolf, and Winett & Winkler) were reprinted in Smelser (1987).