Translational Research: It's not 1960s Behavior Analysis

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We like Critchfield's (2011) article, which is scholarly, clear, and insightful. In it, Critchfield provides an excellent overview of translational research in behavior analysis and suggests several general strategies for increasing the likelihood that such research, which has been scarce in past years, will become more common and benefit the discipline as well as humanity at large. As he points out, a small number of people have been responsible for most of the translational research that has appeared, and relatively few behavior analysts are well trained in both the basic science and applied areas of our discipline. In an attempt to provide a crude index of how many contemporary behavior analysts are productive, and hence at least somewhat skilled, in the basic science and applied areas of our discipline, we used PsycINFO to determine the number of people who authored at least one article in both the *Journal of the Experimental Analysis of Behavior (JEAB)* and the *Journal of Applied Behavior Analysis (JABA)* from 2006 through 2010 (i.e., in the last 5 years). Thirty-eight people did so. This is a substantial number, but it is important to note that during this period 381 people were listed as *JEAB* authors and 718 people were listed as *JABA* authors. Thus, only 3.6% of the total number of authors (38 of 1,061) published in both journals. Their names and the number of articles they published in each journal during this period are shown in Table 1.

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Although publishing in a given area is not strong evidence of expertise in that area (an author could, e.g., contribute just by collecting data), it is likely that most, and probably all, of these people know quite a bit about both the basic science and applied areas of our discipline and hence could play leadership roles in increasing the amount and quality of translational research produced. Some of them, such as Tom Critchfield and Bud Mace, obviously do so (e.g., Mace & Critchfield, 2010).

Both Critchfield (2011) and Poling (2010) suggested that current graduate training programs might be inadequate for producing competent translational researchers, but neither offered specific strategies for improvement. Examining the formal and informal training received by the researchers listed in Table 1 could provide clues regarding the experiences that develop the repertoire needed to bridge the basic-to-applied chasm. Critchfield pointed out that he was influenced by Bill Redmon in a course that combined basic and applied readings, and our hunch is that many of those listed in Table 1 studied with mentors who had broad interests. For what it's worth, one of us (Poling) was mentored by Andy Lattal and Travis Thompson, both of whom have published applied, basic, and translational studies, and Poling has done likewise. Many of his students, including the coauthor of this article (Edwards), are also generalists.

As generalists, they use a variety of research methods while they retain a commitment to the tactics and strategies characteristic of behavior analysis (e.g., Poling, Methot, & LeSage, 1995; Sidman, 1960) and to use them

TABLE 1

People with at least one publication in *JEAB* and *JABA* from 2006 to 2010

Author	Number of publications	
	<i>JEAB</i>	<i>JABA</i>
Anderson, Cynthia M.	1	1
Barnes-Holmes, Dermot	4	6
Borrero, Carrie S. W.	1	4
Borrero, John C.	1	10
Bourret, Jason C.	1	7
Bruzek, Jennifer L.	1	2
Carr, James E.	1	15
Cataldo, Michael F.	1	1
Critchfield, Thomas S.	3	4
Dallery, Jesse	3	4
DeFulio, Anthony	2	1
Dixon, Mark R.	1	14
Doughty, Adam H.	1	1
Doughty, Shannon S.	1	1
Dube, William V.	2	1
Dymond, Simon	3	1
Fields, Lanny	6	1
Habib, Reza	1	1
Hayes, Steven C.	1	2
Kennedy, Craig H.	1	3
Mace, F. Charles	3	3
Madden, Gregory J.	4	1
Mauro, Benjamin C.	1	1
McComas, Jennifer J.	1	3
Michael, Jack	1	1
Miguel, Caio F.	1	3
Morris, Edward K.	1	1
Pérez-González, Luis Antonio	1	2
Petursdottir, Anna Ingeborg	1	5
Poling, Alan	1	3
Romanowich, Paul	1	2
Samaha, Andrew L.	1	1
Saunders, Kathryn J.	2	1
Sloman, Kimberly N.	1	4
Taylor, Bridget A.	1	2
Thompson, Rachel H.	1	8
Vollmer, Timothy R.	1	12
Williams, Dean C.	2	1

whenever possible. On occasion, however, other methods are required. Critchfield points out that the steady-state methodology characteristic of the experimental analysis of behavior (EAB) sometimes is not suited to translational research; we strongly agree.

Critchfield also rightly emphasizes that it is often necessary to form teams

of individuals with different skills to conduct significant translational research. He notes that “collaborating with applied behavior analysts is a good way for EAB investigators to enhance their translational thinking and impact” (p. 11). Obviously, working with experts in disciplines other than behavior analysis further extends the possibilities for translational research, and, as Critchfield indicates, much can be gained from cross-disciplinary teaming. On the down side, people not trained in behavior analysis are unlikely to be aware of behavior-analytic research methods, or if they are aware of them, to accept them as sound. Working productively with such people, as well as obtaining funds from agencies whose reviewers are not inclined to favor behavior-analytic research tactics, may require behavior analysts to accept what they view as less than optimal experimental arrangements. Even when the emphasis of a project is on other methods, however, persuasive and innovative behavior analysts may be able to embed direct measures of target behaviors, sound within-subject designs, and visual data analyses as design elements and to convince their colleagues of the value of these techniques.

All research costs money, and Critchfield is spot on in indicating that “there exists a pool of resources that society may consider investing in scholarship. And although the size of this pool cannot easily be quantified, we know that even under the best of circumstances it is finite” (pp. 6–7). The portion of society’s resources comprised by that pool is not fixed, however, but is instead determined by members of that society, as is the type of research that is supported by it. As an example, funding for research and development sponsored by the Environmental Protection Agency (EPA) in inflation-corrected dollars declined progressively over the course of George W. Bush’s presidency (National Council for Science and the

Environment, 2011). That budget increased from \$7,643,674,000 in 2009, the last year under President Bush, to \$10,297,864,000 in 2010, the first year under President Barack Obama (Environmental Protection Agency, 2011). This is a 34% increase, and times were clearly better for environmental researchers, behavior-analytic or not, in 2010. Interestingly, President Obama has proposed a substantial cut in the defense budget for coming years (Sullivan, 2011), and if these come to pass we may yet turn submarines into operant chambers.

Although U.S. society ostensibly comprises all people who live in the country, each resident does not have equal weight in making funding decisions. In fact, broad funding decisions, such as the amount of money awarded to the EPA, are made by a small number of highly influential politicians. Their behavior, like that of everyone else, is influenced by the environment in which they live and work. Many organized groups with a desire to support their own interests in research and treatment recognize this and act strongly to affect politicians' behavior. For example, the American Psychological Association (APA) and the American Medical Association (AMA) support effective lobbyists who interact with politicians to increase the likelihood that their decisions will positively affect members of these organizations. The Association for Behavior Analysis International (ABAI) also supports lobbying activities, although they do not appear to be as intense as those of the APA and the AMA. We believe that increasing lobbying activities and other strategies intended to change the behavior of politicians, evaluating the effectiveness of those strategies, and altering them until the desired results are attained would well serve ABAI and the people it represents. The required methodology would certainly fall outside that of mainstream behavior analysis, but developing an applied science of

political action could potentially yield huge benefits. Skinner was first and foremost an innovator, and his achievements resulted from breaking the boundaries of the psychology of his day. Perhaps what contemporary behavior analysis most needs is another good iconoclast.

In his penultimate paragraph, Critchfield provides a nice overview of how to increase the social relevance of EAB, and in his last paragraph he notes that the problems associated with increasing the social relevance of EAB "are heady problems, but defining them places us closer to solutions than simply deriding basic scientists for their 'esoteric' interests" (p. 16), an apparent reference to Poling's (2010) third concern with contemporary behavior analysis: "EAB now stands for esoteric behavior analysis" (p. 8). *Esoteric* means "(a) designed for or understood by the specially initiated alone or (b) requiring or exhibiting knowledge that is restricted to a small group" (*Merriam-Webster's Collegiate Dictionary*, 2011); thus to be esoteric is not necessarily bad. In fact, present-day research in nearly all areas of science is accessible only to specialists in those areas. For such research to influence nonexperts in any meaningful way, it must be translated into accessible terms. Skinner and his colleagues regularly provided such translations, but they are rare today. For example, Critchfield points out that "some of the more exciting recent discoveries in EAB, such as momentary patterns of post-reinforcement preference shift under concurrent contingencies (e.g., Davison & Baum, 2000), have not been extended to the human laboratory" (p. 13). Although excellent, the Davison and Baum article is a hard read, and its significance to important human behaviors (i.e., its translational relevance) is not immediately apparent, nor is the need to replicate its findings in humans. Our hope is that the recent upsurge of interest in translational research will energize

those behavior analysts who have the breadth of knowledge needed to recognize the practical implications of recent EAB findings, to describe those findings accurately yet accessibly to nonspecialists, and to put that knowledge to good use in meaningful translational research.

In a 2010 special issue of *JEAB* devoted to translational research that communicated his intention to publish more high-quality translational research, the journal's editor, James Mazur, wrote the following:

In the five decades of *JEAB*'s existence, basic research has produced a wealth of new knowledge about the behavior of individual organisms. The recent growth of the quantity and variety of translational research is a sign that the time is right for tapping into this reservoir of data, theoretical explanations, and concepts, and demonstrating their importance outside the laboratory. (p. 292)

We couldn't agree more.

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