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Self-management for building independence: Research and future directions

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ABSTRACT

Although behavior analysts have at times struggled with self-management as a concept, research shows that self-management training has been an effective means of promoting independence for individuals with disabilities across ages, settings, and target behaviors. This paper explores the philosophical concerns with self-management as a behavioral intervention, and provides answers to these objections. A review of selected self-management procedures, including audio cues, tactile prompting devices, video modeling, and personal digital assistants is presented. Particular attention is paid to the development of more sophisticated self-management procedures as technology has improved over time, with suggestions for future directions based on access to continued improvements in available technology.

1. Introduction

Dating back to Skinner (1953), behavior analysts have wrestled with the philosophical and practical implications of self-management training as an applied behavior analytic concept. Behavior analysts are generally taught to seek environmental contingencies that create and maintain given behavioral repertoires. Avoiding explanations that invoke the "inner homunculus" as an explanation is a central message of radical behaviorism (e.g., Skinner, 1971). A term that suggests that the "self" is creating or maintaining behavior seems, at first glance, more consistent with cognitive interpretations of control of one's behavior as self-regulation and metacognition (e.g., Zimmerman, 1995), and contradictory to the basic applied behavior analytic paradigm. As will be demonstrated, however, self-management may be understood as behavior like any other objective, observable action, and therefore subject to the same forces of environmental interaction.

Self-delivered behavioral strategies have been referred to in the behavior analysis literature by different names, including self-control, self-monitoring, and self-reinforcement (Newman, Buffington, Hemmes, & Rosen, 1996). The term "self-management" became the inclusive term for these various procedures wherein an individual applies operant procedures to change his/her own behavior (e.g., Brigham, 1980) and, as will be described, the other procedures are actually subsumed within the greater process of self-management. The subsequent decades of research have demonstrated that

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self-management is philosophically compatible with the greater applied behavior analytic paradigm, and that the techniques we now collectively call self-management are indeed clinically effective.

2. Philosophical difficulties

Catania (1975) and Goldiamond (1976a, 1976b) outlined some of the basic difficulties with self-management as an applied behavior analytic concept. Summarizing the objections, they included that:

a) The process of reinforcement is not accurately described, as the increases in the future probability of target response that defines the basic concept of reinforcement is not present (thus the process of reinforcement not being accurately described),
b) That it is some behavior of the person, and not the "self" that is being monitored or reinforced. Catania (1975) suggested that self-awareness is actually the subject matter, and noted that two behaviors are in question—the target behavior and the delivery of reinforcement. We will provide the friendly amendment that three behaviors are in question: the behavior targeted for increase or decrease, self-monitoring of that behavior, and providing consequences for the meeting or failing to meet criteria specified in the target behavior.
c) In the standard operant paradigm, determination of whether or not behavior has met criteria is not made by the behaving organism, but by some outside agent. In effect, the objection is that in self-management, determination of reinforcement is not independent of organism.
d) The real basic concern, however, is the question of how "self-management" might be used as an explanation for behavior. The worry is that self-management might become an easy "go to;" an explanatory fiction. Invoking self-management might thus redirect the behavior analyst away from the actual environmental consequences affecting behavior whenever environmental contingencies were not obvious. These contingencies are, according to the basic paradigm, more likely to be found outside the self-managing individual.

3. Answering objections

Does self-management actually increase the probability of the target behavior? Consider the following quote from Skinner (1953):

> Something of this sort unquestionably happens, but is it operant reinforcement? . . . it must be remembered that the individual may at any moment drop the work in hand and obtain the reinforcement. We have to account for his not doing so . . . The ultimate question is whether the consequence has any strengthening effect upon the behavior which precedes it. Is the individual more likely to do a similar piece of work in the future? It would not be surprising if he were not, although we must agree that he has arranged a sequence of events in which certain behavior has been followed by a reinforcing event (p. 238)

While this question is valid, it is not unique to self-delivered reinforcers. When consequential stimuli are delivered by some other agent, we do not assume that all consequences are reinforcers. An increase in the future probability of the target behavior is integral to the definition of reinforcement, no matter whom or what is delivering the consequence. If self-determined and self-delivered consequences did not lead to an increase in the future probability of the target response, then it is not self-reinforcement. That would merely be the self-delivery of consequences (Mace & West, 1986). As noted above, Skinner also suggested that since the reinforcer is under the control of the individual, we must account for why the individual does not just take the reinforcing stimulus without engaging in the target behavior. As noted by Hayes et al. (1985), "In self-reinforcement . . . a consequence not earned is a consequence delayed, because the subject owns the consequence to begin with" (p. 211). In the Hayes et al. experiment, the reinforcer was owned by the subject and self-delivery of consequences with this stimulus had no strengthening effect on behavior. This was not the case in numerous decades-old studies where the reinforcing stimulus was owned by the individual (e.g., Agran, Fodor-Davis, Moore, & Deer, 1989; Broden, Hall, & Mitts, 1971; Chase & Clement, 1985; Gajar, Schloss, Schloss, & Thompson, 1984; Harris, 1986; Koegel & Koegel, 1990; Koegel, Koegel, Hurley, & Frea, 1992; Moore, Agran, & Fodor-Davis, 1989; Morgan & Bass, 1973; Ninness, Fuerst, Rutherford, & Glenn, 1991; Newman, Buffington, & Hemmes, 1996; Newman et al., 1995; Newman, Ryan, Tuntigian, & Reinecke, 1997; Posobiec & Renfrew, 1988; Richman, Riordan, Reiss, Pyles, & Bailey, 1988; Stahmer & Schreibman, 1992) nor in the more recent studies cited below. As demonstrated in some of the studies listed above, limited hold on consequences eliminates this problem of reinforcer ownership, as the reinforcer is only available during specified periods of training or practice. The individual would have to deliver the reinforcer immediately after engaging in the target response or lose the opportunity to self-reinforce.

Even if the above suggestions are true, however, it is accurate to say that we must account for non-consumption of an owned reinforcer. This is not unique to self-management scenarios, however. Consider a more traditional operant arrangement, such as in a school-based behavior management program. Why doesn't the student simply engage in the aggressive act of physically taking the reinforcer and therefore coming to own it? The answer, presumably, is that the reinforcement history of the individual makes such behavior unlikely. Most people, for example, have received reinforcement for "being honest" and/or have received punishers for "cheating."

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