

ON THE STATUS OF KNOWLEDGE FOR
USING PUNISHMENT: A COMMENTARY

ROBERT H. HORNER

UNIVERSITY OF OREGON

Aversive stimuli are defined by their ability to evoke or elicit the avoidance patterns that result in the response reduction essential for defining punishment. Lerman and Vorndran provide a synthesis of basic and applied behavior-analytic research that addresses variables with direct and moderating effects on punishment. The synthesis is scholarly and systematic and provides a superb summary of our knowledge from current behavior-analytic research. The synthesis relies heavily on basic research with nonhuman subjects to identify current gaps in our research literature and outlines implications for improving our overall technology of behavior change. The major thesis is that development of a comprehensive technology of behavior change requires more detailed research on punishment with special attention to (a) knowledge about conditioned, intermittent, and delayed punishment; (b) interaction effects of reinforcement and punishment; (c) the value of functional analysis in the design of punishment interventions; and (d) greater attention to treatment failures to identify how punishment may be used more effectively in clinical interventions.

There is a great deal to admire about the synthesis. The impressive integration of basic and applied behavior-analytic research and the conceptually sound organization of major themes make the synthesis important reading for anyone serious about the role of punishment in behavior analysis. The multiple implications of functional assessment and functional analysis information for guiding the use (or nonuse) of punishment are of special importance.

Address correspondence to the author at 1235 University of Oregon, Eugene, Oregon 97403.

By way of commentary, I extend appreciation to the authors for their professional presentation and offer the following considerations.

Research on Punishment Is Appropriate

A concern expressed by Lerman and Vorndran is that the controversy related to using painful stimuli in behavioral interventions has dampened systematic research on punishment. It is important to acknowledge that punishment is a natural and ongoing part of life, and we need to better understand the role of punishment if we are to be successful in our efforts to engineer environments in which children and adults with deviant behavior are successful. Teachers, parents, employers, and friends in all parts of our society regularly deliver contingent punishers that result in reduction of specific responses. The frowns, reprimands, parking tickets, red marks on class papers, spankings, and unlimited array of social jibes from peers are examples of the contingent delivery of aversive stimuli or the contingent removal of reinforcing stimuli that are associated with reduction in a specific response. Punishment is a natural part of life.

Gershoff's (2002) recently published meta-analysis of the use of corporal punishment (e.g., spanking) by parents illustrates this fact. The 88 studies reviewed in the meta-analysis attest to the interest in punishment as a parenting practice. It seems that Lerman and Vorndran's recommendation to embrace punishment as a valid research area is well taken. However, we need to better understand not only the basic mechanisms by which punishers affect behavior or how punishment can be used well within behav-

ior-change efforts but also, more important, how punishment operates to influence behavior throughout society.

The easy position is that research on punishment is needed. The more challenging position will be to define the limits of that research. The arguments by Lerman and Vorndran are most compelling when they emphasize the general need for more knowledge, but they do not present a strong case for a research agenda sensitive to the ethical considerations surrounding the delivery of intense pain as a punishing stimulus. In fact the work of Crosbie (1998) and others cited in the synthesis argues that most of the research needs outlined in the synthesis can be accomplished with punishers that would be defined as mild to moderate in intensity. Yes, there is a clear need for a better understanding of the role of punishment in our society, the basic mechanisms by which punishment affects behavior, and the utility of punishment in behavioral interventions. There remain, however, important ethical, social, and scientific considerations that should limit this agenda and continue to prompt debate.

Organizing an Applied Research Agenda

The contribution that Lerman and Vorndran offer is not just a general call to restart research on punishment but is also an organized discussion about the limitations of our current knowledge and a presentation of suggestions for research efforts that will be most valuable as we expand our technology of behavior change. The recommendation is for careful attention to fine-grained questions that affect punisher efficacy (e.g., when using conditioned aversive stimuli we need to understand “the maximum number of times that the conditioned stimulus could be presented before the conditioning effect begins to be extinguished”; p. 438).

A need for understanding narrowly defined punishment variables clearly exists; however, if the goal is to build a more effec-

tive technology of applied behavior change, then attention to the more complex, and more common, uses of punishment may be the most productive. It is unlikely that punishment will be recommended as the sole element in a behavioral intervention in applied settings. The most productive applied research agenda will focus on this fact. Understanding the interaction effects when punishment is combined with (a) reinforcement for appropriate alternative behaviors, (b) extinction of problem behaviors, and (c) inadvertent reinforcement of problem behaviors will be of tremendous value. Each of these is identified by Lerman and Vorndran as a fruitful research direction. The synthesis is most compelling when the recommendations fit very practical needs that teachers, parents, caregivers, employers, and friends face on a daily basis. The discussion is less compelling when it recommends narrow, isolated analyses of punishment.

Building a Research Agenda with Broad Influence

Lerman and Vorndran offer a research direction that is safely grounded in behavior analysis. The foundation citations draw from basic and applied studies that most readers of the *Journal of Applied Behavior Analysis (JABA)* remember and value. The implied conceptual model guiding the research recommendations is internally coherent and based on sound behavioral principles. This is both an outstanding strength and a limitation. As behavior analysts, we encounter repeatedly the dual mantra in which the importance of our field for society is extolled and the lack of acceptance outside our verbal community is lamented. Punishment is an issue of tremendous importance throughout our society. This is not an issue that is of interest only to behavior analysts who work with people who happen to have severe developmental disabilities. Punishment is a concern for every parent, teacher, and friend.

If we are to build a new research agenda that identifies how we can engineer environments to promote desired behavior and reduce undesirable behavior, then let us consider that research agenda in light of the full range of societal needs.

Gershoff's (2002) 29-page article in *Psychological Bulletin* addresses the complex role of corporal punishment used by parents. It includes no references to Azrin and Holz (1966), Foxx and Azrin (1973), or Crosbie (1998). There are no citations from *JABA*. Yet the author articulates and struggles with major limitations in her research base: (a) absence of operational definitions, (b) reliance on survey measures rather than direct observation, and (c) the inadequacy of experimental designs to assess the direct (much less interactive) effects of corporal punishment. In each of these areas, and more, behavior analysis offers clear, tested, effective answers. If we as behavior analysts are to offer a technology of real behavior change, we will need (a) a research agenda that is guided not just by gaps in the literature but by a coherent conceptual model; (b) a research agenda that is relevant for behavior change at multiple levels of our society; and (c) research that is responsive to the needs of families, friends, and self-determined individuals as well as teachers, caregivers, and clinicians.

This is an important time in the history

of behavior analysis. We have the research and understanding to contribute to society in ways that are at the heart of societal interests. Lerman and Vorndran offer one more example of how our theory, science, and technology can be relevant. They offer an elegant foundation for moving forward. If we move forward with clear consideration of ethical as well as technical concerns, if we move forward by addressing comprehensive as well as narrow intervention needs, and if we move forward with conceptual clarity, we have the opportunity to both meet the challenge Lerman and Vorndran offer and articulate the value of behavior analysis for society.

REFERENCES

- Azrin, N. H., & Holz, W. C. (1966). Punishment. In W. K. Honig (Ed.), *Operant behavior: Areas of research and application* (pp. 380–447). New York: Appleton-Century-Crofts.
- Crosbie, J. (1998). Negative reinforcement and punishment. In K. A. Lattal & M. Perone (Eds.), *Handbook of research methods in human operant behavior* (pp. 163–189). New York: Plenum.
- Foxx, R. M., & Azrin, N. H. (1973). The elimination of autistic self-stimulatory behavior by overcorrection. *Journal of Applied Behavior Analysis*, 6, 1–14.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128(4), 539–579.

Received July 17, 2002

Final acceptance July 17, 2002

Action Editor, Wayne Fisher