REVIEW ARTICLE

An Objective Comparison of Applied Behavior Analysis and Organizational Behavior Management Research

Kathryn M. Culig
Alyce M. Dickinson
Heather M. McGee
John Austin

ABSTRACT. This paper presents an objective review, analysis, and comparison of empirical studies targeting the behavior of adults published in *Journal of Applied Behavior Analysis (JABA)* and *Journal of Organizational Behavior Management (JOBM)* between 1997 and 2001. The purpose of the comparisons was to identify similarities and differences with respect to research topics and methodologies that appeared in the studies reviewed. Based on these comparisons, suggestions were made regarding what organi-

Kathryn M. Culig, MA, Alyce M. Dickinson, PhD, Heather M. McGee, MA, and John Austin, PhD, are all affiliated with Western Michigan University.

Address correspondence to: Alyce M. Dickinson or Kathryn M. Culig, Department of Psychology, Western Michigan University, Kalamazoo, MI 49008-5439 (E-mail: alyce.dickinson@wmich.edu or kathy.culig@wmich.edu).

Journal of Organizational Behavior Management, Vol. 25(1) 2005
Available online at http://www.haworthpress.com/web/JOBM

doi:10.1300/J075v25n01_02

zational behavior management (OBM) researchers and practitioners can learn from applied behavior analysis (ABA).

KEYWORDS. Applied behavior analysis, organizational behavior management, *Journal of Applied Behavior Analysis, Journal of Organizational Behavior Management*

Since its inception, the field of applied behavior analysis (ABA), and subsequently organizational behavior management (OBM), has faced the challenge of extrapolating basic experimental research findings to the behavior of individuals at home, school, work, and in the community. Over the years, practitioners and applied researchers have addressed increasingly complex behavioral issues and, in doing so, have become less reliant on basic experimental findings to effect and explain behavior change. The failure to relate practice back to theory has led to much controversy and criticism of the applied behavior analytic community (Hayes, 1991; Iwata, 1991; Morris, 1991; Redmon, 1991; Reid, 1991). There are, however, several applied practitioners and researchers who do strive to explain their findings in the context of phenomena often seen (and predicted and controlled) in the laboratory. Unfortunately, this too has led to criticism regarding some of these extrapolations (Agnew, 1999; Hopkins, 1999; Malott, 1999).

There appears to be consensus regarding the importance of acknowledging and identifying appropriate basic behavioral principles (e.g., Agnew, 1999; Hayes, 1999; Hopkins, 1999; Normand, Bucklin, & Austin, 1999; Sulzer-Azaroff, 2000). Having at least a passing familiarity with basic as well as applied research increases the size of the audience with whom one can meaningfully interact, and may suggest novel interventions and analyses of behavior in organizations (Poling, Dickinson, Austin, & Normand, 2000). Thus, it is suggested that researchers in OBM should have a basic understanding of the relevant and current topics in other areas of applied behavior analysis, and vice versa.

This paper presents an objective review, analysis, and comparison of empirical studies targeting the behavior of adults published in *Journal of Applied Behavior Analysis (JABA)* and *Journal of Organizational Behavior Management (JOBM)* between 1997 and 2001. The purpose of

this comparison was to identify similarities and differences with respect to research topics and methodologies, and to offer suggestions for what organizational behavior management (OBM) researchers and practitioners can learn from applied behavior analysis (ABA), and vice versa.

To provide a context for the comparison of these two fields, we provide a brief description of the defining characteristics, specialty areas, and the primary publication outlets for these fields, *JABA*, and *JOBM*, respectively. We then compare the (a) author characteristics, (b) authors published in both journals, (c) topics addressed, and (d) research characteristics and methodologies. We conclude with a general discussion about similarities and differences, relative strengths and weaknesses, suggestions for what OBM can learn from ABA, and questions regarding the future relationship between OBM and ABA.

APPLIED BEHAVIOR ANALYSIS

Defining Characteristics

The defining characteristics of ABA were clearly described in the landmark article by Baer, Wolf, and Risley (1968) and include (a) the systematic application of interventions based upon the principles of behavior to (b) improve socially significant behaviors, and to (c) demonstrate that the interventions employed are responsible for the improvement in behavior. ABA focuses on the reliable measurement and objective evaluation of observable behavior.

Over the past 30 years, ABA has flourished. It has guided behavior change interventions across a wide range of populations (e.g., children and adults with developmental disabilities, employees, students, etc.), behavior change agents (e.g., parents, teachers, supervisors, etc.), settings (e.g., schools, homes, business settings, hospitals, institutions, etc.), and behaviors (e.g., leisure and functional skills, aggression, self-injury, safety, customer service, etc.). The Association for Behavior Analysis currently lists the following specialty areas under the behavior analysis rubric: autism, behavioral pharmacology, clinical, family and behavioral medicine, community interventions, social and ethical issues, developmental disabilities, experimental analysis of behavior, education, human development, gerontology, organizational behavior management, teaching behavior analysis, and verbal behavior (Association for Behavior Analysis, 2003). Within each of these broad categories, a number of discrete sub-categories also exist. The effectiveness of ABA

interventions is well documented, although an analysis of the empirical evidence is beyond the scope of this paper.

Journal of Applied Behavior Analysis (JABA)

Established in 1968, *JABA* is probably the most prestigious outlet for applied behavioral research (Poling et al., 2000). It is considered by many to be the standard and benchmark for comparison in the area of applied behavioral research (e.g., Sulzer-Azaroff, 2000). The most recent methodological and theoretical developments in the field of ABA are published in *JABA*. The scope of *JABA* is as follows,

> *JABA* is primarily for the original publication of reports and experimental research involving applications of the experimental analysis of behavior to problems of social importance. It will also publish technical articles relevant to such research and discussion of issues arising from behavioral applications. (Society for the Experimental Analysis of Behavior, 2004)

ORGANIZATIONAL BEHAVIOR MANAGEMENT

Defining Characteristics

OBM (Frederiksen & Lovett, 1980) and performance management (PM) (Daniels, 1989) are terms used interchangeably to refer to the use of behavior analysis techniques in business, industry and government. OBM began as the application of behavior analysis to organizational settings and retains the philosophical and methodological principles of behavior analysis (Bucklin, Alvero, Dickinson, Austin, & Jackson, 2000). The defining features of OBM, as described by Frederiksen and Lovett (1980), include: (1) the purpose of OBM is to improve performance and satisfaction and to make organizations more effective in achieving their goals, (2) the primary subject matter is the behavior of individuals and groups in organizational settings, (3) the theoretical and conceptual basis is behavior analysis, and (4) the methodology relies on direct observation of behavior as the main dependent variable (Frederiksen & Lovett, 1980). Daniels (1989) further defines PM as "a systematic, data-oriented approach to managing people at work" (p. 4).

OBM has proven useful for dealing with a wide range of behavioral problems in both the public and the private sectors (Poling et al., 2000).

Some areas of successful OBM interventions include manufacturing, engineering, sales, safety, vendor performance, customer service, research and development, information management, distribution and transportation (Balcazar, Shupert, Daniels, Mawhinney, & Hopkins, 1989; Daniels, 1989; Nolan, Jarema, & Austin, 1999).

Journal of Organizational Behavior Management (JOBM)

Established in 1977, *JOBM* is the main outlet for behavioral interventions in organizations (Dickinson, 2000). Aubrey Daniels (1977), then editor, described the purpose of *JOBM* as three-fold: (a) research should meet the criteria described a decade earlier by Baer, Wolf, and Risley (1968) for applied behavior analysis; (b) these behavioral methodologies should be applied to organizational settings; and (c) in addition to the value of the *Journal* to OBM researchers and practitioners, it should also have practical value for managers. In their 1989 review of the first 10 years (1977-1986) of *JOBM*, Balcazar, Shupert, Daniels, Mawhinney, and Hopkins restated the three original objectives as, first, the *Journal* would stimulate research on organizational problems and the results of this research would be useful in addressing organizational concerns. Second, *JOBM* would disseminate knowledge about behavioral approaches to solving organizational problems. Finally, the *Journal* would serve as a resource for clients of behavioral consulting companies that would help them learn more about the application of behavioral technology in the workplace. Balcazar et al. concluded that the *Journal* was clearly meeting the first two stated objectives, but perhaps not the third. In Nolan et al.'s (1999) review of the second decade (1987-1997), the authors agreed that the *Journal* was meeting the first objective, "*JOBM* features research that is useful in addressing organizational problems," but concluded that the remaining objectives were not directly addressed by the data collected in their review, nor were they in the previous review by Balcazar et al. (1989).

In a recent issue of the *Journal* (Volume 22, Issue 4) the scope of *JOBM* was described as follows:

> The *Journal* publishes original manuscripts on the application of behavior management in business, government, and service organizations. Original research articles are sought that advance the knowledge of applied behavior analysis in work and organizational settings. The following areas of research are emphasized:

studies reporting effects of various reinforcers in the work setting; implementation studies; studies of feedback effects; research of self-management procedures in the work settings; and studies of operant procedures on the variables of productivity, absenteeism, turnover, efficiency, job satisfaction, or other work-related behaviors. Summary and review articles are encouraged that endeavor to analyze research and practices in management, motivation, and organizational behavior from the perspective of behavior management. Case studies demonstrating the application of behavior management procedures in organizations are published. (The Haworth Press, Inc., 2002)

Historical Similarities and Differences

ABA encompasses the field of OBM. Thus, they share a common theoretical and conceptual basis (behavior analysis) and methodology. However, as noted by Fredericksen and Lovett (1980), OBM is more narrowly focused on improving the performance and satisfaction of individuals in organizational settings and increasing the efficiency of organizations. Therefore, the main differences include the primary target audience (Mawhinney & Austin, 1999), primary subject matter, primary purpose of the fields, and ancillary technologies dealing with organizational analyses and improvements in OBM. Nonetheless, given the common theoretical and conceptual basis and methodology, a comparison of the research from the two fields may result in the discovery of interventions and analyses of behavior used in one but not the other, and suggest an accurate and consistent terminology to explain complex behavioral phenomena.

METHOD

Search Procedures

A computer search of the Psychological Information (PsycINFO ™) database was conducted to identify empirical studies published in *JABA* and *JOBM* between the years of 1997 and 2001 that targeted the behavior of adults (between the ages of 18 and 65). Specifically, the descriptors included in the search were: *Journal of Applied Behavior Analysis* (Journal Source) and Adulthood (Age Group) and Empirical Study (Content

Type). This search yielded 126 articles. A second search was conducted for *JOBM* articles and the descriptors included: *Journal of Organizational Behavior Management* (Journal Source) and Adulthood (Age Group) and Empirical Study (Content Type). This search resulted in 23 articles. Finally, for both journals, a manual search of each issue from 1997 through 2001 was conducted in order to identify additional studies. No additional studies were identified during the manual search.

Selection Criteria

Detailed records of the 149 identified studies were reviewed and those that targeted children (birth-12 years), adolescents (13-17 years) and aged (65 years and older) were excluded from the review. As a result, 43 articles from *JABA* were excluded, and 83 articles were retained. None of the 23 articles from the initial *JOBM* search was excluded. A total of 106 articles were included in the current review.

Reliability Checks

The first and third authors independently evaluated 40% (n = 42) of the articles included in the review. A representative sample was randomly selected from each journal resulting in 9 of 23 articles from *JOBM*, and 33 of 83 articles from *JABA*. (All percentages reported are based on rounding from four (4) places past the decimal point.) The categories and operational definitions used are described in the section entitled, *Categories and Operational Definitions*.

Inter-observer agreement (IOA) was calculated for every article that was reviewed by both authors. The following formula was used: # of agreements for categories and sub-categories used to classify the article/total number of categories used [i.e., (number of agreements)/(number of agreements plus disagreements)]. The result was then multiplied by 100 to calculate IOA. The IOA across all categories for each journal was 100% for *JOBM*, and 98.9% for *JABA*.

CATEGORIES AND OPERATIONAL DEFINITIONS

The categories and operational definitions used to classify the articles were derived from those developed by Bucklin et al. (2000). This was done so that the results of the present classification could be compared to those reported by Bucklin et al. Bucklin et al. based their categories on

those used by Nolan et al. (1999) who had based their categories on those derived by Balcazar et al. (1989) in their review of the first decade of *JOBM*. Both Nolan et al. (1999) and Bucklin et al. (2000) added sub-categories to some of the variables for a more detailed and relevant analysis. In the present review, categorical classifications and sub-classifications were added or deleted as necessary to allow for relevant data analysis and comparisons.

Author Characteristics

For each article, one of the following affiliations was recorded for each author (if more than one affiliation was listed for an author, the first one to appear was used as the classification): (a) academic (college or university), (b) organization (private business, organization or consulting firm), or (c) government (public or government agency).

To classify author gender, author names that were typically male (e.g., John, Richard, Brad) were recorded as male, and author names that were typically female (e.g., Barbara, Anna, Alyce) were recorded as female. Additional information (e.g., author known by data recorder, or some indication of gender in the author note or article) was also used for classification. An "undetermined" category was used for authors with gender-neutral names, and no additional information available.

Authors Published in Both Journals

To assess the relationship between ABA and OBM, authors who published in both journals between 1997 and 2001 were identified. The names of each author appearing on articles published in *JOBM* were first recorded on a data-collection sheet that was used for comparison with the articles published in *JABA*. When an author match was found, the corresponding year of publication was recorded on the data-collection sheet.

Topics Addressed

A broad classification category, called targeted behavior change, and recorded as increase/improvement, reduction or other, was added to the list of topics used by Bucklin et al. (2000). Each article was first classified with respect to this broad categorization and then with respect to the list of topics described below.

The list of topics used by Bucklin et al. (2000) was used to classify *JOBM* and *JABA* articles. This list included: productivity, quality, customer satisfaction, training and development, safety, accuracy, rate of performance, sales, labor, timeliness, novelty, management, material, and other. However, due to the variety of additional topics addressed in *JABA*, many articles were classified as other. No comparative published list was located to classify the remaining *JABA* articles, and so the authors compiled the following list of topics from the descriptors listed for each *JABA* article: functional analysis, assessment, habit reversal, self-management, compliance, reinforcement schedules, self-injurious behavior, preference, skill acquisition, response blocking, non-contingent reinforcement, and other.

Research Article Characteristics and Methodologies

Specialty area. Each article was classified with respect to specialty area by using the list maintained by the Association for Behavior Analysis (2003). The specialty areas include: (a) autism (AUT), (b) behavioral pharmacology (BP), (c) clinical, family and behavioral medicine (CBA), (d) community interventions, social and ethical issues (CE), (e) developmental disabilities (DD), (f) experimental analysis of behavior (EAB), (g) education (ED), (h) human development, gerontology (HD), (i) organizational behavior management (OBM), (j) teaching behavior analysis (TBA), and (k) verbal behavior (VB) (Association for Behavior Analysis, 2003).

Participant characteristics. Participants were initially classified as verbal or non-verbal to assess the extent to which each population is represented in ABA and OBM research. Participants were also classified as: (a) non-management (those supervised or managed and not themselves in any position of formal authority), (b) management (those in position of recognized authority over other individuals), (c) executive (those identified as top level management), (d) college students (participants identified as students, college students, or university students), and (e) other (those not fitting any of the other operational definitions).

Experimental versus correlational research. Articles were classified as "experimental" if they contained at least one independent variable that was manipulated by the researchers. Articles were classified as "correlational" if they contained analyses of variables that already existed in the environment and were not manipulated by the researchers.

Field versus laboratory settings. Articles were classified as "field" if they contained data collected in the participant's natural (non-labora-

tory) setting, for example, the participant's office, participant's home, or classroom, for analysis in that article. Articles were classified as "laboratory" if they contained data collected in a laboratory or simulated setting. Laboratory settings included rooms or spaces used for the specific purpose of conducting the experimental sessions that were not part of a participant's normal, everyday environment.

Applied versus basic research. Articles were classified as "applied" if the interventions addressed specific problems (e.g., to increase productivity or decrease absenteeism), and as "basic" if the research was conducted to answer more basic questions, or "bridge" research questions (Bucklin et al., 2000).

Assessment procedures. Articles were evaluated with respect to whether or not an assessment was conducted prior to implementation of the intervention or as part of the intervention. When an assessment procedure was identified, it was classified as: (a) functional (experimental) analysis (involves manipulation of suspected maintaining variables using experimental methodology to demonstrate control over responding [Iwata, Kahng, Wallace, & Lindberg, 2000; Sidman, 1960]), (b) preference assessment (involves making presentations of available stimuli or reinforcers and observing for approach or preference responding [Ivancic, 2000]), (c) indirect (anecdotal) assessment (involves soliciting anecdotal reports of behavior [Iwata, Kahng et al., 2000]), (d) organizational functional assessment (involves the analysis of antecedents, equipment and processes, knowledge and skills, and consequences [Austin, Carr, & Agnew, 1999]), or (e) combination (includes 2 or more assessment procedures).

Experimental design and analysis. Articles were classified as having used a "within-subject" design if each participant (or group) was exposed to all experimental and control conditions, and data were analyzed across conditions for each participant (or group) (Bucklin et al., 2000; Hersen & Barlow, 1976; Kazdin, 1982; Komaki & Goltz, 2001; Parsonson & Baer, 1978). "Between-group" designs were recorded when comparisons were made between groups of participants who were exposed to different conditions, or when quasi-experimental designs, i.e., with or without randomization, were identified (Bucklin et al., 2000; Hersen & Barlow, 1976; Kazdin, 1982; Komaki & Goltz, 2001; Parsonson & Baer, 1978). Within-subject experimental designs were further classified according to the following categories: (a) alternating treatments/multi-element design, (b) multiple baseline design, (c) reversal design, (d) changing criterion design, (e) a combination of two or more designs, or (f) other (those not fitting any of the other operational definitions). If inferential statistics

were used to analyze the data for the within-subject or between-group designs, the name of the test (e.g., ANOVA, ANCOVA, MANOVA) was recorded.

Types of dependent variables: Behavior or product of behavior. If researchers reported having directly observed behavior, dependent variables were classified as behavior. If researchers examined permanent products of behavior, dependent variables were classified as products of behavior. Articles that reported both types of dependent variables were classified as "both." Products of behavior were further sub-categorized as (a) outcomes (directly measured behavioral outcomes such as number of errors), or (b) self-report (answers to survey or test questions). The preceding operational definitions are identical to those used by Bucklin et al. (2000) and Nolan et al. (1999).

Types of independent variables. Independent variables were initially classified as single component or multiple-component (two or more). Independent variables were then classified as either antecedent (any intervention implemented prior to the behavior of interest) or consequence (any intervention applied after the behavior of interest). Finally, independent variables were further sub-categorized utilizing the operational definitions from Bucklin et al. (2000) as follows: (a) feedback (information about past performance provided to the participant), (b) praise (positive vocal consequence following performance), (c) goal-setting (performance standard set and communicated to the participant, or set by the participant, before performance was measured), (d) monetary rewards (any monetary consequence), (e) non-monetary rewards (any positive tangible consequence that was not monetary or vocal), (f) training (any intervention called "training" and/or that included information to teach new skills to participants), (g) antecedents (any intervention implemented prior to the behavior of interest, excluding training and goal-setting) and (h) punishment (any aversive, or negative consequence, designed to reduce or terminate behavior). One additional sub-category (i) noncontingent reinforcement (any positive consequence delivered after a specified passage of time and not dependent on the occurrence of the behavior of interest) was included in the present review. All independent variables that were examined in a study were recorded.

Additional Research Sub-Categories

Articles were classified according to the following sub-categories if they contained the relevant measure or description: (a) social validity for articles that reported participant opinions regarding the intervention or results obtained, (b) dependent variable reliability for articles that pro-

vided a description of inter-observer agreement, (c) independent variable reliability for articles that described any provisions taken to ensure that the intervention was implemented as planned, (d) follow-up data for articles with a description of data collected any time after termination of the intervention, and (e) program continuation if they described any continuation of the intervention after completion of the study.

RESULTS AND DISCUSSION

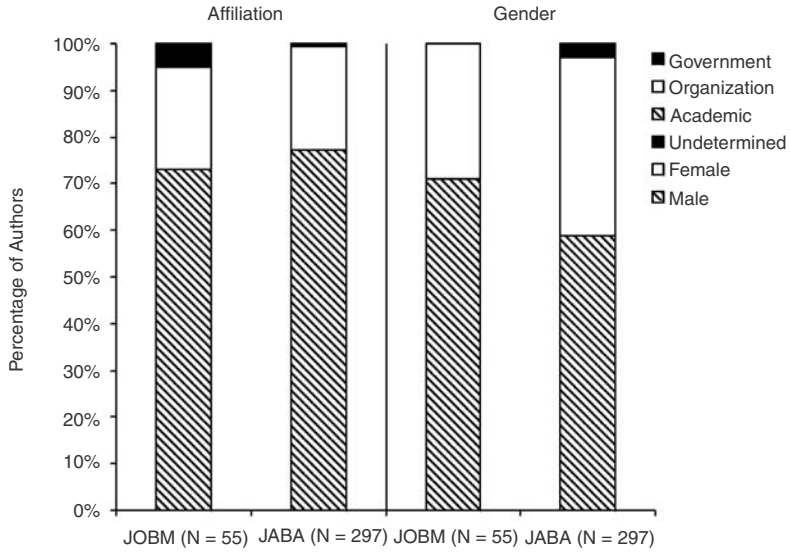
Author Characteristics

Previous reviews have classified author characteristics according to affiliation (e.g., Bucklin et al., 2000; Nolan et al., 1999) and gender (e.g., Bucklin et al., 2000; Jarema, Snycerski, Bagge, Austin, & Poling, 1999; McGee, Bucklin, Dickinson, & McSweeney, 2003; McSweeney, Donahoe, & Swindell, 2000). Researchers included articles of all types, e.g., case studies, reports, commentary, discussion, etc., in these reviews. In the current review, however, author characteristics were assessed only for those articles that met the inclusion criteria for the review, i.e., empirical studies that targeted the behavior of adults. Thus, the present review (1997-2001) includes substantially fewer articles than the reviews cited above. Readers are cautioned when attempting to make direct comparisons of author characteristics between the current review and previous ones. As discussed below, author characteristics from *JOBM* and *JABA* were very similar. Percentages of author affiliation and gender are displayed in Figure 1.

Author affiliation. The author affiliation was determined for all authors whose names have appeared on *JOBM* and *JABA* articles included in the current review. In both publications, the majority of authors were affiliated with academic institutions, 73% in *JOBM* (40 of 55 authors) and 78% in *JABA* (231 of 297 authors). Authors who had multiple publications were counted each time their name appeared in press. That is, if an author's name appeared on multiple articles, his/her name was counted as a "new" author for each separate publication. Thus, the total number of authors included in this analysis is an all-inclusive list and is not representative of the number of unique contributors in each journal.

Author gender. A majority of the articles in both journals were authored by men (*JOBM* = 71%, 39 of 55 authors; *JABA* = 59%, 175 of 297 authors). Nearly thirty percent (29%, 16 of 55) of the *JOBM* authors

FIGURE 1. Author characteristics in *JOBM* and *JABA* from 1997-2001: The percentage of authors with academic, organizational or governmental affiliations; and the percentage of male, female and undetermined authors.



were women and 41% (122 of 297) of the *JABA* authors were women. The gender of 3% (n = 9) of *JABA* authors could not be determined because the names were gender neutral and there was no further information available by which the data recorder (the first author) could accurately classify them.

McGee et al. (2003) reviewed gender issues with respect to publication in *JOBM* for 5-year intervals from 1978 through 1997 and for one 3-year interval from 1998 to 2000, and reported that increases in female author participation were appreciable across all intervals. Similarly, McSweeney et al. (2000) reviewed female participation in *JABA* from 1978 through 1997, and found that participation rates by women as authors increased consistently and substantially across all measures. The authors of these reviews also included a variety of other measures to assess female participation in *JOBM*, *JABA*, and related journals, and the reader is directed to these reviews for further information.

Authors Published in Both Journals

Table 1 presents an alphabetical list of the authors who have published articles in both *JOBM* and *JABA* from 1997 through 2001. *JOBM* articles are listed for each author first, followed by the *JABA* article(s). The table also includes author names, article titles, and year of publication.

Only nine authors published empirical studies targeting the behavior of adults in both sources. This represents 21% (9 of 44 unique authors) of the authors who published articles in *JOBM* from 1997 through 2001. None of the authors had multiple publications in both journals. That is, while some authors had multiple empirical publications in one journal, each had only one in the other journal. All authors had publications associated with the same specialty area in both journals, that is, either OBM or community interventions. The methodology used by the authors was consistent in each journal. Only one author, Bailey, had publications in both journals that spanned different specialty areas: OBM (Thurkow, Bailey, & Stamper, 2000), community interventions (Engerman, Austin, & Bailey, 1997), and developmental disabilities (Carr, Bailey, Ecott, Lucker, & Weil, 1998).

Topics Addressed

Eighty-seven percent of the empirical studies published in *JOBM* (20 of 23 articles) and 34% of the articles published in *JABA* (28 of 83 articles) reported behavior improvement or increase as the targeted or reported outcome measure. The remaining 13% (3 of 23 articles) of *JOBM* articles, and 34% of *JABA* articles (28 of 83 articles) reported behavior reduction as the outcome measure. The remaining 33% of the articles published in *JABA* (27 of 83 articles) were classified as *other* indicating that neither behavior increase nor reduction was targeted by the intervention. Instead, the authors of such articles may have been investigating the effects of a certain procedure and the resulting effects could have been in either direction. In other cases, the authors may have been investigating underlying behavioral functions or mechanisms of action.

Table 2 presents the topics most frequently addressed in *JOBM* and *JABA*. The topics are rank ordered, starting with the most frequently addressed topic. These lists are not exhaustive; rather they reflect the most common categories of topics. There is little overlap between the topics addressed in the two journals. This was expected considering *JOBM's* emphasis on improving performances in organizations and that is reflected in these data.

TABLE 1. Authors Published in Both *JOBM* and *JABA* from 1997-2001.

	Author	Title	Year	Journal
1	Olson & Austin	Behavior-based safety and working alone: The effects of a self-monitoring package on the safe performance of bus operators.	2001	*JOBM*
	Engerman, Austin, & Bailey	Prompting patron safety belt use at a supermarket.	1997	*JABA*
	Austin, Alvero, & Olson	Prompting safety belt use at a restaurant.	1998	*JABA*
2	Thurkow, Bailey, & Stamper	The effects of group and individual monetary incentives on productivity of telephone interviewers.	2000	*JOBM*
	Engerman, Austin, & Bailey	Prompting patron safety belt use at a supermarket.	1997	*JABA*
	Carr, Bailey, Ecott, Lucker, & Weil	On the effects of noncontingent delivery of differing magnitudes of reinforcement.	1998	*JABA*
3	Mueller, Moore, Tingstrom, & Doggett	Increasing seating opportunities using a behavioral prompt.	2001	*JOBM*
	Mueller, Moore, Doggett, & Tingstrom	The effectiveness of contingency-specific and contingency-nonspecific prompts in controlling bathroom graffiti.	2000	*JABA*
4	Ludwig & Geller	Behavioral change among agents of a community safety program: Pizza drivers advocate community safety belt use.	1999	*JOBM*
	Ludwig & Geller	Behavioral impact of a corporate driving policy: Undesirable side effects reflect countercontrol.	1999	*JOBM*
	Ludwig, Biggs, Wagner, & Geller	Using public feedback and competitive rewards to increase the safe driving of pizza drivers.	2001	*JOBM*
5	Ludwig & Geller	Behavioral change among agents of a community safety program: Pizza drivers advocate community safety belt use.	1999	*JOBM*
	Ludwig & Geller	Behavioral impact of a corporate driving policy: Undesirable side effects reflect countercontrol.	1999	*JOBM*
	Ludwig, Biggs, Wagner, & Geller	Using public feedback and competitive rewards to increase the safe driving of pizza drivers.	2001	*JOBM*
	Ludwig, Gray, & Rowell	Increasing recycling in academic buildings.	1998	*JABA*
6	Mueller, Moore, Tingstrom, & Doggett	Increasing seating opportunities using a behavioral prompt.	2001	*JOBM*
	Mueller, Moore, Doggett, & Tingstrom	The effectiveness of contingency-specific and contingency-nonspecific prompts in controlling bathroom graffiti.	2000	*JABA*
7	Mueller, Moore, Tingstrom, & Doggett	Increasing seating opportunities using a behavioral prompt.	2001	*JOBM*
	Mueller, Moore, Doggett, & Tingstrom	The effectiveness of contingency-specific and contingency-nonspecific prompts in controlling bathroom graffiti.	2000	*JABA*
8	Olson & Austin	Behavior-based safety and working alone: The effects of a self-monitoring package on the safe performance of bus operators.	2001	*JOBM*
	Austin, Alvero, & Olson	Prompting safety belt use at a restaurant.	1998	*JABA*
9	Mueller, Moore, Tingstrom, & Doggett	Increasing seating opportunities using a behavioral prompt.	2001	*JOBM*
	Mueller, Moore, Doggett, & Tingstrom	The effectiveness of contingency-specific and contingency-nonspecific prompts in controlling bathroom graffiti.	2000	*JABA*

TABLE 2. Types of Topics Addressed in *JOBM* and *JABA* from 1997-2001.

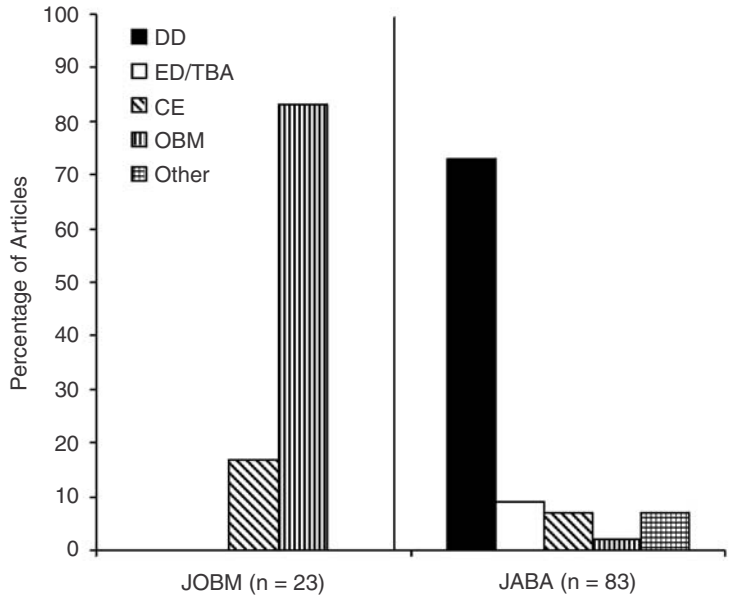
JOBM (n = 23)		*JABA* (n = 83)	
1.	Productivity (n = 7)	1.	Self-Injurious Behavior (n = 21)
2.	Quality of Performance (n = 5)	2.	Choice/Preference (n = 6)
3.	Safety (n = 5)	3.	Aberrant Behavior (n = 6)
4.	Timeliness (n = 3)	4.	Training (n = 5)
5.	Monetary Incentives (n = 1)	5.	Education/Teaching (n = 5)
6.	Customer Satisfaction (n = 1)	6.	Functional Communication Training (n = 4)
7.	Other: Overtime (n = 1)	7.	Assessment (n = 4)
		8.	Habit Reversal (n = 3)
		9.	Noncontingent Reinforcement (n = 3)
		10.	Safety (n = 3)
		11.	Other: Punishment, Extinction, Treatment Integrity, Self-Control, Conservation, Sports, Productivity, Quality of Life (n = 23)

Research Article Characteristics and Methodologies

Specialty area. Each article was classified with respect to specialty area according to the list maintained by the Association for Behavior Analysis (2003). Of the 11 possible specialty areas, only two [OBM and community interventions (CE)] were utilized for classifying *JOBM* articles. In comparison, 9 specialty areas were used for classifying *JABA* articles. This difference was expected and highlights the breadth of specialty areas under the rubric of ABA. Considering that *JABA* is recognized as probably the most prestigious outlet for applied behavior analysis research (Poling et al., 2000), a variety of topics and specialty areas should be represented in the journal, regardless of the occurrence of specific specialty area journals, e.g., *JOBM*.

Percentages of article classification by specialty area are displayed in Figure 2. Eighty-seven percent of the empirical articles published in *JOBM* (20 of 23 articles) were categorized as OBM, whereas only two percent of the articles published in *JABA* (2 of 83) were classified as OBM. A majority of the empirical studies in *JABA* (74%, 61 of 83 articles) were categorized in the specialty area of developmental disabilities. Clearly, *JOBM's* emphasis on improving the performance of employees and staff is reflected in these data. And, although *JABA* does not restrict the inclusion of such articles, few have been published in *JABA*. As a cautionary note, an analysis of empirical studies targeting populations not included in the current review (e.g., children, adolescents, etc.) should be

FIGURE 2. Empirical study classification with respect to specialty area in *JOBM* and *JABA* research from 1997-2001: Developmental disability (DD), education/teaching behavior analysis (ED/TBA), community interventions (C), organizational behavior management (OBM) and other.

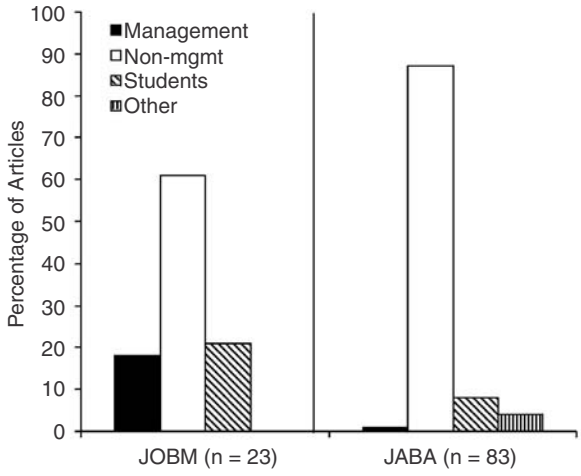


undertaken before making any conclusions regarding potential over and/or under emphasis of specific topics and specialty areas in *JABA*.

Participant characteristics. In 100% of the articles published in *JOBM* (23 of 23) and 33% of the articles published in *JABA* (27 of 83 articles) verbal adults served as participants. Fifteen percent (4 of 27 articles) of the articles in *JABA* that reported using verbal participants were classified as developmental disabilities research. Non-verbal adults were participants in 65% of the articles published in *JABA* (54 of 83 articles). All of these articles were classified as developmental disabilities research. Participants in the remaining *JABA* articles (2%, 2 of 83 articles) were verbal and non-verbal. The primary intervention target, i.e., verbal versus non-verbal participants, reflects one distinction between the empirical studies published in *JOBM* and *JABA*. This distinction must be considered when attempting to determine the utility of comparing and interpreting interventions and results from OBM and ABA research.

Not surprisingly, participant characteristics were related to the settings in which the research was conducted. Figure 3 presents those char-

FIGURE 3. Research participant characteristics in *JOBM* and *JABA* research from 1997-2001.



acteristics. In *JOBM*, where most of the studies were conducted in field settings (see *Field versus laboratory settings*), non-management personnel were participants in 61% (14 of 23) of the studies, and management personnel were participants in 17% (4 of 23) of the studies. College students served as participants in 22% (5 of 23) of the studies. These percentages are comparable to the percentages reported in the Bucklin et al. (2000) review. In that review executive personnel were participants in 2%[1] (1 of 60) of the studies and participants were classified as "other" in 12% (7 of 60) of the studies (Bucklin et al., 2000). Both categories were absent from the current review because none of the participants fit these classifications.

In *JABA*, where most of the studies were conducted in laboratory settings (see *Field versus laboratory settings*), non-management personnel were participants in 89% of the studies (74 of 83 studies), management personnel were participants in 1% (1 of 83) of the studies, college students were participants in 8% (7 of 83) of the studies and participants were categorized as "other" in 4% (3 of 83) of the articles.

Participants were classified as non-management personnel when they fit the operational definition of "those supervised or managed and not themselves in any position of formal authority." However, there are significant differences between the participants classified as non-man-

agement in *JOBM* and *JABA*. Participants in *JOBM* studies held non-management positions in organizations, e.g., telephone interviewers, bus drivers, pizza deliverers, and police staff. In contrast, the majority of non-management participants in *JABA* studies were residential facility residents, day treatment participants, and patients. Thus, even though the percentages of non-management participation in *JABA* and *JOBM* studies look comparable, any interpretation and comparison of this dimension should be made cautiously. The primary intervention target, i.e., organization personnel versus residents/patients, reflects an important distinction between the OBM and ABA research and suggests that, in future reviews, more appropriate participant categories should be defined and used. For example, non-management participants in OBM literature could be classified as producers whereas non-management participants in ABA literature could be classified as customers. Although participant characteristics could arguably be operationalized in a number of different ways, because we compared our data to those reported by Bucklin et al. (2000), we retained their definition when classifying all of the studies included in the current review.

Experimental versus correlational research. As expected, the majority of studies in both journals were experimental (*JOBM* = 100%, 23 of 23 studies; *JABA* = 98%, 81 of 83 studies), meaning that the majority of empirical studies conducted between 1997 and 2001 contained at least one independent variable that was manipulated by researchers. This demonstrates that OBM and ABA researchers alike have strived to adhere to the underlying aim of behavior analysis, i.e., effectively understanding and controlling behavior and performance processes by managing environmental contingencies.

Field versus laboratory settings. Another difference between the research in *JOBM* and *JABA* was the setting where experimenters conducted their research. In *JOBM*, 83% of the studies were conducted in field settings (19 of 23 studies) and 17% (n = 4) in laboratory settings. In contrast, in *JABA*, 37% of the empirical studies (31 of 83 studies) were conducted in field settings whereas 63% (n = 52) were conducted in laboratory settings. It should be noted that in many of the *JABA* studies, the laboratory setting was located within the field setting where the participant resided, or where participants attended day programs, but the actual experimental session was conducted in a separate room or space. Additionally, effects of the intervention on the participant's behavior were not observed or examined in the field setting after the experimental sessions. The differences with respect to the settings for experimental research (primarily field for *JOBM* and primarily laboratory for *JABA*) are no

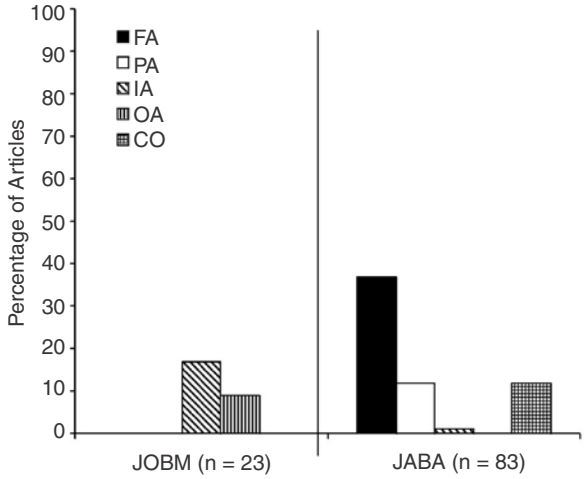
doubt related to other differences between the fields, namely intervention target (see *Participant characteristics*), and primary subject matter (see *Topics addressed* and *Specialty area*).

Applied versus basic research. An appreciably greater percentage of *JOBM* articles were conducted to solve applied problems rather than to answer more basic or bridge research questions, 87% (20 of 23 articles) versus 13% (3 of 23), respectively. In comparison, 58% (48 of 83 articles) of the studies from *JABA* were conducted to answer basic or bridge research questions, whereas 42% (35 of 83) were conducted to solve applied problems. This difference between the empirical studies in the journals is not surprising and is related directly to the scope and target audience of each publication. As stated previously, the scope of JOBM is: ". . . the application of behavior management in business, government, and service organizations" (The Haworth Press, Inc., 2002). In contrast, the scope of *JABA* is: ". . . reports and experimental research involving applications of the experimental analysis of behavior to problems of social importance" (Society for the Experimental Analysis of Behavior, 2004). Implicit in the scope of *JABA* is the analysis and explanation of underlying behavioral functions and mechanisms of action. This implication is absent from the scope of *JOBM* although the editors do encourage authors to speculate and discuss the potential underlying behavioral mechanisms that are functioning within organizational research (Haworth, 2002).

Assessment procedures. A sizable difference between the research in *JOBM* and *JABA* was the utilization of assessment procedures, as displayed in Figure 4. Only 26% of the studies from *JOBM* (6 of 23 studies) reported conducting an assessment prior to implementing the intervention. Two types of assessments were reported in the *JOBM* studies: indirect (anecdotal) assessment and organizational functional assessment (OFA). OBM researchers should be encouraged to document assessment procedures in their studies and explain how the results of the assessment guided their selection of the resultant intervention.

In contrast, 63% of the studies from *JABA* (52 of 83 studies) reported including an assessment procedure, either prior to the intervention or as the intervention under study. However, none of the *JABA* studies that were categorized as OBM or community interventions (0 of 8 studies) included an assessment prior to implementing the intervention. The most frequently used assessment procedure reported in *JABA* was functional analysis (37%, 31 of 83 studies), followed by preference assessment (12%, 10 of 83 studies), then, a combination of two or more assessments (12%, 10 of 83 studies), and finally, indirect assessment (1%, 1 of 83

FIGURE 4. Assessment procedures in *JOBM* and *JABA* from 1997-2001: The percentage of studies that included a functional analysis (FA), preference assessment (PA), indirect assessment (IA), organizational assessment (OA), or combination (CO) of 2 or more assessments.

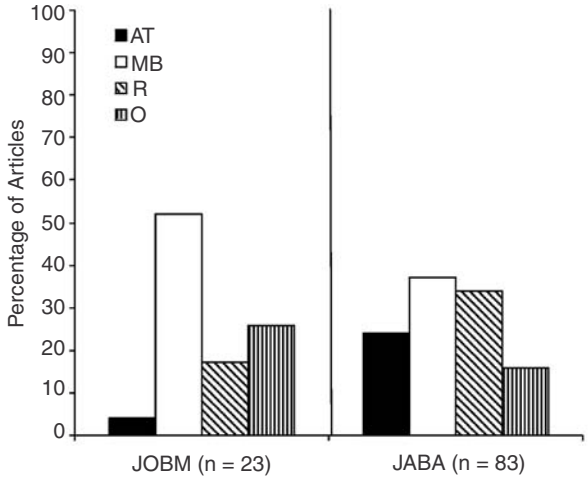


studies). The predominance of experimental functional analyses in *JABA* studies is not surprising when one considers that much of the research in *JABA* is undertaken to determine the functional cause of behavior (see *Applied vs. basic research)*, and to identify, examine, and control the direct-acting (Malott, Malott, & Trojan, 2000) maintaining variables of behavior.

To promote the use of assessments in OBM research, reviewers and editors of *JOBM* and *JABA* should request that OBM researchers describe assessment procedures utilized in their studies and explain how the results of the assessment guided their selection of the intervention.

Experimental design and analysis. Within-subject designs dominated *JOBM* (91%, 21 of 23 studies) and *JABA* (95%, 79 of 83 studies) empirical research that targeted the behavior of adults. Figure 5 presents the percentages of specific within-subject designs used in *JOBM* and *JABA*. The most commonly used within-subject design was the multiple baseline design; it was used in 52% (12 of 23 studies) of the studies in *JOBM*, and in 35% (29 of 83 studies) in *JABA*. Reversal designs were used in 17% (4 of 23 studies) of the *JOBM* studies and in 34% (28 of 83 studies) of the *JABA* studies. Alternating treatment, or multielement designs were used in 4%

FIGURE 5. Within-subject experimental designs used in *JOBM* and *JABA* from 1997-2001: The percentage of studies that used alternating treatment (AT), multiple baseline (MB), reversal (R), or other (O) experimental designs.



(1 of 23 studies) of the *JOBM* studies and in 24% (20 of 83 studies) of the *JABA* studies. Some studies used a combination of designs. If a particular study utilized a combination of experimental designs, each design was counted as a separate occurrence. The remaining studies (*JOBM* = 26%, 6 of 23 studies; *JABA* = 16%, 13 of 83 studies) used an experimental design that did not fit any of the operationally defined categories and were classified as "other." The results of this analysis are not surprising, given OBM's and ABA's behavior analytic orientation (Hersen & Barlow, 1976; Kazdin, 1982; Mawhinney, 2000; Parsonson & Baer, 1978; Sidman, 1960). Nonetheless, the research question, not the theoretical orientation of the researcher should guide the selection of the design (Kazdin, 1982; Komaki & Goltz, 2001).

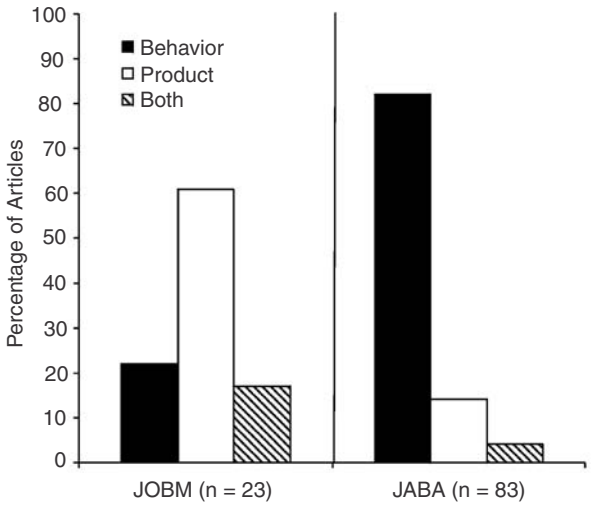
In keeping with the behavior analytic orientation of the two journals, the most commonly used data analysis method was visual inspection. In the ABA tradition, producing a change from baseline to intervention time-series data levels with no overlap of data ranges insures that the change can be detected by visual inspection of the data without statistical analysis (Mawhinney & Austin, 1999). The most common inferential statistical test used in both publications was Analysis of Variance

(ANOVA), however, very few studies reported using any inferential statistical test. In *JABA*, only one between-group study used ANOVA. In *JOBM*, 22% (5 of 23) reported statistical tests performed on data. Of these, three utilized a within-subject design and two utilized a between-group design. Four of the five studies (within-subject design, n = 2; between-group design, n = 2) in *JOBM* presented results in terms of ANOVA. The remaining within-subject study (Thurkow et al., 2000) used Pearson's Product Moment correlation statistic.

Types of dependent variable: Behavior or product of behavior. The percentages of empirical studies from *JOBM* and *JABA* that measured behavior, products of behavior, or both behavior and products of behavior are shown in Figure 6. In *JOBM*, products of behavior were measured in 61% of the studies (14 of 23), while behaviors were measured in 22% (n = 5), and both behavior and products of behavior were measured in 17% (n = 4) studies. *JABA* researchers primarily measured behavior (82%, 68 of 83 studies) rather than products of behavior (15%, n = 12) or both behavior and products of behavior (4%, n = 3). The differences with respect to types of dependent variables measured (primarily products of behavior for *JOBM* and behavior for *JABA*) may be related to other differences between the fields, namely intervention target (see *Participant characteristics*), and primary subject matter (see *Topics addressed* and *Specialty area*). However, OBM researchers should be encouraged to review the studies in other areas of ABA since this may lead to the discovery of novel interventions and analyses of behavior. That the majority of research studies in *JOBM* from 1997 through 2001 measured products of behavior is a departure from one of the defining features of OBM described by Frederiksen and Lovett (1980), that is: the methodology relies on direct observation of behavior as the main dependent variable. Whether or not this departure represents a significant and problematic departure from the conceptual basis of OBM and ABA should be investigated.

Types of independent variables. Percentages of the types of independent variables (single versus multiple; antecedent versus consequence versus a combination of antecedents and consequences versus other) used in empirical studies from *JOBM* and *JABA* are presented in Figure 7. The proportion of studies that used multiple-component independent variables (*JOBM* = 57%, 13 of 23 studies; *JABA* = 57%, 47 of 83 studies) and single component independent variables (*JOBM* = 44%, 10 of 23 studies; *JABA* = 43%, 36 of 83 studies) is the same for both journals. The distribution of antecedent, consequence and a combination of antecedent and consequence independent variables was also similar. In *JOBM*, consequences were used in 35% of the studies (8 of 23 studies), antecedents were also used as the independent variable in 35% of the studies and a

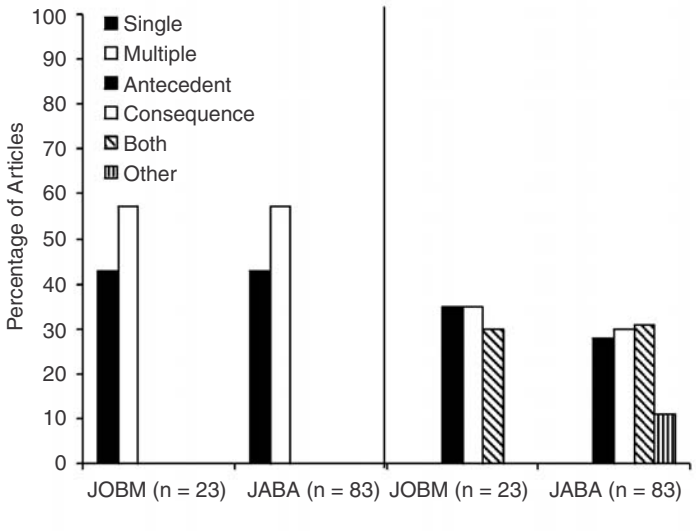
FIGURE 6. The percentage of studies that measured behavior versus products of behavior versus a combination of both behavior and products of behavior.



combination of antecedent and consequences was used in 30% of the studies (n = 7). In *JABA*, consequences were used as the independent variable in 30% of the studies (25 of 83 studies), antecedents were used in 28% (n = 23) of the studies and a combination of antecedent and consequences were used in 31% of the studies (n = 26). Independent variables fell into the "other" category in 11% (n = 9) of the *JABA* studies. Examples include independent variables that were described as assessments, or procedures in the publication. These independent variables were classified as "other" because the respective authors reported that they were investigating the effects of the assessment or procedure rather than the effects of the individual components that comprised the procedure, even though some part of the intervention may have included antecedents or consequences.

The following categories were used to assess the most commonly used independent variables in *JOBM* and *JABA*: Feedback, praise, goal setting, monetary rewards, non-monetary rewards, training, antecedents, punishment and noncontingent reinforcement. Performance feedback was the most commonly used independent variable in *JOBM*, with at least 52% of the studies (12 of 23) using feedback as at least one of the interventions. *JABA* researchers used antecedents most frequently as inde-

FIGURE 7. The percentage of studies that utilized single-component versus multiple-component independent variables; and the percentage that used antecedents versus consequences versus a combination of antecedents and consequences versus other types of independent variables.



pendent variables (21%, 17 of 83 articles). These antecedents typically consisted of information provided to participants and were used in conjunction with other independent variables. Examples include verbal prompts, visual prompts and written prompts or instructions. A number of additional independent variables that were not included in the original classification were examined in the *JABA* studies. These included: procedures (e.g., assessment, functional analysis, etc.), habit reversal, establishing operations, extinction, differential reinforcement of alternative behavior, differential reinforcement of other behavior, functional communication training and reinforcement schedules. The types of independent variables examined are ranked in Table 3.

Additional Research Sub-Categories

To improve the quality of research in *JOBM*, Nolan et al. (1999) advised researchers to include social validity and reliability measures, follow-up data and information about program continuation. Researchers

TABLE 3. Most Commonly Used Independent Variables in *JOBM* and *JABA* from 1997-2001.

JOBM (N = 23)		*JABA* (N = 83)	
1.	Feedback (52%)	1.	Antecedents (20%)
2.	Praise (23%)	2.	Training (17%)
3.	Goals (23%)	3.	Punishment (13%)
4.	Training (17%)	4.	Praise (12%)
5.	Antecedents (17%)	5.	Feedback (12%)
6.	Monetary Rewards (13%)	6.	Non-Monetary Rewards (6%)
7.	Non-Monetary Rewards (9%)	7.	Monetary Rewards (4%)
		8.	Procedural[a] (16%)
		9.	NCR[a] (14%)
		10.	DRO/DRA[a] (11%)
		11.	Extinction[a] (7%)
		12.	Reinforcement Schedules[a] (6%)
		13.	Functional Communication Training[a] (6%)
		14.	Habit Reversal[a] (4%)

Note: [a]Categories added to the original classification of independent variables.

did not report these measures as often as Nolan et al. thought they should have; however, with respect to most of the measures, *JOBM* fared better than *JABA* research.

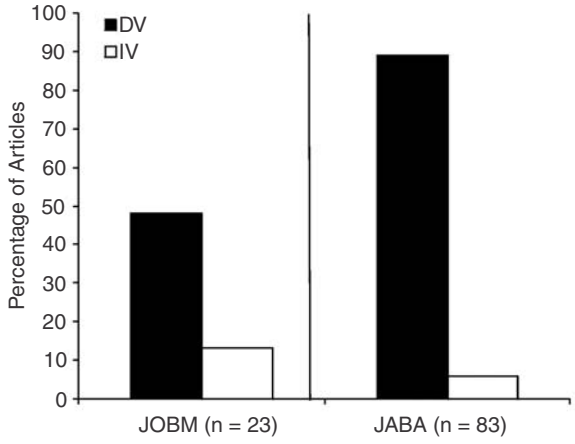
Social validity. In *JOBM*, social validity was assessed in 39% of the empirical studies (9 of 23), an improvement from the previously reported 27% of empirical studies from the Nolan et al. (1999) review. It would be misleading to report overall percentages for *JABA*, given that 63% (52 of 83) of the empirical studies were conducted in laboratory settings and 65% (54 of 83 articles) used non-verbal participants, therefore social validity data will be presented as the percentage of field studies reporting these data. In *JABA,* social validity was assessed in 13% of the field studies (4 of 31 studies). OBM and ABA could benefit from more frequent assessment of social validity. Assessment of social validity could, among other things, increase the acceptance and continuation of interventions by involving organizational members, e.g., teachers, managers, etc., in planning and application, and ensuring customer satisfaction (Schwartz & Baer, 1991).

Reliability of dependent variables. Figure 8 presents the percentages of articles that reported reliability measures for dependent variables,

commonly reported as inter-rater reliability or inter-observer agreement (IOA). Forty-eight percent of the empirical studies (11 of 23) in *JOBM* included measures of IOA. In contrast, 89% of the studies (74 of 83) in *JABA* reported IOA. This difference may reflect the type of dependent variables favored by researchers that conducted the studies included in the current review. As previously discussed, 61% of articles in *JOBM* (14 of 23) targeted products of behavior as the primary dependent variable whereas 82% of articles in *JABA* (68 of 83) targeted behavior as the primary dependent variable. When directly observing behavior, IOA is critical. On the other hand, permanent products do not always require reliability assessments (Bucklin et al., 2000). Even so, OBM researchers could benefit from examining the reliability methods use in other areas of ABA research. Furthermore, consistent assessment is essential to ensure that minimal variation is introduced into the data by observers and to check on the adequacy of the response definition(s) (Kazdin, 1982).

Reliability of independent variables. Figure 8 presents the percentages of articles that reported reliability measures for independent variables. Only 13% of *JOBM* studies (3 of 23 studies), and 6% of *JABA* studies (5 of 83) reported independent variable reliability or integrity.

FIGURE 8. The percentage of studies published in *JOBM* and *JABA* from 1997-2001 that reported reliability of dependent variables (DV) and independent variables (IV).



Very few authors reported any actions taken to ensure that an intervention was implemented as described. The implications of the paucity of treatment integrity data are important because if a treatment was not implemented as planned, the effectiveness of the treatment may be debatable, the interpretation of results may be questionable, and replication of the treatment and results may be difficult, if not impossible.

Follow-up and program continuation. Follow-up and program continuation are primarily relevant to field studies (Bucklin et al., 2000), therefore, these data will be presented as the percentage of field studies reporting these data, just as was done with the social validity data. In *JOBM*, 26% (6 of 23 studies) included follow-up data and 9% (n = 2) included information about program continuation. Higher percentages of *JABA* articles reported follow-up data, i.e., 36% (11 of 31 studies), but a lower percentage reported program continuation data, i.e., 3% (n = 1).

CONCLUSIONS

Although OBM and ABA share a common theoretical and conceptual basis and research methodology, the empirical studies targeting the behavior of adults in *JOBM* and *JABA* from 1997-2001 reflect substantial differences between the bodies of research of the two fields, specifically intervention target, target audience, and primary subject matter. The similarities between the bodies of research of the fields provide substantial evidence that OBM and ABA researchers alike strive to ensure that their research adheres to the guiding principles of applied behavior analysis: (1) applied, (2) behavioral, (3) analytic, (4) technological, (5) conceptually systematic, (6) effective, and (7) generalizable (Baer et al., 1968).

The differences between OBM and other areas of ABA should be viewed as opportunities for discovery and advancement, rather than as declaration that the fields are distinct and separate entities. One significant difference in the OBM and ABA literature is the prevalence of verbal participants in *JOBM* studies versus the prevalence of non-verbal participants in *JABA* studies. This difference has implications for OBM researchers regarding the appropriateness of treatments and the generalization of results, but it should not be the critical decision point by which OBM researchers discount ABA research. As stated previously, having at least a passing familiarity with basic as well as applied research increases the size of the audience with whom one can meaningfully interact, and may suggest novel interventions and analyses of behavior in organizations (Poling et al., 2000).

The current comparison confirmed the conclusion made by Nolan et al. (1999) that the primary relative strength of OBM is its practical significance, demonstrated by the proportion of research addressing applied issues. Strengths of ABA include the variety and complexity of topics and specialty areas, the extensive use of assessment procedures, the ongoing analysis and refinement of assessment procedures, and the extent to which ABA researchers report dependent variable reliability.

NOTE

1. This percentage was reported as 1% in Bucklin et al. (2000).

REFERENCES

*Adelinis, J. D., & Hagopian, L. P. (1999). The use of symmetrical "do" and "don't" requests to interrupt ongoing activities. *Journal of Applied Behavior Analysis*, *32*(4), 519-523.

Agnew, J. L. (1999). Can we do better behavioral analysis in OBM? Comments on "The analysis of behavioral mechanisms in JOBM." *Journal of Organizational Behavior Management*, *19*(3), 57-62.

*Arco, L. (1997). Improving program outcome with process-based performance feedback. *Journal of Organizational Behavior Management*, *17*(1), 37-64.

*Austin, J., Alvero, A. M., & Olson, R. (1998). Prompting patron safety belt use at a restaurant. *Journal of Applied Behavior Analysis*, *31*(4), 655-657.

Austin, J., Carr, J. E., & Agnew, J. L. (1999). The need for assessment of maintaining variables in OBM. *Journal of Organizational Behavior Management*, *19*(2), 59-87.

Association for Behavior Analysis. (2003). *ABA program, 29th annual convention*. Kalamazoo, MI: Association for Behavior Analysis.

Baer, D. M., Wolf, M. M., & Risley, T. D. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, *1*(1), 91-97.

Balcazar, F. E., Shupert, M. L., Daniels, A. C., Mawhinney, T. C., & Hopkins, B. L. (1989). An objective review and analysis of ten years of publication of the *Journal of Organizational Behavior Management*. *Journal of Organizational Behavior Management*, *10*(1), 7-37.

*Bojak, S. L., & Carr, J. E. (1999). On the displacement of leisure food items by food during multiple-stimulus preference assessments. *Journal of Applied Behavior Analysis*, *32*(4), 515-518.

*Boyce, T. E., & Geller, E. S. (1999). Attempts to increase vehicle safety-belt use among industry workers: What can we learn from our failures? *Journal of Organizational Behavior Management*, *19*(3), 27-44.

Bucklin, R. B., Alvero, A. M., Dickinson, A. M., Austin, J., & Jackson, A. K. (2000). Industrial-organizational psychology and organizational behavior management: An objective comparison. *Journal of Organizational Behavior Management*, *20*(2), 27-75.

*Carr, J. E., Bailey, J. S., Ecott, C. L., Lucker, K. D., & Weil, T. M. (1998). On the effects of noncontingent delivery of differing magnitudes of reinforcement. *Journal of Applied Behavior Analysis*, *31*(3), 313-321.

*Carr, J. E., Kellum, K. K., & Chong, I. M. (2001). The reductive effects of noncontingent reinforcement: Fixed-time versus variable-time schedules. *Journal of Applied Behavior Analysis*, *34*(4), 505-509.

*Christian, L., & Poling, A. (1997). Using self-management procedures to improve the productivity of adults with developmental disabilities in a competitive employment setting. *Journal of Applied Behavior Analysis*, *30*(1), 169-172.

*Clayton, M. C., Mawhinney, T. C., Luke, D. E., & Cook, H. G. (1997). Improving the management of overtime costs through decentralized controls: Managing an organizational metacontingency. *Journal of Organizational Behavior Management*, *17*(2), 77-98.

*Conners, J., Iwata, B. A., Kahng, S. W., Hanley, G. P., Wordsell, A. S., & Thompson, R. H. (2000). Differential responding in the presence and absence of discriminative stimuli during multielement functional analyses. *Journal of Applied Behavior Analysis*, *33*(3), 299-308.

Daniels, A. C. (1977). Editorial. *Journal of Organizational Behavior Management*, *1*(1), v-vii.

Daniels, A. C. (1989). *Performance management: Improving quality productivity through positive reinforcement* (3rd ed.). Tucker, GA: Performance Management Publications.

*DeLeon, I. G., Iwata, B. A., Goh, H-L., & Wordsell, A. S. (1997). Emergence of reinforcer preference as a function of schedule requirements and stimulus similarity. *Journal of Applied Behavior Analysis*, *30*(3), 439-449.

*DeLeon, I. G., Iwata, B. A., & Roscoe, E. M. (1997). Displacement of leisure reinforcers by food during preference assessments. *Journal of Applied Behavior Analysis*, *30*(3), 475-484.

*DeLeon, I. G., Iwata, B. A., Conners, J., & Wallace, M. D. (1999). Examination of ambiguous stimulus preferences with duration-based measures. *Journal of Applied Behavior Analysis*, *32*(1), 111-114.

Dickinson, A. M. (2000). The historical roots of organizational behavior management in the private sector: The 1950s-1980s. *Journal of Organizational Behavior Management*, *20*(3/4), 9-58.

*Dixon, M. R., Benedict, H., & Larson, T. (2001). Functional analysis and treatment of inappropriate verbal behavior. *Journal of Applied Behavior Analysis*, *34*(3), 361-363.

*Dixon, M. R., Hayes, L. J., Binder, L. M., Manthey, S., Sigman, C., & Zdanowski, D. M. (1998). Using a self-control training procedure to increase appropriate behavior. *Journal of Applied Behavior Analysis*, *31*(2), 203-210.

*Dixon, M. R., & Holcomb, S. (2000). Teaching self-control to small groups of dually diagnosed adults. *Journal of Applied Behavior Analysis*, *33*(4), 611-614.

*Engerman, J. A., Austin, J., & Bailey, J. S. (1997). Prompting patron safety belt use at a supermarket. *Journal of Applied Behavior Analysis*, *30*(3), 577-579.

*Finney, J. W., Putnam, L. G., & Boyd, C. M. (1998). Improving the accuracy of self-reports of adherence. *Journal of Applied Behavior Analysis*, *31*(3), 485-488.

*Fischer, S. M., Iwata, B. A., & Mazaleski, J. L. (1997). Noncontingent delivery of arbitrary reinforcers as treatment for self-injurious behavior. *Journal of Applied Behavior Analysis*, *30*(2), 239-249.

*Fischer, S. M., Iwata, B. A., & Wordsell, A. S. (1997). Attention as an establishing operation and as reinforcement during functional analyses. *Journal of Applied Behavior Analysis*, *30*(2), 335-338.

*Fisher, W. W., Bowman, L. G., Thompson, R. H., Contrucci, S. A., Burd, L., & Alon, G. (1998). Reductions in self-injury produced by transcutaneous electrical nerve stimulation. *Journal of Applied Behavior Analysis*, *31*(3), 493-496.

Frederiksen, L. W., & Lovett, S. B. (1980). Inside organizational behavior management: Perspectives on an emerging field. *Journal of Organizational Behavior Management*, *4*(2), 193-203.

*Garcia, D., Starin, S., & Churchill, R. M. (2001). Treating aerophagia with contingent physical guidance. *Journal of Applied Behavior Analysis*, *34*(2), 89-92.

*Geren, M. A., Stromer, R., & Mackay, H. A. (1997). Picture naming, matching to sample, and head injury: A stimulus control analysis. *Journal of Applied Behavior Analysis*, *30*(2), 339-342.

*Gikalov, A. A., Baer, D. M., & Hannah, G. T. (1997). The effects of work task manipulation and scheduling on patient load, revenue, eyewear turnover, and utilization of staff and doctor time. *Journal of Organizational Behavior Management*, *17*(1), 3-35.

*Godat, L. M., & Brigham, T. A. (1999). The effect of a self-management training program on employees of a mid-sized organization. *Journal of Organizational Behavior Management*, *19*(1), 65-83.

*Goh, H-L., Iwata, B. A., & DeLeon, I. G. (2000). Competition between noncontingent and contingent reinforcement schedules during response acquisition. *Journal of Applied Behavior Analysis*, *33*(2), 195-205.

*Goh, H-L., Iwata, B. A., & Kahng, S. W. (1999). Multicomponent assessment and treatment of cigarette pica. *Journal of Applied Behavior Analysis*, *32*(3), 297-316.

*Goltz, S. M. (1999). Can't stop on a dime: The roles of matching and momentum in persistence of commitment. *Journal of Organizational Behavior Management*, *19*(1), 37-63.

*Green, C. W., Gardner, S. M., & Reid, D. H. (1997). Increasing indices of happiness among people with profound disabilities: A program replication and component analysis. *Journal of Applied Behavior Analysis*, *30*(2), 217-228.

*Green, C. W., Middleton, S. G., & Reid, D. H. (2001). Embedded evaluation of preferences sampled from person-centered plans for people with profound multiple disabilities. *Journal of Applied Behavior Analysis*, *34*(1), 639-642.

*Hagopian, L., & Adelinis, J. D. (2001). Response blocking with and without redirection for the treatment of pica. *Journal of Applied Behavior Analysis*, *34*(4), 527-530.

*Hagopian, L. P., Fisher, W. W., Thompson, R. H., Owen-DeSchryver, J., Iwata, B. A., & Wacker, D. P. (1997). Toward the development of structured criteria for interpretation of functional analysis data. *Journal of Applied Behavior Analysis*, *30*(2), 313-326.

*Hanley, G. P., Iwata, B. A., & Lindberg, J. S. (1999). Analysis of activity preferences as a function of differential consequences. *Journal of Applied Behavior Analysis*, *32*(4), 419-435.

*Hanley, G. P., Iwata, B. A., & Thompson, R. H. (2001). Reinforcement schedule thinning following treatment with functional communication training. *Journal of Applied Behavior Analysis*, *34*(1), 17-38.

*Hantula, D. A., Rajala, A. K., Brecher Kellerman, E. G., & DeNicolis Bragger, J. L. (2001). The value of workplace safety: A time-based utility model analysis. *Journal of Organizational Behavior Management*, *21*(2), 79-98.

*Harris, T. A., Peterson, S. L., Filliben, T. L., Glassberg, M., & Favell, J. E. (1998). Evaluating a more cost-efficient alternative to providing in-home feedback to parents: The use of spousal feedback. *Journal of Applied Behavior Analysis*, *31*(1), 131-134.

Haworth Press, Inc. (2002). Journal ordering, copyright, and document delivery information. *Journal of Organizational Behavior Management*, *22*(4), 77.

Hayes, L. J. (1999). Dining with the devil: A response to Normand, Bucklin and Austin. *Journal of Organizational Behavior Management*, *19*(3), 63-66.

Hayes, S. C. (1991). The limits of technological talk. *Journal of Applied Behavior Analysis*, *24*(3), 417-420.

Hersen, M., & Barlow, D. H. (1976). *Single-case experimental design: Strategies for studying behavior change.* New York: Pergamon Press.

Hopkins, B. L. (1999). The principles of behavior as an empirical theory and the usefulness of that theory in addressing practical problems. *Journal of Organizational Behavior Management*, *19*(3), 67-75.

*Houmanfar, R., & Hayes, L. J. (1998). Effects of feedback on task completion, time distribution and time allocation of graduate students. *Journal of Organizational Behavior Management*, *18*(1), 69-91.

*Huberman, W. L., & O'Brien, R. M. (1998). Improving therapist and patient performance in chronic psychiatric group homes through goal-setting, feedback, and positive reinforcement. *Journal of Organizational Behavior Management*, *19*(1), 13-36.

*Irvin, D. S., Thompson, T. J., Turner, W. D., & Williams, D. E. (1998). Utilizing increased response effort to reduce chronic hand mouthing. *Journal of Applied Behavior Analysis*, *31*(3), 375-385.

Ivancic, M. T. (2000). Stimulus preference and reinforcer assessment applications. In J. Austin & J. E. Carr (Eds.), *Handbook of applied behavior analysis* (pp. 19-38). Reno, NV: Context Press.

Iwata, B. A. (1991). Applied behavior analysis as technological science. *Journal of Applied Behavior Analysis*, *24*(3), 421-424.

*Iwata, B. A., DeLeon, I. G., & Kahng, S. W. (1997). An analysis of reinforcer substitutability using object manipulation and self-injury as competing responses. *Journal of Applied Behavior Analysis*, *30*(2), 21-41.

Iwata, B. A., Kahng, S. W., Wallace, M. D., & Lindberg, J. S. (2000). The functional analysis model of behavioral assessment. In J. Austin & J. E. Carr (Eds.), *Handbook of applied behavior analysis* (pp. 61-90). Reno, NV: Context Press.

*Iwata, B. A., Wallace, M. D., Kahng, S. W., Lindberg, J. S., Roscoe, E. M., Conners, J., Hanley, G. P., Thompson, R. H., & Wordsell, A. S. (2000). Skill acquisition in the implementation of functional analysis methodology. *Journal of Applied Behavior Analysis*, *33*(2), 181-194.

Jarema, K., Snycerski, S., Bagge, S., Austin, J., & Poling, A. (1999). Participation of women as authors and participants in articles published in the *Journal of Organizational Behavior Management*. *Journal of Organizational Behavior Management*, *19*(1), 85-94.

*Jessup, P. A., & Stahelski, A. J. (1999). The effects of a combined goal setting, feedback and incentive intervention on job performance in a manufacturing environment. *Journal of Organizational Behavior Management*, *19*(3), 5-26.

*Kahng, S. W., & Iwata, B. A. (1999). Correspondence between outcomes of brief and extended functional analyses. *Journal of Applied Behavior Analysis*, *32*(2), 149-159.

*Kahng, S. W., Iwata, B. A., DeLeon, I. G., & Wallace, M. D. (2000). A comparison of procedures for programming noncontingent reinforcement schedules. *Journal of Applied Behavior Analysis*, *33*(2), 223-231.

*Kahng, S. W., Iwata, B. A., DeLeon, I. G., & Wordsell, A. S. (1997). Evaluation of the "control over reinforcement" component in functional communication training. *Journal of Applied Behavior Analysis*, *30*(2), 267-277.

*Kahng, S. W., Iwata, B. A., Thompson, R. H., & Hanley, G. P. (2000). A method for identifying satiation versus extinction effects under noncontingent reinforcement schedules. *Journal of Applied Behavior Analysis*, *33*(4), 419-432.

Kazdin, A. E. (1982). *Single-case research designs: Methods for clinical and applied settings*. New York: Oxford Press.

*Keeney, K. M., Fisher, W. W., Adelinis, J. D., & Wilder, D. A. (2000). The effects of response cost in the treatment of aberrant behavior maintained by negative reinforcement. *Journal of Applied Behavior Analysis*, *33*(2), 255-258.

*Kladopoulos, C. N., & McComas, J. J. (2001). The effects of form training on foul-shooting performance in members of a women's college basketball team. *Journal of Applied Behavior Analysis*, *34*(3), 329-332.

*Klatt, K. P., Sherman, J. A., & Sheldon, J. B. (2000). Effects of deprivation on engagement in preferred activities by persons with developmental disabilities. *Journal of Applied Behavior Analysis*, *33*(4), 495-506.

*Kneringer, M-J., & Page, T. J. (1999). Improving staff nutritional practices in community-based group homes: Evaluation, training, and management. *Journal of Applied Behavior Analysis*, *32*(2), 221-224.

Komaki, J. L., & Goltz, S. M. (2001). Within-group research designs: Going beyond program evaluation questions. In C. M. Johnson, W. K. Redmon, & T. C. Mawhinney (Eds.), *Handbook of organizational performance: Behavior analysis and management* (pp. 81-137). Binghamton, NY: The Haworth Press, Inc.

*Kritch, K. M., & Bostow, D. E. (1998). Degree of constructed-response interaction in computer-based programmed instruction. *Journal of Applied Behavior Analysis*, *31*(3), 387-398.

*Kuhn, D. E., DeLeon, I. G., Fisher, W. W., & Wilke, A. E. (1999). Clarifying an ambiguous functional analysis with matched and mismatched extinction procedures. *Journal of Applied Behavior Analysis*, *32*(1), 99-102.

*Langeland, K. L., Johnson, C. M., & Mawhinney, T. C. (1998). Improving staff performance in a community mental health setting: Job analysis, training, goal setting, feedback, and years of data. *Journal of Organizational Behavior Management*, *18*(1), 21-43.

*Lerman, D. C., Iwata, B. A., Shore, B. A., & DeLeon, I. G. (1997). Effects of intermittent punishment on self-injurious behavior: An evaluation of schedule thinning. *Journal of Applied Behavior Analysis*, *30*(2), 187-201.

*Lerman, D. C., Kelley, M. E., Van Camp, C. M., & Roane, H. S. (1999). Effects of reinforcement magnitude on spontaneous recovery. *Journal of Applied Behavior Analysis*, *32*(2), 197-200.

*Lindauer, S. E., DeLeon, I. G., & Fisher, W. W. (1999). Decreasing signs of negative affect and correlated self-injury in an individual with mental retardation and mood disturbances. *Journal of Applied Behavior Analysis*, *32*(1), 103-106.

*Lindberg, J. S., Iwata, B. A., & Kahng, S. W. (1999). On the relation between object manipulation and stereotypic self-injurious behavior. *Journal of Applied Behavior Analysis*, *32*(1), 51-62.

*Lindberg, J. S., Iwata, B. A., Kahng, S. W., & DeLeon, I. G. (1999). DRO contingencies: An analysis of variable-momentary schedules. *Journal of Applied Behavior Analysis*, *32*(2), 123-136.

*Long, E. S., Miltenberger, R. G., Ellingson, S. A., & Ott, S. M. (1999). Augmenting simplified habit reversal in the treatment of oral-digital habits exhibited by individuals with mental retardation. *Journal of Applied Behavior Analysis*, *32*(3), 353-365.

*Ludwig, T. D., Biggs, J., Wagner, S., & Geller, E. S. (2001). Using public feedback and competitive rewards to increase the safe driving of pizza deliverers. *Journal of Organizational Behavior Management*, *21*(4), 75-104.

*Ludwig, T. D., & Geller, E. S. (1999a). Behavior changes among agents of a community safety program: Pizza deliverers advocate community safety belt use. *Journal of Organizational Behavior Management*, *19*(2), 3-24.

*Ludwig, T. D., & Geller, E. S. (1999b). Behavioral impact of a corporate driving policy: Undesirable side-effects reflect countercontrol. *Journal of Organizational Behavior Management*, *19*(2), 25-34.

*Ludwig, T. D., Gray, T. W., & Rowell, A. (1998). Increasing recycling in academic buildings: A systematic replication. *Journal of Applied Behavior Analysis*, *31*(4), 683-686.

*Lumley, V. A., Miltenberger, R. G., Long, E. S., Rapp, J. T., & Roberts, J. A. (1998). Evaluation of a sexual abuse prevention program for adults with mental retardation. *Journal of Applied Behavior Analysis*, *31*(1), 91-101.

Malott, R. W. (1999). Conceptual behavior analysis. *Journal of Organizational Behavior Management*, *19*(3), 75-81.

Malott, R.W., Malott, M.E., & Trojan, E.A. (2000). *Elementary principles of behavior* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

*Matthews, G. A., & Dickinson, A. M. (2000). Effects of alternative activities on time allocated to task performance under different percentages of incentive pay. *Journal of Organizational Behavior Management*, *20*(1), 3-27.

Mawhinney, T. C. (2000). OBM today and tomorrow: Then and now. *Journal of Organizational Behavior Management*, *20*(3/4), 73-137.

Mawhinney, T. C., & Austin, J. (1999). Speed and accuracy of data analysts' behavior using methods of equal interval graphic data charts, standard celeration charts, and statistical process control charts. *Journal of Organizational Behavior Management*, *18*(4), 5-45.

*Mawhinney, T. C., & Fellows-Kubert, C. (1999). Positive contingencies versus quotas: Telemarketers exert countercontrol. *Journal of Organizational Behavior Management*, *19*(2), 35-57.

*McCord, B. E., Iwata, B. A., Galenski, T. L., Ellington, S. A., & Thomson, R. J. (2001). Functional analysis and treatment of problem behavior evoked by noise. *Journal of Applied Behavior Analysis*, *34*(4), 447-462.

*McCord, B. E., Thomson, R. J., & Iwata, B. A. (2001). Functional analysis and treatment of self-injury associated with transitions. *Journal of Applied Behavior Analysis*, *34*(2), 195-210.

McGee, H. M., Bucklin, B. R., Dickinson, A. M., & McSweeney, F. K. (2003). Participation of women in the *Journal of Organizational Behavior Management*. *Journal of Organizational Behavior Management*, *23*(1), 3-31.

McSweeney, F. K., Donahoe, P., & Swindell, S. (2000). Women in applied behavior analysis. *The Behavior Analyst*, *23*, 267-277.

*Miltenberger, R. G., Raymond, G., Roberts, J. A., Ellingson, S., Galensky, T., Rapp, J. T., Long, E. S., & Lumley, V. A. (1999). Training and generalization of sexual abuse prevention skills for women with mental retardation. *Journal of Applied Behavior Analysis*, *32*(3), 385-388.

Morris, E. K. (1991). Deconstructing "technological to a fault." *Journal of Applied Behavior Analysis*, *24*(3), 411-416.

*Moses, T. P., Stahelski, A. J., & Knapp, G. R. (2000). Effects of attribute control charts on organizational performance. *Journal of Organizational Behavior Management*, *20*(1), 69-90.

*Mueller, M. M., Moore, J. W., Doggett, R. A., & Tingstrom, D. H. (2000). The effectiveness of contingency-specific and contingency-nonspecific prompts in controlling bathroom graffiti. *Journal of Applied Behavior Analysis*, *33*(1), 89-92.

*Mueller, M. M., Moore, J. W., Tingstrom, D. H., & Doggett, R. A. (2001). Increasing seating opportunities using a behavioral prompt. *Journal of Organizational Behavior Management*, *21*(2), 99-109.

*Nicol, N., & Hantula, D. A. (2001). Decreasing delivery drivers' departure times. *Journal of Organizational Behavior Management*, *21*(4), 105-116.

*Noell, G. H., Witt, J. C., LaFleur, L. H., Mortenson, B. P., Ranier, D. D., & LeVelle, J. (2000). Increasing intervention implementation in general education following consultation: A comparison of two follow-up strategies. *Journal of Applied Behavior Analysis*, *33*(3), 101-104.

Nolan, R. V., Jarema, K. A., & Austin, J. (1999). An objective review of the *Journal of Organizational Behavior Management*: 1987-1997. *Journal of Organizational Behavior Management*, *19*(3), 83-114.

Normand, M., Bucklin, B., & Austin, J. (1999). The discussion of behavioral principles in the *Journal of Organizational Behavior Management*. *Journal of Organizational Behavior Management*, *19*(3), 45-56.

*Olson, R., & Austin, J. (2001). Behavior-based safety and working alone: The effects of a self-monitoring package on the safe performance of bus drivers. *Journal of Organizational Behavior Management*, *21*(3), 5-43.

*O'Reilly, M. F. (1999). Effects of presession attention on the frequency of attention-maintained behavior. *Journal of Applied Behavior Analysis*, *32*(3), 371-374.

Parsonson, B. S., & Baer, D. M. (1978). The analysis and presentation of graphic data. In R. Kratochwill (Ed.), *Single-subject research: Strategies for evaluating change* (pp. 105-165). NY: Academic Press.

*Pear, J. J., & Crone-Todd, D. E. (1999). Personalized system of instruction in cyberspace. *Journal of Applied Behavior Analysis*, *32*(2), 205-209.

*Petry, N. M., Bickel, W. K., Tzanis, E., Taylor, R., Kubik, E., Foster, M., & Hughes, M. E. (1998). A behavioral intervention for improving verbal behaviors of heroin addicts in a treatment clinic. *Journal of Applied Behavior Analysis*, *31*(2), 291-297.

Poling, A., Dickinson, A. M., Austin, J., & Normand, M. (2000). Basic behavioral research and organizational behavior management. In J. Austin & J. E. Carr (Eds.), *Handbook of applied behavior analysis* (pp. 295-320). Reno, NV: Context Press.

*Rapp, J. T., Miltenberger, R. G., & Long, E. S. (1998). Augmenting simplified habit reversal with an awareness enhancement device: Preliminary findings. *Journal of Applied Behavior Analysis*, *31*(4), 665-668.

*Rapp, J. T., Miltenberger, R. G., Galensky, T. L., Ellingson, S. A., & Long, E. S. (1999). A functional analysis of hair pulling. *Journal of Applied Behavior Analysis*, *32*(3), 329-337.

Redmon, W. K. (1991). Pinpointing the technological fault in applied behavior analysis. *Journal of Applied Behavior Analysis*, *24*(3), 441-444.

Reid, D. H. (1991). Technological behavior analysis and societal impact: A human services perspective. *Journal of Applied Behavior Analysis*, *24*(3), 437-439.

*Reid, D. H., Everson, J. M., & Green, C. W. (1999). A systematic evaluation of preferences identified through person-centered planning for people with profound multiple disabilities. *Journal of Applied Behavior Analysis*, *32*(4), 467-477.

*Richman, D. M., Wacker, D. P., Asmus, J. M., & Casey, S. D. (1998). Functional analysis and extinction of different behavior problems exhibited by the same individual. *Journal of Applied Behavior Analysis*, *31*(3), 475-478.

*Roscoe, E. M., Iwata, B. A., & Goh, H-L. (1998). A comparison of noncontingent reinforcement and sensory extinction as treatments for self-injurious behavior. *Journal of Applied Behavior Analysis*, *31*(4), 635-646.

*Schepis, M. M., Reid, D. H., Ownbey, J., & Parsons, M. B. (2001). Training support staff to embed teaching within natural routines of young children with disabilities in an inclusive preschool. *Journal of Applied Behavior Analysis*, *34*(3), 313-327.

Schwartz, I. S., & Baer, D. M. (1991). Social validity assessments: Is current practice state of the art? *Journal of Applied Behavior Analysis*, *24*(2), 189-204.

*Shirley, M. J., Iwata, B. A., & Kahng, S. W. (1999). False-positive management of self-injurious behavior by access to tangible reinforcers. *Journal of Applied Behavior Analysis*, *32*(2), 201-204.

*Shirley, M. J., Iwata, B. A., Kahng, S. W., Mazaleski, J. L., & Lerman, D. C. (1997). Does functional communication training compete with ongoing contingencies of reinforcement? An analysis during response acquisition and maintenance. *Journal of Applied Behavior Analysis*, *30*(1), 93-104.

Sidman, M. (1960). Tactics of scientific research: Evaluating experimental data in psychology. New York: Basic Books.

*Smith, R. G., Russo, L., & Le, D. D. (1999). Distinguishing between extinction and punishment effects of response blocking: A replication. *Journal of Applied Behavior Analysis*, *32*(3), 367-370.

*Smoot, D. A., & Duncan, P. K. (1997). The search for the optimum individual monetary incentive pay system: A comparison of the effects of flat pay and linear and non-linear incentive pay systems on worker productivity. *Journal of Organizational Behavior Management*, *17*(2), 5-75.

Society for the Experimental Analysis of Behavior. (2004). *Journal of Applied Behavior Analysis*. Retrieved February 16, 2004, from the Society for Experimental Analysis of Behavior, Web site: *http://seab.envmed.rochester.edu/jaba/*.

*Staats, H., Van Leeuwaen, E., & Wit, A. (2000). A longitudinal study of informational interventions to safe energy in an office building. *Journal of Applied Behavior Analysis*, *33*(1), 101-104.

Sulzer-Azaroff, B. (2000). Foreword. In J. Austin & J. E. Carr (Eds.), *Handbook of applied behavior analysis* (pp. vi-xiv). Reno, NV: Context Press.

*Taylor, I., & O'Reilly, M. F. (1997). Toward a functional analysis of private verbal self-regulation. *Journal of Applied Behavior Analysis*, *30*(1), 43-58.

*Thompson, R. H., & Iwata, B. A. (2000). Response acquisition under direct and indirect contingencies of reinforcement. *Journal of Applied Behavior Analysis*, *33*(1), 1-11.

*Thompson, R. H., & Iwata, B. E. (2001). A descriptive analysis of social consequences following problem behavior. *Journal of Applied Behavior Analysis*, *34*(2), 169-178.

*Thompson, R. H., Iwata, B. A., Conners, J., & Roscoe, E. M. (1999). Effects of reinforcement for alternative behavior during punishment of self-injury. *Journal of Applied Behavior Analysis*, *32*(3), 317-328.

*Thurkow, N. M., Bailey, J. S., & Stamper, M. R. (2000). The effects of monetary incentives on productivity of telephone interviewers. *Journal of Organizational Behavior Management*, *20*(2), 3-24.

*Twohig, M. P., & Woods, D. W. (2001a). Habit reversal as a treatment for chronic skin picking in typically developing adult male siblings. *Journal of Applied Behavior Analysis*, *34*(2), 217-220.

*Twohig, M. P., & Woods, D. W. (2001b). Evaluating the duration of the competing response in habit reversal: A parametric analysis. *Journal of Applied Behavior Analysis*, *34*(4), 517-520.

*Van Camp, C. M., Lerman, D. C., & Kelley, M. E. (2001). A method for analyzing changes in response efficiency. *Journal of Applied Behavior Analysis*, *34*(4), 487-490.

*Vollmer, T. R., & Vorndran, C. M. (1998). Assessment of self-injurious behavior maintained by access to self-restraint methods. *Journal of Applied Behavior Analysis*, *31*(4), 647-650.

*Wilder, D. A., Masuda, A., O'Connor, C., & Baham, M. (2001). Brief functional analysis and treatment of bizarre vocalizations in an adult with schizophrenia. *Journal of Applied Behavior Analysis*, *34*(1), 65-68.

*Wilk, L. A., & Redmon, W. K. (1998). The effects of feedback and goal setting on the productivity and satisfaction of university admissions staff. *Journal of Organizational Behavior Management*, *18*(1), 45-68.

*Wilson, C., Boni, N., & Hogg, A. (1997). The effectiveness of task clarification, positive reinforcement and corrective feedback in changing courtesy among police staff. *Journal of Organizational Behavior Management*, *17*(1), 65-99.

*Witt, J. C., Noell, G. H., LaFleur, L. H., & Mortenson, B. P. (1997). Teacher use of interventions in general education settings: Measurement and analysis of the independent variable. *Journal of Applied Behavior Analysis*, *30*(4), 693-696.

*Wong, S. E., Seroka, P. L., & Ogisi, J. (2000). Effects of a checklist on self-assessment of blood glucose level by a memory-impaired woman with diabetes mellitus. *Journal of Applied Behavior Analysis*, *33*(2), 251-254.

*Wordsell, A. S., Iwata, B. A., Conners, J., Kahng, S. W., & Thomson, R. H. (2000). Relative influences of establishing operations and reinforcement contingencies on self-injurious behavior during functional analyses. *Journal of Applied Behavior Analysis*, *33*(4), 451-461.

*Wordsell, A. S., Iwata, B. A., Hanley, G. P., Thompson, R. H., & Kahng, S. W. (2000). Effects of continuous and intermittent reinforcement for problem behavior during functional communication training. *Journal of Applied Behavior Analysis*, *33*(2), 167-179.

*Zhou, L., Goff, G. A., & Iwata, B. A. (2000). Effects of increased response effort on self-injury and object manipulation as competing responses. *Journal of Applied Behavior Analysis*, *33*(1), 29-40.

Articles marked with asterisks (*) were those included in the review.