Positive Behavior Support and Applied Behavior Analysis

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This article reviews the origins and characteristics of the positive behavior support (PBS) movement and examines those features in the context of the field of applied behavior analysis (ABA). We raise a number of concerns about PBS as an approach to delivery of behavioral services and its impact on how ABA is viewed by those in human services. We also consider the features of PBS that have facilitated its broad dissemination and how ABA might benefit from emulating certain practices of the PBS movement.

Key words: applied behavior analysis, positive behavior support, developmental disabilities, special education

Over the past dozen years or more, an approach to delivery of behavioral services known as positive behavior support (PBS) has emerged as a highly visible movement. Although PBS has been substantially influenced by applied behavior analysis (ABA), other factors are also part of its history. In response to an article by Anderson and Freeman (2000) that described PBS as consistent with behavior analysis, J. Carr and Sidener (2002) noted growing evidence that PBS is being represented as a distinct ''discipline'' and concluded that ''now is the time to consider the ramifications of separating PBS from applied behavior analysis'' (p. 251). That suggestion raised fundamental issues about the origins and features of PBS, its relation to ABA, and the implications of its development for the ongoing development of ABA. As well, the undeniable success of PBS in the human services marketplace may provide the ABA community with some strategic examples of ways to promote ABA interests more effectively.

The purpose of this paper is to examine the origins and characteristics of PBS, particularly in relation to ABA. Unlike some recent treatments of PBS addressed to behavior analysts (e.g., Anderson & Freeman, 2000; Anderson & Kincaid, 2005), this paper provides a general description of PBS as seen by outsiders and considers some key differences between PBS and ABA. Although the origins of PBS in ABA are clear, we view the differences as important and problematic. Perhaps partly because of those differences, efforts to establish PBS as a ''brand name'' and to disseminate PBS as a service delivery model have been enormously success-

ful. Because PBS has largely been marketed as an approach that is distinct from, if not superior to, ABA, however, its increasing acceptance in developmental disabilities and education has not furthered the acceptance of ABA.

On the other hand, the effectiveness of PBS dissemination activities might benefit ABA if it encourages the ABA community to improve the way it describes, promotes, and delivers its service model. Our review of the features of PBS that might have contributed to its relatively rapid adoption by many agencies and individuals reveals both characteristics that are worthy of emulation by the field of behavior analysis and characteristics that should be avoided. In examining PBS, the principal question that the behavior-analytic community must answer is: How can the field of behavior analysis improve communication of the nature and benefits of ABA to diverse user communities and thereby increase their support for ABA services?

POSITIVE BEHAVIOR SUPPORT

Origins and Development

Positive behavior support (also referred to as positive behavioral support or positive behavioral interventions and supports) emerged from the controversy surrounding the use of aversive consequences with people with developmental disabilities. A seminal article by Horner et al. (1990) began with the statement that "In recent years, a broad-based movement has emerged in support of nonaversive behavior management" (p. 125). The authors cited various articles to indicate that this support emerged during the 1980s (e.g., Berkman & Meyer, 1988; Donnellan, LaVigna, Negri-Shoultz, & Fassbender, 1988; Donnellan, LaVigna, Zambito, & Thvedt, 1985; Evans & Meyer, 1987; Horner, Dunlap, & Koegel, 1988; LaVigna &

Donnellan, 1986; McGee, Menolascino, Hobbs, & Menousek, 1987). Horner et al. (1990) asserted that "Nonaversive behavior management … has developed … as an alternative to the use of more extreme aversive events" (p. 126) and coined the phrase "positive behavior support" to refer to nonaversive behavior-management procedures. They stated that "many people … are being … subjected to dehumanizing interventions that are neither ethical nor beneficial" (p. 125), citing sources that contained strong statements of opinion but little objective data to support that assertion (e.g., Durand, 1988; Guess, Helmstetter, Turnbull, & Knowlton, 1987).[1]

Despite their assertions of a broad popular and empirical foundation for the nonaversive approach, Horner et al. (1990) were tentative in their depiction of PBS. They noted that "There is no specific technique or procedure that distinguishes the approach. … Different proponents offer varying procedural recommendations … [and] different theories of behavior in its support" (p. 125). Moreover, Horner et al. remarked,

The development of a well defined technology of behavioral support will take time. There is too little information available to assert that positive approaches are capable of solving all behavior problems or documenting that one approach is superior to any other. Both well-controlled empirical analyses and less controlled clinical analyses are needed. (p. 128)

There are numerous definitions of PBS. Although most are complementary to the original Horner et al. (1990) definition and to each other,

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[1] Since that time, several empirical analyses have suggested that the use of punishment procedures involving aversive consequences was, and remains, uncommon (e.g., Jacobson, 1992; Jacobson & Ackerman, 1993). Furthermore, research has shown that individuals with moderate to severe behavior problems are more likely to go without behavioral intervention than they are to be treated with contingencies involving aversive consequences (e.g., Jacobson, 1998).

there are some interesting differences. For instance, E. Carr, Levin, et al. (1999) stated that "From the standpoint of the independent variable, the PBS approach refers to those interventions that involve altering deficient environmental conditions … or deficient behavior repertoires" (p. 7). "The remediation of deficient contexts also helps to define the PBS approach with respect to dependent variables: (a) increased positive behavior, (b) improved lifestyle, and (c) decreased problem behavior" (p. 8). More recently, E. Carr et al. (2002) described PBS as "an applied science that uses educational methods to expand an individual's behavior repertoire and systems change methods to redesign an individual's living environment to first enhance the individual's quality of life and, second, to minimize his or her problem behavior" (p. 4). Warren et al. (2003) stated that "PBS is intended to enhance quality of life and minimize/prevent problem behavior through the rational integration of (a) valued outcomes, (b) behavioral and biomedical science, (c) empirically supported procedures, and (d) systems change" (pp. 80–81).

Horner (2000) has further typified PBS as "an approach that blends values about the rights of people with disabilities with a practical science about how learning and behavior change occur" (p. 97). In an attempt to specify the parameters of PBS, Horner et al. (1990) asserted that it encompassed many distinctive elements, including emphasis on lifestyle change, functional analysis, multicomponent interventions, manipulation of ecological and setting events, antecedent manipulations, teaching adaptive behavior, building environments with effective consequences, minimizing the use of punishers, distinguishing emergency procedures from proactive programming, and social validation, with a special role for preserving the dignity of the recipients of interventions. It should be noted that most of those emphases have long been accepted features of mainstream ABA (APA Division 33, 1990; J. Carr & Sidener, 2002; Mulick & Butter, 2005).

The development of PBS was bolstered from 1987 to 1992 by a U.S. Department of Education National Institute on Disability and Rehabilitation Research (NIDRR) grant of $670,000 for a "Rehabilitation Research and Training Center on Community-Referenced Technologies for Nonaversive Behavior Management." The grant was awarded to a consortium of universities, including the University of Oregon, the University of California at Santa Barbara, the State University of New York at Stony Brook, the University of Minnesota, and the University of South Florida, among others. This center later became the Rehabilitation Research and Training Center (RRTC) on Positive Behavior Support. At present, the RRTC-PBS is funded through the University of South Florida. Its purpose is "to develop and disseminate effective, practical and empirically validated procedures for improving support for individuals with disabilities" (see http://rrtcpbs.fmhi.usf.edu/rrtcpbsweb/rrtcpbsinfo.htm).

The RRTC's activities are complemented by the Office of Special Education Programs (OSEP) Center on Positive Behavioral Interventions and Supports. Participants include the Universities of Oregon, Kansas, Kentucky, Missouri, Florida, North Carolina, and South Florida, as well as some nonacademic provider agencies. Dissemination of the PBS "brand name" is augmented by the OSEP Center, with its stated mission "to give schools capacity-building information and technical assistance for identifying, adapting, and sustaining school-wide disciplinary practices" (www.pbis.org/main.htm).

In addition, PBS is now represented at most special education and developmental disabilities confer-

ences, including regional and national meetings of the Council for Exceptional Children and the American Association on Mental Retardation (see www.pbis.org). In 2003, dissemination activities were further diversified by an international conference on "The World of PBS: Science, Values, & Vision" in Orlando, Florida. At that meeting, the Association for Positive Behavior Support (APBS) was founded as "an international organization dedicated to the advancement of positive behavior support. APBS strives to expand application of this approach with children, adolescents, and adults with problem behavior" (http://apbs.org/main.htm). A second international conference was held in Florida in 2005.

Dissemination efforts expanded further with publication in 1999 of the first issue of the *Journal of Positive Behavior Interventions*, which publishes descriptive and experimental studies. Dissemination of PBS was also bolstered by its inclusion (as positive behavioral interventions) in the recodification of the federal Individuals with Disabilities Education Act (IDEA) in 1997. Some authors have suggested that inclusion of PBS in IDEA is consistent with a policy of specifically discouraging the use of punishment procedures as an element of behavioral intervention, with the possible specter of liability associated with such procedures (Turnbull, Wilcox, Stowe, Raper, & Hedges, 2000; Turnbull, Wilcox, Stowe, & Turnbull, 2001).

PBS is now mandated by Kansas law for children who are eligible for medical health screening; the service is funded by Medicaid (Freeman et al., 2005). Although some recent statements suggest that PBS focuses mainly on disciplinary problems in schools (e.g., Anderson & Kincaid, 2005; www.pbis.org), others assert that PBS can be extended to serious problem behaviors like "self-injury, aggression, property destruction, pi-ca, defiance, and disruption" (Horner, 2000, p. 97) and to a variety of populations (Freeman et al., 2005). These groups include children with autism (e.g., Becker-Cottrill, McFarland, & Anderson, 2003; Dunlap & Fox, 1999), abused or neglected children (Buschbacher, 2002), families (e.g., Boettcher, Koegel, McNerney, & Koegel, 2003), children with traumatic brain injury (Ylvisaker, Jacobs, & Feeney, 2003), preschool children (Fox, Dunlap, & Powell, 2002), at-risk and adjudicated youth (Scott et al., 2002), and urban children (Warren et al., 2003).

Emphasis on Selected Values

It is clear that PBS emphasizes certain values in its approach to services (see Anderson & Freeman, 2000). These values include commitments to respect for the individual, meaningful outcomes, social validation, dignity, normalization, inclusion, person-centered planning, self-determination, and stakeholder participation, among others (e.g., E. Carr et al., 2002; Horner et al., 1990). These values are well known in the field of developmental disabilities and have long been accepted by diverse professions serving this population, including ABA. Within the PBS community, however, these values are part of the origin and definition of its approach to behavioral services (e.g., Anderson & Freeman, 2000; E. Carr et al., 2002; Horner, 1990). This priority seems to risk allowing values to serve as a filter through which research findings and effective treatment alternatives must pass. Such an emphasis can encourage clinical decision making to be guided more by cultural values than by research findings.

The role given to cultural values in PBS contrasts with how such values are treated within ABA, where they might be described as secondary rather than primary. For the ABA practitioner, the research literature

on the efficacy of various procedures is the primary source from which clinical interventions are selected. Cultural values serve more as a context for clinical decision making than an a priori criterion for evaluating research findings. The well-trained behavior analyst begins consideration of an intervention with the full range of empirically supported procedures on the table.

There is no question, however, that cultural values have substantially influenced the evolution of ABA. The development of much of the ABA literature in the context of developmental disabilities services has exposed applied behavior analysts to all of the values-based social movements that have arisen in this service sector over the last few decades. Those movements include deinstitutionalization and institutional reform (Burg, Reid, & Lattimore, 1979; Scheerenberger, 1981), normalization (Blatt & Kaplan, 1974; Wolfensberger, 1973), client rights and protections (Stolz, 1977), educational movements such as mainstreaming (Alberto, Castricone, & Cohen, 1978; MacMillan & Borthwick, 1980), person-centered planning (Holburn, 1997; Osborne, 2005), and many others.

Those values have had considerable influence on the field's research directions, the general focus of interventions, the selection of behavioral targets, the form of intervention procedures, standards for behavioral outcomes, and underlying professional values. The influence of cultural values on ABA is particularly apparent in the history of the aversives controversy (Foxx, 2005a, 2005b; Newsom & Kroeger, 2005). Although the process was not always pretty, concerns about the general approach to treatment that was typical of the field's early years, as well as the form of some intervention procedures, gradually led to major changes in ABA. Those changes were comprehensive and involved the rationale for interventions, the interests of other parties, the selection of behavior-change procedures, and the research literature underlying the technology.

Treatment Model

Antecedent control. One of the prominent characteristics of PBS is its emphasis on interventions that involve manipulations of antecedent stimuli (e.g., E. Carr et al., 2002; Horner & Carr, 1997), including substantial lifestyle adjustments intended to achieve multiple outcomes (see Becker-Cottrill et al., 2003). The approach to antecedent control described in PBS training materials is relatively general, focusing on broad changes in the environment and typically lacking a technical rationale for why such changes might be expected to produce targeted outcomes (for examples of this point, see Dunlap et al., 2000; Kemp, 2000). That is, antecedent changes tend to be considered without comparable attention to the role of consequences (see Dunlap et al., 1994, for an example). It should be noted, however, that this priority does not mean that consequences are unimportant in the PBS model.

Although ABA also shares considerable interest in the antecedent side of the three-term contingency, the focus in ABA is appropriately balanced in that antecedent influences and procedures are characteristically considered in the unavoidable context of consequences (e.g., Cooper, Heron, & Heward, 1987; Martin & Pear, 2003; Miltenberger, 2004), in keeping with the standard set forth by Baer, Wolf, and Risley (1968) that ABA must be conceptually systematic. Furthermore, well-trained behavior analysts appreciate that mechanisms underlying the effects of general changes in the environment involve the full three-term contingency, are quite complex, and require considerable expertise to anticipate and manage successfully.

This difference in emphasis between PBS and ABA may lie in the desire of PBS leaders to provide an intervention model that appears to be relatively nontechnical in nature. Because PBS is marketed largely to service providers who typically lack formal training in ABA, it may be important to avoid presenting a complex body of procedures as the core of its approach to services. ABA, on the other hand, has a multitiered approach to intervention in which formally trained and certified professionals are, in principle, available to provide guidance, assistance, and monitoring to those who lack such expertise.

Supports. Another key aspect of the PBS treatment model is its emphasis on behavioral supports. Defined as adjustments to the environment to provide accommodations for disabilities, supports are an eponymous feature of PBS. The concept of supports was described and incorporated into service delivery in the American Association on Mental Retardation (AAMR) manual on definition and classification of mental retardation (Luckasson et al., 1992). The supports model set forth by AAMR in 1992 and in the subsequent revision of its manual (Luckasson et al., 2002), which has been embraced by PBS, might appear to increase the range of an individual's activities, and implies that supports can substitute for training or skill development. Describing interventions as supports thus enables the PBS movement to market PBS to agencies and providers that lack expertise in ABA, because it minimizes the technical requirements of service delivery.

Although supports tend to be effective in the short run, they often do not require changes in competence or performance by consumers or staff (Foxx, 2005a; Kemp, 2000). The emphasis on supports can create tension between providing supports and providing training, and by discouraging skill development, can perpetuate consumer dependency. Further, reconceptualizing clinical services as supports risks minimizing the need for expertise in ABA and otherwise encouraging the deprofessionalization of developmental disabilities services (Baumeister, 2004). In contrast, although the design and implementation of prosthetic environments to provide accommodations and adaptations for people with disabilities has been a longstanding component of ABA interventions (e.g., Lindsley, 1964), for behavior analysts that concept has not supplanted or replaced professionally designed procedures for teaching new skills or addressing specific problem behaviors.

Practitioner Competencies and Training

Given the disciplines and procedures PBS is said to encompass, it seems to follow that competent practice of PBS requires substantial expertise in multiple areas. That is, it might be argued that preparation of PBS practitioners should involve training in aspects of systems analysis, ecological psychology, environmental psychology, community psychology, biomedical science, human development, and education, as well as the "values" embedded in various social movements such as normalization, full inclusion, person- and family-centered planning, wraparound models, and self-determination (E. Carr et al., 2002; Horner, 2000; Horner et al., 1990; Knoster, Anderson, Carr, Dunlap, & Horner, 2003; Warren et al., 2003).

Furthermore, if PBS is equivalent to or derived principally from ABA, as some proponents suggest, then PBS practitioners should also master the full array of basic competencies in ABA. In particular, because PBS emphasizes manipulating broad antecedent variables, it follows that PBS practitioners need to be espe-

cially competent in designing and implementing such interventions effectively. In fact, research suggests that there are substantial challenges to implementing and sustaining complex antecedent-based interventions in educational and developmental disabilities service settings in the absence of adequate competence in behavioral assessment and behavior-change technologies (e.g., Huberman & O'Brien, 1999; Peterson & Martens, 1995). Basic competencies in ABA and the training required to develop them have been well defined by the behavior-analytic community and are enumerated in the requirements of the Behavior Analyst Certification Board, Inc. (BACB; see Johnston & Shook, 2001; Shook, Hartsfield, & Hemingway, 1995; Shook, Johnston, & Mellichamp, 2004; www.bacb.com). Those requirements specify that ABA practitioners must exhibit both a sophisticated approach to functional assessment and a firm grounding in operant conditioning principles and behavior-change methods as they apply to the complexities of daily life.

Despite the apparent need for comprehensive skills on the part of PBS practitioners, the PBS service model is based on providing training directly to "end users"—individuals who provide direct services to consumers and those who supervise these individuals. There is no general mechanism for academic training of professionals, as in the ABA model. Although at least one model for master's degree training in PBS has been proposed (O'Neill, Johnson, Kiefer-O'Donnell, & McDonnell, 2001), periodic in-service training is the primary format for preparing PBS practitioners. Because PBS training is usually offered in non-academic settings to individuals with varied backgrounds, the curricula are necessarily constrained in breadth and depth (see Dunlap et al., 2000; Freeman, Smith, & Tieghi-Benet, 2003; Freeman et al., 2005; Reid et al., 2003; Scott, Nelson, & Zabala, 2003; Shannon, Daly, Malatchi, Kvarfordt, & Yoder, 2001). For instance, the California Department of Developmental Services requires all direct support professionals to receive training in PBS as part of a 70-hr training program (spread over 2 years) that also covers many other topics (California Department of Education, 2004; www.dds.ca.gov/DSPT/DSPT_trpr.cfm).

Training provided by behavior analysts to direct providers under such conditions is often similarly limited. However, the BACB, guided by extensive input from practitioners and academics, has held that the competencies required for practicing behavior analysis cannot be acquired through nonacademic training experiences because those experiences tend to lack many important features, such as prerequisites for admission, intensive supervised involvement with course material and recipients of behavior-analytic services over a period of months, and systematic measurement of performance.

The availability of numerous academic ABA training programs that focus on systematically developed and consensually validated baccalaureate and graduate curricula, along with an established program for certifying individuals by examination, makes it at least possible for ABA services to be designed and supervised by professionals who have meaningful training in the basic principles of operant conditioning and their application. It should be noted that availability of this cadre of professionals does not by itself resolve the question of how their expertise might lead to effective services by the much larger community of direct service providers who do not have this background. The PBS approach to dissemination provides some interesting ideas for behavior analysts to consider in this regard.

Nonetheless, the differences in how PBS and ABA approach practitioner training are significant. The risk

inherent in the PBS approach is that services may not adequately incorporate the findings of decades of research in behavior analysis because its practitioners lack the necessary training in ABA. This risk is exacerbated by the failure of many proponents of PBS to acknowledge the foundation of PBS in ABA. Although the PBS approach to practitioner training presumably makes it easier to sell PBS to federal, state, and local service agencies, it is likely that interventions implemented by such practitioners will not be as effective as the research literature shows they can be. If the PBS community openly acknowledged expertise in ABA as the foundation for PBS services and encouraged practitioners to obtain such expertise, their strategy of disseminating directly to end users would be less problematic.

Finally, it should not be expected that training in PBS will motivate recipients to pursue formal training in ABA. It is not surprising, therefore, that a recent job analysis survey of BACB certificants and many members of the Association for Behavior Analysis revealed that only 7% of board-certified behavior analysts described their work as PBS (Shook et al., 2004). Interestingly, PBS seemed to appeal more to those with less training in ABA: 13% of board-certified associate behavior analysts identified their primary focus as PBS, whereas only 3% of the surveyed members of the Association for Behavior Analysis (93% of whom held the doctorate) listed PBS as a primary focus.[2] As of this writing, only one of the 10 authors of a recent description of PBS (E. Carr et al., 2002) holds BACB certification.

Evaluation of PBS Efficacy

If PBS is a new applied science or discipline, as some have argued (e.g., Bambara, Mitchell-Kvacky, & Iacobelli, 1994; E. Carr, 1997; E. Carr et al., 2002; Sisson, 1992), it would be reasonable to expect it to have produced new research questions, methods, findings, and applications that can be evaluated. Such an evaluation is complicated by the difficulty of identifying research that is clearly and uniquely PBS in character. For example, J. Carr and Sidener (2002) and Mulick and Butter (2005) noted that the majority of the studies included in what were represented as meta-analyses of the PBS literature (E. Carr et al., 1999; Marquis et al., 2000) were actually published in the ABA literature. Moreover, many studies published in the *Journal of Positive Behavior Interventions* are also indistinguishable in focus and style from typical ABA studies.

An additional complication in evaluating PBS is that it has been described by Sailor and Paul (2004) as "flexible in its engagement of scientific procedures" (p. 10). According to those authors, in addition to "positivistic experiments and direct observation … other methodologies, including subjectivist methods of science, have found legitimacy [in PBS]. These include correlational analyses, naturalistic observation, and case studies" (p. 10). Sailor and Paul also stated that "PBS thus departs from the traditional modern perspective on research in order to (a) inform professional practice by subjugating methods of science applications in natural social contexts and (b) address problems from the standpoint of the individual affected" (p. 10). They further stated that "Where ABA has historically been almost wholly focused on interventions that can be evaluated with positivist methods (i.e., single-subject designs), PBS increasingly is relying on multi-method investigations that

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[2] It is interesting to note that most academic centers of PBS activity are located in colleges of education, typically in departments of special education. In contrast, most ABA training programs are located in departments of psychology.

sometimes include subjectivist methodologies" (p. 10).

The difficulty with the methodologies described by Sailor and Paul (2004) is that they produce information that is especially likely to reflect personal opinions, impressions, and beliefs, which are problematic because they are prone to influence by many variables that may have little or nothing to do with the actual effects of the intervention under study. Thus they may not yield credible, reliable evidence about changes in behavior or what is responsible for any documented changes (Favell, 2005; Green, 1996; Newsom & Hovanitz, 2005; Schick & Vaughn, 1999).

Among the relatively few published studies that appear to be explicit evaluations of PBS, there is considerable variability in methods. Evaluations of PBS interventions are often more descriptive than experimental. Not infrequently, they involve subjective personal impressions (e.g., naturalistic observations, "field notes," anecdotal reports) and indirect measures of behavior (e.g., interviews, surveys, checklists, and rating scales) rather than data produced by direct, objective measurement methods. Some research on PBS is also marked by incomplete or ambiguous descriptions of independent variables (e.g., Dunlap & Fox, 1999; Kincaid, Knoster, Harrower, Shannon, & Bustamante, 2002), failure to measure key variables (see E. Carr, McLaughlin, Giacobbe-Greico, & Smith, 2003; Jensen, McConnachie, & Pierson, 2001), and omission of data on successful and unsuccessful cases. These methodological issues make it difficult to determine the critical features and effects of interventions offered under the rubric of PBS.

This general assessment should not be interpreted as indicating that there are no sound studies in the PBS literature. Some evaluations of school-wide interventions have utilized reasonable designs and proper longitudinal methods (e.g., McCurdy, Mannella, & Eldridge, 2003). Nevertheless, many studies of school-wide interventions have relied heavily on quasiexperimental designs (e.g., AB comparisons) and indirect and subjective measures of behavior, such as discipline referrals by teachers (see Anderson & Kincaid, 2005).

A meta-analysis of PBS research by proponents found little evidence that the approach has produced positive lifestyle change for people with disabilities—one of the hallmarks of PBS. The authors acknowledged that lifestyle change was a stated intervention goal for only 10% of all participants (24 of 230) across studies, was targeted with formal intervention procedures for only 8 participants, was measured for only 6 participants, and was documented by data showing improvement over baseline for only 2 participants (E. Carr, Horner, et al., 1999).

Relationship to ABA

Identification and description. It is clear that PBS evolved from and remains similar to ABA in certain ways. Several of its leaders were trained in behavior analysis, and its literature has notable similarities to the ABA literature. Nevertheless, it is also clear that this relationship is infrequently acknowledged in PBS literature; indeed, it often seems to be systematically ignored or even hidden. Mulick and Butter (2005) pointed out that in contrast to a few early statements about the dependence of PBS on ABA, there is a notable absence of recognition of this relationship in more recent publications. It is difficult to find any mention of behavior analysis in some highly visible representations of PBS, such as the website of the OSEP Center for Positive Behavioral Interventions and Supports (www.pbis.org).

It might be expected that the relationship to ABA would be clearly

identified in PBS training materials. Our review of a variety of such materials, however, shows that ABA is mentioned infrequently. Furthermore, PBS practitioner training focuses less on competencies for designing and delivering effective behavioral intervention than on the role of values in service delivery (e.g., Anderson & Freeman, 2000; Autism Training Center, undated; California Department of Education, 2004). As we noted previously, no formal training or competencies in ABA are required to enter or exit from PBS training, and the coverage of basic operant principles and behavior-change techniques based on them tends to be highly superficial, certainly well short of the breadth and depth necessary for basic competence in ABA (e.g., Autism Training Center; California Department of Education; Vermont Division of Developmental Services, 2004).

Some PBS training materials even contrast PBS with ABA in a manner that denigrates ABA. For example, in materials used in PBS workshops conducted by the Autism Training Center at Marshall University (Autism Training Center, undated), "traditional behavior management" is described as narrow in emphasis, short term, concerned only with the topography or form of behavior, implementing behavior "programs," using restrictive procedures, involving simple interventions, relying on consequences, focusing on decreasing target behaviors, aversive (punitive), and reactive. In contrast, PBS is depicted as broad in emphasis, taking a long-term perspective, focusing on function rather than form, conducting functional analyses of behaviors, selecting methods based on individuality and effectiveness, being multicomponent in nature, emphasizing antecedents, teaching functional (replacement) skills, positive and reinforcing, and proactive.

A PBS training document developed by the California Department of Education Positive Environments, Network of Trainers compares "current thinking" with "past practice" in the conceptualization of behavior. "Past practice" is portrayed as "behavior management" with a focus on consequences (including aversives to stop behavior) and a philosophy that "Problem behavior needs to be controlled or eliminated. Positive behaviors are to be expected regardless of environment." In contrast, "current thinking" is characterized as "behavior support," focusing on understanding why problem behavior occurs and teaching alternative "positive" behavior in a "conducive environment" (Wright, 2002). Behavior support guidelines promulgated by the Vermont Division of Developmental Services, although not mentioning behavior analysis, include a statement that "Positive behavior supports represent a basic change from older methods of changing behavior through external controls, such as rewards and punishments and are based on a commitment to end coercion" (Vermont Division of Developmental Services, 2004, p. 5).

Similar rhetoric can be found in a recent article by E. Carr et al. (2002), which characterized ABA research as involving applications of single interventions resulting in "ineffective practice," whereas PBS is depicted as "comprehensive" and "multicomponent." PBS is also described repeatedly as "proactive," and contrasted with "traditional approaches, which have emphasized the use of aversive procedures that address problem behaviors with reactive, crisis-driven strategies." Behavior-analytic research methods are labeled "rigid" and "imped[ing] application," while PBS methods are said to be "flexible" and "pragmatic" (pp. 9–10). Indeed, the label "positive behavior support" subtly implies that what it replaces (e.g., ABA) is neither positive nor supportive of people who exhibit problem behavior.

These contrasting descriptors are characteristic of a ''straw man'' style of persuasion, in which the alternative position is often characterized in ways that are not only negative but at least partly untrue. In this case, the characteristics ascribed to ABA fail to reflect the considerable changes over the past three to four decades of research and practice in ABA, resulting in a depiction of contemporary ABA practice that is highly misleading. It should not be surprising if individuals who lack expertise in ABA—like the majority of education and human service personnel who are targeted for PBS training—conclude from such presentations that ABA is an inferior approach.

A new science? Perhaps there is a tendency to draw pejorative contrasts between PBS and ABA in order to bolster claims about the status of PBS as a new and distinct science or discipline (e.g., Bambara et al., 1994; E. Carr, 1997; E. Carr et al., 2002; Knoster et al., 2003; Sisson, 1992). There may be disagreement among PBS leaders on this point. On the one hand, for example, Horner (2000) stated that ''Positive behavior support is not a new approach. … [It is] the application of behavior analysis to the social problems created by such behaviors as self-injury'' (p. 97). He further stated, ''There is no difference in theory or science between positive behavior support and behavior modification. These are the same approach with different names. If any difference exists, it is in the acceptance [by PBS] of much larger outcomes and the need to deliver the global technology that will deliver these outcomes'' (p. 99). Other writers have referred to PBS as an ''extension'' of applied behavior analysis (e.g., Turnbull et al., 2002, p. 377).

In contrast, E. Carr (1997) declared that ABA had ''evolved into'' PBS, implying that PBS was not only newer than, but also superior to, ABA. He further articulated this position in E. Carr et al. (2002), and others in the PBS community have taken a similar stand (e.g., Bambara, 2002: Bambara et al., 1994; Sisson, 1992). More recently, Horner joined E. Carr et al. in stating that PBS has ''evolved beyond the parent discipline [ABA] to assume its own identity'' (p. 5), and Knoster et al. (2003) described PBS as a unique approach (ABA is not mentioned in the latter article).[3]

In our view, there is no basis for asserting that PBS is a new science. It addresses no new phenomena or subject matter. Neither has PBS developed any new methods for studying or changing behavior. Although proponents of PBS differ on the degree to which PBS methods are derived from or are identical to sound ABA research and practice methods, J. Carr and Sidener (2000) and Mulick and Butter (2005) pointed out that it is easy to document that the behavior-change methods claimed by PBS were documented in the ABA literature long ago. There is no evidence that PBS has produced scientific knowledge that significantly extends what is already well established. Its research literature cannot be clearly distinguished in general ways from the ABA literature. Nor are its values new or unique; improving the lives of people with disabilities

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[3] It may be interesting to speculate about the factors that led some PBS leaders to move so distinctively outside the field of behavior analysis. Aside from the influences associated with advocacy interests, funding opportunities, and marketing priorities discussed in this paper, it may be that some were dissatisfied with the requirements for publishing in the *Journal of Applied Behavior Analysis (JABA)*. Such features as single target behaviors, brief sessions, contrived settings, and limited research interests have been criticized by E. Carr (1997, 2002), for example. Those concerns, however, fail to distinguish between methodological requirements for sound research and the characteristics of ABA service delivery. Although some of the features of *JABA* research may certainly be found in routine practice, the pages of that journal do not represent the full range of practices in ABA.

and valuing them as individuals have been longstanding and well-documented concerns of behavior analysts and other professionals.

Wacker and Berg (2002) drew the same conclusion. They noted that the proponents of PBS "have attempted to merge philosophies, findings, and practices from several related disciplines, but this does not necessarily constitute the evolution of an (applied) science. Instead it appears to constitute the evolution of a service delivery system" (p. 25). "The blending of science and philosophy is perhaps a necessary step for most applied researchers, but it is not a sufficient step for describing the practice as constituting a new science" (p. 27).

We also find no evidence that PBS constitutes a new behavioral technology. It is not supported by a new area of basic or applied science and has not generated new or distinctive treatment methods. The actual operations represented in PBS interventions are well established in the literature of behavior analysis and related fields, such as behavior therapy and scientific psychology. As Mulick and Butter (2005) noted, instead of acknowledging this, PBS proponents often use ABA technology without appropriate attribution, or rename it, or selectively avoid its straightforward application.

It follows from these considerations that PBS is not a new professional field or discipline. To distinguish itself, a new field must be based on a new science, technology, or academic discipline with a literature or research base that is substantively different from that of other disciplines. PBS is not sufficiently different from existing fields such as behavior analysis and clinical psychology to warrant this status. Indeed, PBS is theoretically characterized by amalgamation of knowledge and methods from behavior analysis as well as systems analysis, ecological psychology, environmental psycholo-gy, and community psychology (E. Carr et al., 2002). PBS further incorporates a wide range of ideologically driven, politically correct views that mirror and subsume, but do not amplify, the policies of most state and national special education and developmental disabilities agencies, as well as advocacy organizations such as the Association for Persons with Severe Handicaps.

In their brief review of PBS, J. Carr and Sidener (2002) argued that because each of the characteristics of PBS were historically important and central features of ABA, "conceptualizing PBS apart from applied behavior analysis is unsupported by the evidence" (p. 249). Mulick and Butter (2005) suggested that PBS seems more accurately described as a social movement or a marketing strategy than a professional discipline.[4]

Similar but different. Given that PBS emerged from ABA and offers interventions that are at least partly based on ABA, it seems easy to argue that PBS is fundamentally much like ABA. Although some of the procedures offered in the name of PBS are more or less consistent with the ABA literature, it may also be argued that as a general model of how to deliver behavioral services, PBS is fundamentally different from ABA. The most important distinction may be that by not clearly and consistently

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[4] It might be suggested that PBS should be viewed as doing no more than what organizational behavior management (OBM) does in its approach to providing services in business and industrial settings. As J. Carr and Sidener (2002) noted, however, the OBM community has remained fully within the field of behavior analysis and employs individuals with ABA training to provide services to client organizations. To our knowledge, OBM practitioners have not proclaimed OBM a new discipline or science that is superior to ABA. Instead, the OBM leadership clearly recognizes that the successful application, adoption, and advancement of their specialty requires that it remain true to its scientific roots and that lasting acceptance by the business community will result only from effective services (Norman, Bucklin, & Austin, 1999).

acknowledging the role of ABA in PBS interventions, it is possible to avoid stipulating that expertise in ABA is a prerequisite for adopting the PBS model. Therefore, it is difficult to argue that PBS offers ABA technology as part of its model because the means for producing that outcome are not included in the model. Instead, PBS represents an approach in which expertise in ABA is neither required nor trained at a meaningful level.

GENERAL ISSUES FOR ABA

The Success of PBS and the Threat to ABA

The PBS movement has clearly been effective in a number of ways. For example, PBS leaders have been very successful in garnering the support of federal agencies. That has resulted in political support for PBS within the federal government as well as substantial funding for development of organizational infrastructure, extensive dissemination activities, and research efforts. With this support, the PBS movement has been very effective in marketing its treatment model to the human services community, particularly in the area of developmental disabilities and within educational settings. PBS is now a default model in many state service systems and provider agencies, including school systems. Those successes are particularly impressive because they have occurred in a span of only 15 years.

The effectiveness of the PBS movement in political and marketing arenas has important implications for ABA. Support for any technology depends on demand, and ABA has always faced the special challenge of selling its services to buyers who might best be described as uninformed, if not sometimes reluctant. In spite of ABA's strong scientific foundation and well-documented effectiveness, if administrators and professional staff in service settings are not inclined to pay for ABA services, the field of behavior analysis will lose important users. If federal and state statutes and regulations identify PBS as the approach of choice in developmental disabilities or in services to children with emotional and behavioral disorders, even administrators sympathetic to ABA will find it difficult to support ABA services.

It has been our experience that in settings in which PBS is accepted as a service delivery model, ABA is likely to be viewed as either incompatible with PBS or simply unnecessary. Worse, ABA may be viewed negatively and rejected as a service model. The threat to ABA is not merely speculative. In discussing the evolution of PBS as an applied science, E. Carr et al. (2002) described applied behavior analysts as having "prided themselves on the publication of many successful research demonstrations that involve the application of single interventions. These demonstrations may have made for great science but ineffective practice" (p. 9). The authors went on to say that functional analysis has "most often been used by atypical intervention agents (e.g., researchers) operating in atypical settings (e.g., institutions) in highly circumscribed venues over short periods of time" (p. 10). Behavior analysts are described as controlling all aspects of treatment (e.g., selecting and designing interventions, defining the issues) in their role as experts, whereas "the PBS approach, in contrast, has emphasized that consumers are not helpers but, rather, function as active participants and collaborators … to build the vision, methods, and success criteria pertinent to defining quality of life for everyone concerned" (p. 8).

The negative views of ABA articulated by E. Carr et al. (2002) and other PBS proponents cited earlier, coupled with the likely adoption of such views by individuals with little or no background in ABA as a result

of participating in PBS workshops, constitute a serious problem for the entire field of behavior analysis. Behavior analysis cannot afford to write off government agencies, service providers, and school systems that are attracted to or have formally adopted PBS. Not only has PBS been too pervasive in its influence to allow such an option, but with the aid of continued federal funding it continues to market its model to receptive communities and to extend its reach. ABA, and the larger community of behavior analysis, must therefore consider how the challenges presented by the PBS movement can be effectively addressed.

If the PBS movement prominently acknowledged ABA literature and technology as the basis for effective behavioral services, its marketing successes might be reflected in various benefits to ABA. As we have noted, however, such acknowledgment is minimal and inconsistent at best. The result is that acceptance of PBS seems to be inversely related to acceptance of ABA, particularly among PBS adherents who are not well trained in ABA and among users. This suggests that the field of behavior analysis must determine how to prevent the deleterious effects of PBS on ABA. To that end, it may be valuable to examine why PBS has been so successful in order to determine how behavior analysis might address the threat PBS poses while attaining some of the goals long held by behavior analysts.

Reasons PBS Has Been Successful

Politically involved leadership. The leaders of the PBS movement have developed close ties to federal agencies (notably the U.S. Department of Education and various subordinate entities), and those relationships have been useful in garnering agency support for developing and promoting PBS. Such a practical approach involves determining the interests and needs of an agency and finding ways that the interests of a profession or service model can address them. In the present case, agency interests included a need for an approach to providing behavioral services that was consistent with agency philosophy and that appeared to provide assistance to educational and developmental disabilities service systems. The PBS leaders were able to see the benefits of this relationship early on and were willing to focus their professional efforts on fulfilling the agencies' needs. That approach affords opportunities to help agency officials define their interests and determine how funds are used. Professionals with this kind of access are invited to sit on panels, meet with staff, and shape funding initiatives.

Pursuit of federal funding. Naturally, professionals who cultivate agencies in this manner have an inside track to win grant funding, which allows them to further promote their interests. PBS leaders have clearly done well in this regard. Federal funding in support of PBS has allowed development of the organizational structure of the PBS movement and widespread dissemination efforts, ranging from Web sites to state-level initiatives. Success in obtaining agency funding has also opened doors to service settings in which funded projects are conducted. Although federal funding supports research on PBS, it may be that its more valuable function has been in fostering dissemination of PBS.

Focus on dissemination. The primary dimension underlying the success of the PBS movement is its widespread visibility and relatively broad acceptance in human services and special education. Those successes reflect the collective impact of the factors described in this section. Note that this visibility and acceptance do not require that PBS be generally effective relative to other treatment models. The appeal of PBS seems to lie more in its focus on certain

cultural values and its relatively non-technical approach to interventions than on experimental evidence of treatment efficacy. Those characteristics, together with a systematic effort to brand and market the PBS model, have led to impressive adoption of the model by agencies and by individuals with varied educational backgrounds.

The means by which PBS leaders accomplished this result warrant thoughtful study. The key elements include not only defining PBS in ways described in this section but also in explicitly allocating considerable resources to marketing the PBS brand and service model. The PBS approach to working with some state service agencies is particularly notable. States contract with PBS centers for workshop training, which entails the formation of state implementation teams that provide training and technical assistance in PBS. Through this mechanism, the PBS model is promulgated with the aid of state bureaucratic processes. This strategy seems to have contributed substantially to the promotion of PBS interests.

Service model adapted to market interests. Another critical feature of the success of the PBS movement seems to be that PBS has been defined and described in ways that appeal to potential users. One important feature of this fit, whether as cause or effect, is that the social policy values and interests of the principal funding agencies are reflected in the values and interests of the PBS service model. As previously noted, those values have long been broadly accepted in the field of developmental disabilities, but PBS leaders took political advantage of those shared values by making them the primary or defining feature of PBS, rather than a general context for the delivery of a science-based technology (see Anderson & Freeman, 2000). In other words, leaders of federal agencies (notably the De-partment of Education), who are presumably inclined to take a values-oriented approach to services (Heward & Silvestri, 2005; Kozloff, 2005; Zane, 2005), were likely to find a service model that emphasizes values especially appealing. Similarly, state agency officials, professionals trained in other fields, and paraprofessionals are likely to find such an approach appealing because it does not confront them with the challenge of acquiring expertise in a technically complex field (e.g., ABA).

Operational features adapted to agency limitations. In a similar vein, and as we noted previously, the PBS service delivery model is based on providing nonacademic training to individuals who lack any specific educational or training history. This training deemphasizes the technical formalities of behavior-analytic treatment procedures in favor of a treatment model that involves relatively broad and technically unstructured changes in the environment. In other words, PBS is described in a way that implies that it does not require advanced training in the science-based methods of ABA and adherence to complex procedures.

Service agencies in developmental disabilities and special education may not have access to expertise in ABA, and acquiring such access is often difficult due to the limited supply of professionals with this expertise. This constraint is a substantial barrier to acceptance of a treatment model that is predicated on such expertise. By describing PBS as a relatively non-technical approach to intervention that does not require expertise in ABA, PBS leaders are able to attract the interest of a broad array of individuals who lack such expertise but are charged with delivering behavioral services.

Minimize technical vocabulary. The language of PBS is another important basis for its broad appeal. The vocabulary is relatively colloquial and is replete with familiar values-

based phrases (e.g., *positive, person centered, personal dignity, self-determination, stakeholder participation, quality of life, lifestyle change*). Unlike the more technical vocabulary of ABA, PBS language is not off-putting to users, particularly individuals who lack training in ABA.

Organizational focus on service delivery. Although it might seem obvious, it is worth noting that PBS has succeeded in part because it has largely been described as a treatment model rather than as a research enterprise. Aside from the characterizations of PBS by some leaders as a new science or discipline, PBS has primarily been offered as a way for agencies and individuals who are responsible for providing services to meet their obligations. This practical focus is more likely to generate political and financial support among targeted agencies (e.g., departments of education and developmental disabilities services) than is a research agenda. In addition, characterizing PBS as a service delivery model does not require the development of a research foundation before building a dissemination system and promising to resolve behavior problems.

What Can ABA Learn from PBS

The success of PBS leaders in marketing this service model to diverse interests in human services provides an opportunity for ABA to consider whether the means by which dissemination and acceptance of PBS has been accomplished has relevance for ABA. The evaluation that follows focuses specifically on marketing activities of the PBS movement. In light of the problematic features of the PBS approach that we have identified, we do not propose that PBS is a model for delivering effective behavioral services.

Developing a consensus on priorities. From the beginning, PBS leaders seemed to develop a clear focus on establishing the PBS brand and broadly disseminating it as a service model. It might be argued that the ABA community has never developed clear priorities in this regard, which would seem to be necessary for organizing concerted action. At issue is the mechanism for identifying priorities and developing the means for pursuing them. In the case of the nascent PBS movement, a relatively small group of individuals took leadership roles early on. In the large and diverse ABA community, no such coterie exists, so it seems necessary to turn to the Association for Behavior Analysis (referred to hereafter as ABA International) as a possible organizational mechanism.

ABA International has generally not served broad leadership and organizational functions for the field. It has evolved primarily as a means of sponsoring an annual meeting, although this is not to gainsay the variety of auxiliary functions served by its boards and committees. The collective activities of the association to date, however, do not reveal the organizational capabilities, interests, and resources necessary to develop and promote the field's growing applied interests. Addressing the needs revealed by PBS, for example, would require ABA International to resolve longstanding issues regarding the fundamental nature of the organization and its service to scholarly versus professional constituents.

Cultivating federal agencies. There are sound reasons to attempt to emulate the effectiveness with which PBS leaders have cultivated the favor of federal agencies. Identifying agencies whose interests are consonant with those of ABA is a prerequisite to improving the dissemination of ABA. The issue here may be how closely agency and professional interests must match. Winning the support of federal agencies will require understanding and accommodating their goals, but we would caution that there are limits to the degree of accommodation to agency goals that

ABA International and the field should be willing to make.

Although individuals who play leadership roles must be at the heart of relationships with federal agencies, organizational support for such relationships is essential. Again, however, ABA International is not structured in a way that fosters the kind of communication with federal and state agencies that is required to address issues such as research, treatment models, and dissemination. For instance, ABA International has no physical presence in Washington, DC and no full-time staff who are assigned to develop and maintain relationships with federal or state agencies. The organization is administered primarily by a part-time executive director and a small full-time staff. Although elected members of the Executive Council determine organizational policy, they do not play a strong role in transforming policy into specific initiatives and daily activities.

Focusing on dissemination. Dissemination of ABA has largely relied on the initiatives of individuals who work within situations available to them. Although this has sometimes led to large-scale outcomes (e.g., Johnston & Shook, 1988), more often any effects (aside from publications) have tended to be relatively local or, at the most, statewide. Emulating the tactics used by PBS to disseminate its brand and service model will require a large-scale organized effort. Certainly it will require careful consideration of what exactly should be disseminated. How might the ABA service model be depicted so that federal and state agencies will be receptive? The fairly widespread acceptance of ABA for individuals with autism may provide one exemplar. Large numbers of consumers, and to some extent federal and state agencies, have become more receptive to ABA largely as the result of publication of a trade book written by a parent (Maurice, 1993). That book

chronicled in compelling, nontechnical language the same outcomes in two children with autism who received early intensive ABA intervention that had been reported for some children who participated in a study conducted by Lovaas (1987). It created a sufficient groundswell of demand from parents to cause some state agencies (e.g., New York State Department of Health, 1999) and some federal entities (e.g., U.S. Public Health Service, 1999) to evaluate various treatment options and endorse early intensive ABA for autism as efficacious.

An effort to disseminate ABA more broadly will also require focusing on state and local systems, given that services in the United States tend to be organized and funded at those levels. It will be insufficient to merely describe the ABA treatment model in appealing terms. The model will have to be integrated with how state and local agencies work, which will require answering some difficult questions. For example, given that ABA requires certain levels of professional expertise for competent delivery of services, how will agencies obtain such expertise? How will individuals with such expertise be employed, and how will they relate to staff who lack such expertise? How will these other staff acquire intermediate levels of expertise? The field will have to address these issues in an organized manner if it is to appeal to service agencies.

Part of dissemination is about publicity. Behavior analysis has never engaged in a systematic and sustained effort to inform decision makers in state and local agencies, as well as individuals who provide services directly, about the field and its technology. Such an effort requires not only tailoring the message to different audiences but also a plan by which communication with these groups might be most usefully achieved. Again, an effective dissemination program requires a central mecha-

nism for organizing and planning, and ABA International is the primary organization available for this role. Although ABA International has made some efforts at dissemination associated with its annual convention, the effects have been modest, which supports the argument that this mission must involve professionals in public relations.

Addressing values interests. In adapting the depiction of ABA to the interests of federal, state, and local agencies, as well as individuals providing direct services, the current zeitgeist clearly mandates attention to the role of cultural values in ABA services. We have already noted that ABA has accommodated emerging cultural values in developmental disabilities services over the last 30 years. Although individuals who are well-trained in ABA are aware of this accommodation, it is apparently less obvious to others. The "values first" characterization of PBS has undoubtedly aided its widespread acceptance in human services. The challenge for ABA is to show how particular cultural values have been effectively integrated into the ABA treatment model without compromising the science-based foundation of its effectiveness. Given that cultural values are indeed a respected part of ABA, it would seem that the effort needs to focus on how ABA is described.

Using effective vocabulary. It is old news to most behavior analysts that the field's technical vocabulary is at best unappealing and at worst ineffective for communicating with individuals who are not trained in the field. Foxx (1996) addressed this issue thoroughly, arguing that we should adapt our verbal repertoire to different audiences. Judging the requirements for effective communication is a skill that many practitioners master only after a sufficient punishment history. It is especially difficult for new graduates to abandon the technical verbal repertoire that they have labored to master in favor of a colloquial and politically correct dialect when talking with coworkers, families, and others.

It may be even more challenging to reconsider how we present the field in written form. The varied interests within developmental disabilities often seem to be more concerned with cultural values than outcomes. Descriptions of ABA in documents and Web sites must accommodate that priority in order to develop relationships that can then provide behavior analysts with opportunities to focus on the outcomes that ABA can produce. Presentations to agencies and interest groups must be similarly framed in the context of broadly accepted values and colloquial language. This accommodation need not compromise the scientific foundation of ABA.

What not to do. Although the PBS movement may provide valuable guidance to ABA in some areas, it provides negative examples in others. In our view, the successes of PBS in reaching out to governmental agencies, providers, and individuals not trained in behavior analysis have come at too dear a price. In seeking to appeal to diverse interests in developmental disabilities services and special education, leaders of the PBS movement have described its focus and service model in several ways that we find problematic.

First, although PBS has accommodated cultural values in its description and service model, they have been given too pervasive and dominant a role relative to ABA technology and its scientific foundation. PBS literature and Web sites describe an approach in which values seem to constitute not merely a context for practice but the highest priority for clinical decision making. Balancing cultural values and clinical decision making always requires thoughtful consideration, but ABA should be particularly cautious about compromising its technology in the process (Meinhold & Mulick, 1992).

Second, descriptions of PBS fail to adequately acknowledge the foundation of its intervention procedures in ABA and the resulting requirements for expertise in ABA. Although this omission undoubtedly facilitates the marketing of PBS, it fails to foster the delivery of effective interventions. Provision of training in PBS via workshops and online courses cannot avoid the consequences of inadequate training and experience in ABA when services are delivered—especially to people who exhibit severe and chronic learning and behavioral difficulties. ABA must find a way to meet the needs of potential users without compromising its service model and the minimum requirements for delivering effective services. The growth of the behavior analyst certification program holds promise for resolving this issue.

Third, the PBS treatment model focuses on making relatively general and nontechnical changes in the antecedent environment and deemphasizes the formal complexities of consequence-based procedures. Although this shift away from consequence-based interventions and the associated research literature is likely to be appealing to those who lack training in ABA, it is at odds with both basic and applied research findings. The role of consequences in operant behavior and the essential contribution of consequences to what might appear to be primarily antecedent manipulations are well documented. Any effort to market ABA must accommodate all aspects of the technology that are supported by sound research. The depiction of the general treatment model to users need not detail all of the considerable complexity of the technology, but all of its required elements must be included.

Although the foregoing three features have almost certainly contributed to the successful dissemination and acceptance of the PBS brand and service model, we propose that they cannot help but constrain the effectiveness of PBS as it is typically practiced in service settings, especially those that serve people who exhibit severe problem behaviors. Again, we would caution that efforts to broaden the awareness and acceptance of ABA must avoid the temptation to compromise the features that are the foundation for its effectiveness.

Conclusions

In trying to understand the PBS movement, we have found it useful to consider not merely the statements of its leaders (particularly those addressed to ABA and other professional audiences) but also how PBS is presented to (and by) governmental agencies, service providers, and individuals who are not trained in ABA. We have learned that it is difficult to characterize PBS in ways that will not invite disagreement. Leaders of the PBS movement have published numerous articles and chapters over the years, and some of their descriptions of PBS vary in significant ways. Descriptions of PBS on Web sites and in materials used in training and service delivery settings, which address more varied audiences than do journal articles and chapters, must also be fully considered. The large PBS literature aimed at those audiences makes it possible to describe PBS in different ways depending on one's interests, or to refute any characterization of PBS with contrary citations. In the final analysis, PBS is defined by the perceptions of those who are attracted to the approach, particularly how they perceive PBS in relation to ABA, and by what PBS looks like in practice.

We believe that the PBS movement represents a well-intended attempt to disseminate a more or less behaviorally based treatment model. That effort, however, has been driven more by ideological and marketing interests than by research findings and professional considerations. Those

priorities have resulted in undeniable success in the marketplace but have raised serious concerns for ABA as well as for those who require effective behavioral services. It is important that the issues raised in this paper be addressed by both proponents of PBS and the ABA community.

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