In Memoriam

Nathan H. Azrin (1930–2013): Case Study of a “Crossover” Career

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Nate Azrin at Anna State Hospital

Nathan Azrin was born on November 26, 1930, in Boston and died on March 29, 2013, in Pompano Beach, Florida. He is survived by his wife Victoria and their four children, David, Michael, Rachel, and Richard. Over the course of his 57-year career, Nate was one of the most creative and prolific researchers our field has ever seen: He conducted groundbreaking studies in the basic research laboratory and developed innovative therapeutic techniques in numerous areas of application. The depth and range of his contributions were so great that an adequate description of his work would require a lengthy article. What follows are

some highlights of Nate’s work, with some personal remembrances.

NATE’S RESEARCH

In the music recording industry, a crossover is an artist whose work is aimed primarily at one audience but is highly regarded by other audiences as well. Crossovers usually are flukes. From a statistical standpoint, Nate Azrin certainly was a fluke because his accomplishments in basic and applied research were unique. However, Nate was a deliberate crossover; he aimed his work at multiple audiences and he was the master of his craft.

After receiving his PhD at Harvard in 1956 under the supervision of B. F. Skinner, Nate spent a year each as research psychologist at the Yale

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Institute for Living (working in Karl Pribram's behavioral physiology lab) and at the U.S. Army Ordnance in Maryland (conducting studies on human factors engineering and the effects of noise and fatigue on human behavior). He then moved to Anna State Hospital and Southern Illinois University in 1958, where he began his crossover activity in earnest by establishing four major programs of research.

He first proceeded to conduct the most thorough series of experiments ever done on the effects of punishment on nonhuman behavior. Skinner's work heavily emphasized the role of positive reinforcement and its advantages over aversive contingencies. Nate did not disagree with this view but felt that a full accounting of learning processes should include a careful and deliberate examination of punishment by way of empirical analysis. Nate's studies revealed variations in the direct effects of punishment as a function of immediacy, intensity, and schedule, as well as characteristics of prior or ongoing reinforcement that influenced punishment effects. His research also clearly documented some negative side effects of punishment, such as escape and aggression. It is impossible to overstate the importance of this work for its inductive, straightforward, and systematic design. Most of what we know or suspect today about punishment with humans is based directly on the more than 40 studies Nate published with his colleagues and students, usually comprised of some combination of the three Hs—Don Hake, Bill Holz, and Ron Hutchinson—along with Roger Ulrich. I do not list any of the individual papers here because a summary of much of that work can be found in a classic chapter (Azrin & Holz, 1966), which continues to be discussed at length in all major reviews and texts on punishment.

The larger setting in which Nate conducted his basic studies was a

mental health facility (Anna State Hospital), and the possibility of extending research on learning principles to human application did not escape him. His goal was not, however, to simply ask, "Does reinforcement work with humans?" but, rather, it was to determine how learning principles give rise to interventions that solve problems and what procedural details need to be taken into account to make those interventions work. In the process, Ted Ayllon and Nate created an overarching therapeutic system involving numerous contingencies and methodological refinements—the token economy (Ayllon & Azrin, 1968), which has become one of the basic tools for motivating individual and group behavior used by applied behavior analysts worldwide. Some insight into their goals can be gleaned from the introduction of that book.

The state mental hospital is a severe testing ground for any theory of human behavior. Almost every conceivable behavioral human difficulty can be seen there, often in its most extreme forms. ... The large mental hospital is a testing ground for psychological practices as well as theories. Any general procedure that is found to be effective with the great range of problems encountered in a mental hospital will probably find great applicability in many different disciplines concerned with human behavior. ... The basic objective of the research program which this book describes was to design a motivating environment based upon reinforcement theory. ... The only conclusive way of determining whether the laws of reinforcement and extinction can be used as the basis of designing a complex motivating environment is, of course, to try it. Before we could attempt it, however, procedures had to be developed to answer such questions as the following: How does one go about selecting and specifying the behaviors ...? ... How does one go about discovering what is reinforcing ...? ... Given that one has discovered some reinforcers, how can one maximize the effectiveness of the reinforcer? How does one avoid problems of satiation? ... How can one arrange for reinforcers to follow a response when immediacy of the reinforce delivery is impracticable ...? How can one record whether a behavior has been performed without ... continuously observing the patient? ... How does one teach a new behavior that was not previously in existence? (pp. 1–9)

As the above clearly illustrates, Ayllon and Azrin took an amazingly comprehensive approach to their foray into human behavior, viewing their work on the token economy from both theoretical and methodological perspectives, and the questions they addressed remain critical to the success of applied programs today.

Nate next incorporated his background in human factors engineering into the design of treatment procedures. He coined the term *behavioral engineering* (Azrin, Rubin, O'Brien, Ayllon, & Roll, 1968) to describe therapeutic contingencies programmed through electronic devices, and he developed apparatus for postural control (Azrin, Rubin, et al., 1968; O'Brien & Azrin, 1970), smoking (Azrin & Powell, 1968), stuttering (Azrin, Jones, & Flye, 1968), self-medication (Azrin & Powell, 1969), and toilet training (Azrin, Bugle, & O'Brien, 1971; Azrin & Foxx, 1971; Azrin, Sneed, & Foxx, 1973, 1974; Foxx & Azrin, 1973b). His work with Richard Foxx on toilet training marked another crossover in Nate's career by focusing his attention on problems related to mental retardation and several other disabling conditions, and for this work he received the Edgar A. Doll Award from Division 33 of the American Psychological Association (APA) in 1993. Terms such as rapid toilet training (Azrin & Foxx, 1971), the mini-meals approach to teaching self-feeding (Azrin & Armstrong, 1973), overcorrection (Foxx & Azrin, 1973a), habit reversal (Azrin & Nunn, 1973), and the job club (Jones & Azrin, 1973), just to name a few, refer to well-established therapeutic procedures designed and shown to be highly effective by Nate and his colleagues.

Nate moved to Nova University in Ft. Lauderdale, Florida, in 1980, where he maintained a strong interest in developmental disabilities and was an author of Florida's policy guidelines on the use of behavioral treatment with individuals with mental

retardation. His crossover behavior, so to speak, did not cease, however. Nate's years at Nova marked another turn in the direction of his research; he conducted studies on a variety of problems found in general clinical populations, including depression (Azrin & Besalel, 1981), insomnia (Morin & Azrin, 1987, 1988), substance abuse (Azrin, Donahue, Besalel, Kogan, & Acierno, 1994; Azrin, Sisson, Meyers, & Godley, 1982), bulimia (Azrin, Kellen, Ehle, & Brooks, 2006), and Tourette syndrome (Azrin & Peterson, 1990; Peterson & Azrin, 1991).

During the course of his career, Nate also served in a number of key leadership positions and received many awards for his contributions to several fields. Here is just a partial listing. Nate served as president of Division 25 of APA, the Society for the Experimental Analysis of Behavior, the Association for the Advancement of Behavior Therapy, the Association for Behavior Analysis, the Midwestern Psychological Association, the Florida Association for Behavior Analysis, and the Cambridge Center for Behavioral Studies. He served as Editor-in-Chief for the *Journal of the Experimental Analysis of Behavior*, and many are not aware of the fact that he chaired the committee that founded the *Journal of Applied Behavior Analysis (JABA)*. In addition to receiving awards from every society within the field of behavior analysis, Nate was recipient of the APA Award for Distinguished Contributions to the Application in Psychology and the Association for Psychological Science Award for Scientific Applications in Psychology.

PERSONAL REMEMBRANCES

When Matt Normand asked me to write a memoriam for Nate Azrin, I felt that others knew Nate better than I did and could prepare a more well-informed piece. There were few applied researchers in his generational

Figure 1. Nate Azrin’s publications over the course of his career.

cohort, however, so I was honored to summarize his work because he served as a model for me to emulate since the beginning of my career. To say that his research was “pioneering” is an understatement; Nate was one of the founders of our field. Every behavior analyst, basic and applied, has read his work and has learned something useful about fundamental process, method, or procedure as a result. In addition to having a major influence on research and practice spanning a 57-year period and crossing numerous content areas, Nate had a lasting personal influence on scores of individuals, and I am lucky to have been one of them.

I became familiar with Nate Azrin’s work during my graduate studies, having read his chapter on punishment, some of the supporting research, and all of his *JABA* articles. Arriving at Western Michigan University a few years later, I found myself in a situation vastly different from graduate school: Feedback was sporadic, and there were few rules to guide my

professional development. I needed to identify highly successful models and to use their work as a measuring stick for my own progress. My mentor Jon Bailey was an obvious choice, but he was only a few years ahead of me. Needing to find someone who had a long-established record of excellence, I chose Nate Azrin.

My first encounter with Nate was in an airport. We were traveling to a conference in California in 1976 and ended up on the same flight from Chicago. I spotted him reading a newspaper in the terminal, ran up and introduced myself, and oblivious to the fact that he was occupied, launched into a conversation with him and began peppering him with questions about his work. Nate had no clue who I was but responded very graciously and was willing to converse about a wide range of topics. At some point in the conversation, I asked him how he selected his research topics. He thought for only a moment and said, “Pick a problem that won’t go away.” Not quite

understanding what he meant, I quizzed him further. He noted that, although all behavior is interesting, a number of human problems eventually get solved through haphazard work or, if not, people are satisfied enough with what it produced. Nate went on to say that some problems, however, never seemed to go away, and that most researchers who initiated work on these problems usually moved on to something else before solving them. He predicted that by sticking with intractable problems long enough, one would learn how to control the relevant variables. Nate's advice served me well several years later when my students and I began conducting research on self-injurious behavior.

Soon after meeting Nate, I asked him for a copy of his curriculum vitae so that I could easily find and read his papers. I also wanted to plot a cumulative record of his publications as a standard for my own performance. I still have that graph, which is reproduced in Figure 1. The last 5 years are missing because Nate did not update his publication list after 2008, but you can see that he maintained an amazing rate of productivity. Over the next 30-plus years, I had the pleasure of serving with Nate on numerous committees and review panels, and his ability to grasp key points and make timely, incisive comments never ceased to impress me. He also continued to give me good advice on all sorts of topics and went out of his way to include me in visits with his family on several occasions.

I attended many of Nate's presentations, but two that stand out notably occurred 30 years apart. The first was his 1976 APA address when he received the award for Distinguished Contributions to the Application of Psychology. Nate challenged academic psychologists who conducted studies that "answered questions" to consider adopting research strategies that would

actually solve problems. In doing so, he delivered a masterful lecture on applied behavior analysis and the utility of single-subject designs. His address was published subsequently in the journal *American Psychologist* (Azrin, 1977) and is a must-read for behavior analysts. The second was given to a limited audience in 2007. Judy Favell invited Nate to give an informal talk at the Advoserve main campus in Mt. Dora, Florida, and invited a number of his colleagues to attend. Tim Vollmer and I drove down together, and we reminisced about his presentation a number of times subsequently (most recently, several weeks ago). Armed with a few note cards, Nate gave a full-day seminar consisting of a retrospective of his work. He reviewed dozens of studies and entire bodies of research, describing rationales and details that had never appeared in print, and he moved seamlessly from one topic to the next. Tim and I concurred that we could not give such a talk on the best of days, let alone 50 years after we had started.

My last visit with Nate was at the Berkshire Association for Behavior Analysis and Therapy conference in October, 2012, when he received the Murray Sidman Award for Enduring Contributions to Behavior Analysis. Nate gave a spirited talk about outcome-oriented research, and we later shared a ride to the airport, during which I peppered him with questions.

I do not know how common it is for young researchers to study the careers of others for the purpose of professional development. I highly recommend it and predict that Nate Azrin would be at the top of most lists. Few people have made research contributions equaling Nate's in either basic or applied behavior analysis, and none has matched his contributions to both endeavors.

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