

The Mental vs. the Behavioral

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Abstract

This paper examines the theory of scientific radical behaviorism. The examination describes the concepts of classical conditioning and operant conditioning as well as evaluates Skinner's (1984) "Selection by Consequences." The theory of radical behaviorism is then evaluated for its greatness. Despite criticisms, the theory is shown to have merit in some respects. However, the theory is shown to have fundamental flaws that inhibit its greatness, such as the use of animal research, the "black box" concept of the mind, and the denial of thought and mental processes.

I. Introduction

The concept of conditioning is well-established in psychological theory and practice. From Pavlov's research, the world became cognizant of classical conditioning. Through his study of the salivation habits of dogs, the concepts of stimuli and responses have been applied to psychological study. Unconditioned stimuli elicit unconditioned responses; for example, a dog salivates when presented with food. Pavlov then determined that stimuli could be conditioned to elicit conditioned responses. In the case of his dogs, he paired a bell with the presentation of food, and after time the bell itself produced salivation. Finally, higher-order conditioning is possible. This type of conditioning occurs when a conditioned stimulus is able to cause responses from other neutral stimuli by being associated with them. For example, pairing a ball with a bell can cause a dog to salivate in the presence of a ball. In humans, higher-order conditioning can be quite complex; symbols such as words can be capable of evoking emotional responses (Mischel, 1993).

II. Operant Conditioning

The psychologist B. F. Skinner proposed his own theory of

conditioning. His concept, operant conditioning, is at the heart of his highly influential and controversial theory of behaviorism. Behaviorism studies behavior as the basic unit of understanding organisms, including humans. The theory observes behavior and seeks to determine the conditions that affect a given behavior. Essentially, in personality theory, according to behaviorists a person's behavior determines his or her personality.

Behaviorists, being concerned with observable behavior, treat the mind almost as the proverbial "black box." Input enters and output exits, but the processes that relate the input to the output are not examined. The "black box" idea is convenient for behaviorism because mental processes are unobservable and therefore very difficult to explain according to behavioral theory. In fact, behaviorists tend to refuse the idea that specific motivations even exist for behavior. They instead try to determine the external conditions that influence behavior and explain away motivations or drives as simply the effects of deprivations or satiations. Instead of motivation, environment is the key factor influencing behavior. Skinner's basic strategy for studying behavior involves functional analysis; the link between behavior and exact determining conditions is sought. He maintains that most of human behavior is the result of freely-given response patterns, also called operants.

In simplest terms, Skinner's operant conditioning is learning based on the consequences produced by the responses of elicited behavior. In this way, behavior can be said to be reinforced, and nearly all events can act as reinforcers. Therefore, as in the example of words being stimuli in higher-order conditioning, behaviorism would say that words that elicit positive emotional responses reinforce the speaker to utter them again in order to receive the positive response. Skinner also realized that conditioned reinforcers could be generalized when a response pattern occurred under many conditions.

Through his observation of animal behavior, primarily that of pigeons, Skinner also developed the idea of shaping to obtain a desired behavior. Shaping is the successive rewarding of closer

approximations to a desired behavior. It involves schedules of reinforcement that can be continuous or partial. Partial reward of behavior tends to be more effective. Shaping can be applied to humans as well as pigeons. A common use of shaping occurs in the rearing of children as they need to be taught desirable behaviors (Mischel, 1993).

III. Skinner's "Selection by Consequences"

The theory of evolution holds that characteristics of organisms come about due to selection by consequences. Skinner includes behavior as a characteristic that can come about through selection by consequences. He says, "What we call behavior evolved as a set of functions furthering the interchange between organism and environment" (Skinner, 1984, 477). Therefore, Skinner concludes that behavior also evolves in accordance with two contingencies: the ability of an organism to be reinforced by consequences and the availability of behavior that releases stimuli.

Central to Skinner's theory is the idea of consequences as related to the evolution of behavior. The first consequence, reproduction, led to the evolution of cells through natural selection and the ability of organisms to reproduce over diverse environments. The second, operant conditioning, can act in place of natural selection by influencing and shaping behavior. The third consequence, verbal behavior, occurs as humans become more social.

Skinner also designates three levels of behavioral evolution. The first level, Level i, is governed by biology. Natural selection can be seen as occurring on the genetic level, and is concerned primarily with survival of genes in an individual organism. The second level, Level ii, is governed by psychology. Level ii is very much concerned with the behavior of individual organisms. Finally, the third level, or Level iii, is governed by anthropology and is concerned with the evolution of societal behavior.

In Level i, the environment does not designate the traits that will survive; rather the species adapts to the environment, choosing traits that will optimize survival. In Level ii, the individual adjusts to the

environment rather than allowing the situation to dictate behavior. Finally, in Level iii, groups solve problems as opposed to allowing circumstances to determine traits that would most benefit the group. As a final thought, Skinner asserts that individual or free will is not responsible for behavior; rather, selection by consequences is the determinant (Skinner, 1984, 480).

IV. Evaluation of Behaviorist Theory

As a theory of personality, behaviorism and Skinner's idea of selection by consequences is not without merit. According to the zoologist Dawkins (1984), selection by consequences "puts a correct emphasis on the radical difference between active selection by a choosing agent on the one hand, and the blind...mechanical purposelessness of the Darwinian and quasi-Darwinian processes that Skinner lists on the other" (486). Plotkin and Odling-Smee see the merit of selection as the "basis by which living systems gain knowledge of themselves and their world. Selection operates at the genetic, developmental, individual learning, and cultural levels" (Plotkin and Odling-Smee, 1984, 493). The anthropologist Harris, most concerned with Skinner's Level iii, says, "Anthropologists would benefit on behalf of selection by consequences as a metaprinciple for explaining cultural as well as biological evolution and the acquisition of individual response repertoires" (Harris, 1984, 490). Furthermore, Skinner's theory encompasses all of psychology and provides a means to examine systematically the relations between a subject and its environment. His ideas concerning behavior as a function of its consequences (or reinforcement and punishment) are also compelling (Jensen & Burgess, 1997, 221).

Behaviorism is, however, fundamentally flawed in a number of ways that prevent its being considered a great theory of personality. Its assumptions about human beings from observations of animals are largely questionable. In addition, the idea of the "black box" of the mind is not an acceptable explanation of mental processes.

Behavioral scientists tend to accept the idea that information provided by research with animals such as rats, monkeys, and

pigeons can be used to make inferences about human behavior. However, the transferability of the knowledge gleaned from animal research is highly questionable (Cangemi & Kowalski, 1993, 493).

Animal evidence is so problematic because humans often behave in unexpected ways, largely because they have verbal skills. Humans do not always behave in the same manner as animals because verbal input from other humans or themselves can affect their behavior (Overskeid, 1995, 518). Says K. E. Boulding (1984) of Swarthmore College's department of economics, "It is on the whole an inappropriate methodology in developing improved cognitive images of complex, unstable systems with changing parameters and cumulative structures, where rare events are significant. Humans are a supreme example of systems of this kind" (483).

Boulding (1984) also feels that the "black box" concept of the mind is very limited in its value for understanding behavior. He cites the examples of the capacity for reflection and communication as keys to opening the "black box." Therefore, such blatant dismissals of cognitive function as Skinner's statement, "We need not suppose that events which take place within an organism's skin have special properties...A private event may be distinguished by its limited accessibility but not, so far as we know, by any special nature or structure" (Jensen & Burgess, 1997, 222) have little merit.

V. Dennett and Mentalism

In his book *Brainstorms*, D. C. Dennett (1978) provides a compelling argument against behaviorism because of its denial of the mind or what Dennett terms "mentalism." Opposed to Skinner's essential claim, "behavioral science proves that people are not free, dignified, morally responsible agents" (Dennett, 1978, 54), Dennett illustrates behaviorism's shortcomings in explaining away mental processes as simple behaviors.

Skinner is vehemently opposed to the idea of mentalism. He cites several reasons for his objection including the opinions that mental processes are non-physical and therefore not directly observable, that the mental world is private, and that the analysis of mental

(internal) events requires inference. Skinner inherently sees the idea of thought as negative; he is opposed to intentional idioms (verbal expressions that intimate emotion or hidden cognitive processes) such as "feel" or "believe." He also holds that intelligence or rationality cannot be presupposed; however, Dennett asserts that any type of thought must presuppose rationality. He believes that Skinner is wrong in suggesting that psychology cannot refer to intentional idioms. Skinner holds that beliefs, for example, are built as the probability of an action increases. He also shows that Skinner uses intentional idioms himself.

Dennett (1978) defines the essential mental-behavioral question as, Can intentional and scientific explanations co-exist? Whereas Skinner does not see the distinction between the two, Dennett disagrees, finding fault with behaviorism for explaining things (specifically mental processes) away rather than explaining how things work. Finally, Dennett asserts that Skinner simply fails to show that psychology without "mentalism" is possible or actual (Dennett, 1978, 54-70).

VI. Conclusion

B. F. Skinner's theory of radical behaviorism has made valuable contributions to the field of psychology, if for no other reason than to spark debate. His operant conditioning ideas are not wholly invalid; however, his denial of the importance of mental processes as well as the use of animal data and the "black box" idea hinder his theory from achieving greatness.

References

- Boulding, K. E. (1984). B. F. Skinner: A dissident view. *Behavioral and Brain Sciences*, 7, 483-484.
- Cangemi, J. P., & Kowalski, C. J. (1993). Does a hierarchy of significance exist in psychology and the mental health disciplines? *Education*, 113, 489-497.
- Carlson, N. R., & Buskist, W. (1997). *Psychology: The science of behavior* (5th ed.). Boston: Allyn and Bacon.
- Dawkins, R. (1984) Replicators, consequences, and displacement activities. *Behavioral and Brain Sciences*, 7, 486-487.

De Becker, G. (1997). *The gift of fear: Survival signals that protect us from violence*. Boston: Little, Brown, and Company.

Dennett, D. C. (1978). Skinner skinned. In D. C. Dennett, *Brainstorms: Philosophical essays on mind and psychology* (pp. 53-70). Montgomery, VT: Bradford Books.

Harris, M. (1984). Group and individual effects in selection. *Behavioral and Brain Sciences*, 7, 490-491.

Jensen, R., & Burgess, H. (1997). Mythmaking: How introductory psychology texts present B. F. Skinner's analysis of cognition. *The Psychological Record*, 47, 221-232.

Mischel, W. (1993). Behavioral conceptions. In W. Mischel, *Introduction to personality* (pp. 295-316). New York: Harcourt Brace.

Overskeid, G. (1995). Cognitivist or behaviourist—who can tell the difference? The case of implicit and explicit knowledge. *British Journal of Psychology*, 86, 517-523.

Plotkin, H. C., & Odling-Smee, F. J. (1984). Linear and circular causal sequences. *Behavioral and Brain Sciences*, 7, 493-494.

Skinner, B. F. (1984). Selection by consequences. *Behavioral and Brain Sciences*, 7, 477-510.

