Behaviorism as a Theory of Personality: A Critical Look

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This paper explores the theory of behaviorism and evaluates its effectiveness as a theory of personality. It takes into consideration all aspects of the behaviorism theory, including Pavlov's classical conditioning and Skinner's operant conditioning. Additional research in this field by scientists such as Thorndike is also included. As a result of this critical look at behaviorism, its weaknesses as a comprehensive personality theory are revealed. At the same time, its merits when restricted to certain areas of psychology and treatment of disorders are discussed.

For as long as human beings can remember, they have always been interested in what makes them who they are and what aspects of their being set each of them apart from others of their species. The answer according to behaviorists is nothing more than the world in which they grew up. Behaviorism is the theory that human nature can be fully understood by the laws inherent in the natural environment.

As one of the oldest theories of personality, behaviorism dates back to Descartes, who introduced the idea of a stimulus and called the person a machine dependent on external events whose soul was the ghost in the machine. Behaviorism takes this idea to another level. Although most theories operate to some degree on the assumption that humans have some
sort of free will and are moral thinking entities, behaviorism refuses to acknowledge the internal workings of persons. In the mind of the behaviorist, persons are nothing more than simple mediators between behavior and the environment (Skinner, 1993, p 428).

The dismissal of the internal workings of human beings leads to one problem opponents have with the behavioral theory. This, along with its incapability of explaining the human phenomenon of language and memory, build a convincing case against behaviorism as a comprehensive theory. Yet although these criticisms indicate its comprehensive failure, they do not deny that behaviorism and its ideas have much to teach the world about the particular behaviors expressed by humankind.

The Theory of Behaviorism

Classical Conditioning

The Pavlovian experiment. While studying digestive reflexes in dogs, Russian scientist, Pavlov, made the discovery that led to the real beginnings of behavioral theory. He could reliably predict that dogs would salivate when food was placed in the mouth through a reflex called the "salivary reflex" in digestion. Yet he soon realized that, after time, the salivary reflex occurred even before the food was offered. Because the sound of the door and the sight of the attendant carrying the food "had repeatedly and reliably preceded the delivery of food to the mouth in the past," the dogs had transferred the reflex to these events (Schwartz & Lacy, 1982, p. 21). Thus, the dogs began salivating simply at the door's sound and the attendant's presence. Pavlov continued experimenting with the dogs using a tone to signal for food. He found that the results matched and the dogs had begun to salivate with the tone and without food (Schwartz & Lacy, 1982, pp. 20-24).

What Pavlov discovered was first order conditioning. In this process, a neutral stimulus that causes no natural response in an organism is associated with an unconditioned stimulus, an event that automatically or naturally causes a response. This usually temporal association causes the response to the unconditioned stimulus, the unconditioned response, to transfer to the neutral stimulus. The unconditioned stimulus no longer needs to be there for the response to occur in the presence of the formerly
neutral stimulus. Given that this response is not natural and has to be learned, the response is now a conditioned response and the neutral stimulus is now a conditioned stimulus. In Pavlov's experiment the tone was the neutral stimulus that was associated with the unconditioned stimulus of food. The unconditioned response of salivation became a conditioned response to the newly conditioned stimulus of the tone (Beecroft, 1966, pp. 8-10).

**Second order conditioning.** When another neutral stimulus is introduced and associated with the conditioned stimulus, even further conditioning takes place. The conditioned response trained to occur only after the conditioned stimulus now transfers to the neutral stimulus making it another conditioned stimulus. Now the second conditioned stimulus can cause the response without both the first conditioned stimulus and the unconditioned stimulus. Thus, many new conditioned responses can be learned (Schwartz & Lacy, 1982, p 48).

When second order or even first order conditioning occur with frightening unconditioned stimuli, phobias or irrational fears develop. In a study performed by Watson and Rayner (1920), an intense fear of rats was generated in a little boy named Albert. Whenever Albert would reach for a rat, the researchers would make a loud noise and scare him. Through classical conditioning, Albert associated rats with the loud fearful noise and transferred his fear with the noise to fear of rats. He then went further and associated rats, which are furry, to all furry objects. Due to second order conditioning, little Albert formed an irrational fear of all furry objects (Mischel, 1993, pp. 298-299).

**Modern classical conditioning.** Whereas Pavlov and most of his contemporaries saw classical conditioning as learning that comes from exposing an organism to associations of environmental events, modern classical conditioning theorists, like R. A. Rescorla, prefer to define it in more specific terms. Rescorla emphasizes the fact that contiguity or a temporal relationship between the unconditioned stimulus and the conditioned stimulus is not enough for Pavlovian conditioning to occur. Instead, the conditioned stimulus must relate some information about the unconditioned stimulus (Rescorla, 1988, pp. 151-153).

The importance of this distinction can be seen in the experimental work done by Kamin (1969) and his blocking effect. In his experiment, rats
were exposed to a tone followed by a shock. Following Pavlovian conditioning principles, the tone became a conditioned response. Yet, when the same rats were exposed to a tone and a light followed by a shock, no conditioning occurred with the light. This was because the tone had already related the information of the shock's arrival. So, any information the light would have given would have been useless. Even though the light was associated temporally with the shock, there was no conditioning because there was no information related (Schwartz & Lacy, 1982, p. 53).

Operant Conditioning

**Thorndike's law of effect.** Although evidence of classical conditioning was there, E. L. Thorndike did not believe that it was comprehensive because most behavior in the natural environment was not simple enough to be explained by Pavlov's theory. He conducted an experiment where he put a cat in a cage with a latch on the door and a piece of salmon outside of the cage. After first trying to reach through the cage and then scratching at the bars of the cage, the cat finally hit the latch on the door and the door opened. With the repetition of this experiment, the amount of time and effort spent on the futile activities of reaching and scratching by the cats became less and the releasing of the latch occurred sooner. Thorndike's analysis of this behavior was that the behavior that produced the desired effect became dominant and therefore, occurred faster in the next experiments. He argued that more complicated behavior was influenced by anticipated results, not by a triggering stimulus as Pavlov had supposed. This idea became known as the law of effect, and it provided the basis for Skinner's operant conditioning analysis of behavior (Schwartz & Lacy, 1982, pp. 24-26).

**Skinner's positive and negative reinforcement.** Although Thorndike developed the basic law of effect, Skinner took this law and constructed a research program around it. He based this program on the experiments he had conducted in his study of punishment and reward. According to Skinner, the behavior caused by the law of effect was called operant conditioning because the behavior of an organism changed or operated on the environment. There were no real environmental stimuli forcing a response from an organism as in classical conditioning. Operant conditioning consists of two important elements, the operant or response
and the consequence. If the consequence is favorable or positively reinforcing, then the likelihood of another similar response is more than if the consequence is punishing (Mischel, 1993, pp. 304-308).

For instance, in Skinner's experiment a rat was put into a box with a lever. Each time the lever was depressed, food was released. As a result, the rat learned to press the lever to receive favorable consequences. However, when the food was replaced with shocks, the lever depressing stopped almost immediately due to punishing consequences. Similar results were produced by stopping the positive reinforcement of food altogether in a process called extinction, but the operant conditioned response decreased at a much slower rate than when punishment was used. This kind of operant conditioning occurs in the rewarding or punishing discipline action taken towards a child (Schwartz, 1982, pp. 27-53).

**Discriminative stimuli.** The effect stimuli have on an operant response is different than in Pavlovian conditioning because the stimuli do not cause the response. They simply guide the response towards a positive or negative consequence. These operant response stimuli are called discriminative stimuli because they discriminate between the good and the bad consequences and indicate what response will be the most fruitful. For instance, a red stoplight indicates that one should step on the brakes. Although there is nothing that naturally forces humans to stop at a red light, they do stop. This is because the red indicates that if they do not, negative consequences will follow (Schwartz & Lacey, 1982, pp. 30-31).

**Avoidance theory.** Although it is not always the case with discriminative stimuli, the red stop light stimuli and the appropriate stop response are also an example of the behavior known as avoidance-escape behavior. Put simply, the stimulus indicates that a negative consequence will follow if an action is not carried out, so the action is carried out. This may seem confusing given that extinction occurs in the sudden absence of any positive reinforcement. However, as shown in the experiments done by Rescorla and Solomon (1967), this is not the case. An animal was placed on one side of a partitioned box and trained to jump over the partition to avoid a shock. When the shock was removed, the animal retained its conditioned jumping behavior. Apparently in avoidant behavior, the escape or absence of reinforcement occurs because of a response. The animals in the box learned to expect shock if they did not respond or no shock if they did. Thus, the extinction occurred because they continued to
respond to supposedly eliminate the shock (Schwartz & Lacey, 1982, 87-90).

**Schedules of reinforcement.** Another exception to the extinction rule is an operant conditioned response that has been conditioned by intermittent schedules of reinforcement. There are four types of intermittent schedules: fixed interval schedules that reinforce a response after a certain fixed amount of time, variable interval schedules that reinforce a response after an amount of time that varies from reinforcement to reinforcement, fixed ratio schedules that reinforce a response after a certain fixed number of responses have been made, and varied ratio schedules that reinforce a response after varied numbers of responses are made. As strange as it may seem, maintenance of behavior is actually increased on these intermittent schedules as opposed to continuously reinforced behavior. This is due to the fact that with these occasional reinforcement patterns, the extinction of reinforcement takes a long time to recognize. As soon as it is recognized though, another reinforcement occurs and the extinction of the reinforcement now takes even longer to recognize. Thus, intermittent schedules keep the organism "guessing" as to when the reinforcement will occur and will reinforce the behavior without the actual reinforcement taking place (Schwartz & Lacey, 1982, pp. 91-101).

**Natural selection by consequences.** In an attempt to convince his critics of the validity of his theory of operant conditioning, Skinner drew some interesting parallels between his theory and Darwin's theory of natural selection. According to Skinner, operant conditioning is nothing more than "a second kind of selection by consequences" (Skinner, 1984b, p. 477). He pointed out that although natural selection was necessary for the survival of the species, operant conditioning was necessary for an individual to learn. Also, evolutionary advances occurred because species with these advantages were more efficient in passing on the advantage, and operant conditioning occurs because certain reinforcements have affected the individual in a more efficient manner. Skinner goes on to draw the parallel between the evolution of living beings from molecules without the concept of life and the initiation of operant behavior from the environment without the concept of an independent mind. Finally, Skinner mentions how species adapt to the environment in the same way an individual adapts to a situation. By comparing these two theories, Skinner hoped to show that like the theory of natural selection, his contemporaries should accept the theory of operant behavior (Skinner, 1984b, pp. 477-481).
The Validity of Behaviorism

Criticisms of the Behaviorist Theory

Contradictions with the ideas of Darwin's natural selection. Whereas Darwin's theory has been widely accepted by most scientists, behaviorism is constantly coming under fire from critics. Indeed, this is why Skinner chooses to align his theory with Darwin's, to give credibility to his own. However, as B. Dahlbom (1984) points out, some ideas in Darwinism contradict Skinner's operant conditioning. Darwin believes humans are constantly improving themselves to gain better self-control. Yet, "to increase self-control means to increase liberty" or free-will, something Skinner's very theory denies exists (Dahlbom, 1984, p. 486). Thus, the very base on which Skinner has formed his theory is a direct contradiction of Darwin's ideas (Dahlbom, 1984, pp. 484-486).

At the same time, as W. Wyrwicka (1984) shows, Skinner compares the positive reinforcement drive inherent in operant conditioning with Darwin's proposal of the natural selection drive inherent in nature. According to Wyrwicka, the natural selection drive is dependent on what is necessary for the survival of the species, and "the consequences of operant behavior are not so much survival as sensory gratification" (Wyrwicka, 1984, p. 502). Given that what is most pleasurable to the senses is not always what is best for the survival of one's genes, often these two drives contradict each other. For example, smoking crack and participating in dangerous sports are two popular activities despite the hazards they pose to one's life. Obviously, Darwinism is more accepted than operant conditioning. By contradicting Darwin's ideas, Skinner's operant conditioning theory loses much of the support Skinner hoped to gain with his parallels (Wyrwicka, 1984, pp. 501-502).

Failure to show adequate generalizability in human behavior. Although many experiments have been done showing evidence of both Pavlovian conditioning and operant conditioning, all of these experiments have been based on animals and their behavior. K. Boulding (1984) questions Skinner's application of principles of animal behavior to the much more complex human behavior. In using animals as substitutes for humans in the exploration of human behavior, Skinner is making the big assumption that general laws relating to the behavior of animals can be
applied to describe the complex relations in the human world. If this assumption proves false, then the entire foundation upon which behaviorism rests will come crashing down. More experiments with human participants must be done to prove the validity of this theory (Boulding, 1984 pp. 483-484).

**Inability to explain the development of human language.** Although Skinner's ideas on operant conditioning are able to explain phobias and neurosis, they are sadly lacking in applicability to the more complex human behaviors of language and memory. The theory's inability to explain the language phenomenon has in fact drawn a large number of critics to dismiss the theory. Although Skinner has responded to the criticism, his arguments remain weak and relatively unproven. Whereas public objective stimuli act as operational stimuli for the verbal responses, private stimuli or concepts such as "I'm hungry" are harder to explain. According to Skinner, the acquisition of verbal responses for private stimuli can be explained in four ways. First, he claims that private stimuli and the community do not need a connection. As long as there are some sort of public stimuli that can be associated with the private stimuli, a child can learn. Also, the public can deduce the private stimuli through nonverbal signs, such as groaning and facial expressions. However this association of public and private events can often be misinterpreted. His third theory that certain public and private stimuli are identical gives a very short list of identical stimuli, and his final theory that private stimuli can be generalized to public stimuli with coinciding characteristics gives very inaccurate results (Skinner, 1984a, pp. 511-517).

M. E. P. Seligman offers an interesting alternative to Skinner's weak explanation of language. He explains that although operational and classical conditioning are important, there is a third principle involved in determining the behavior of an organism. This is the genetic preparedness of an organism to associate certain stimuli or reinforcers to responses. An organism brings with it to an experiment certain equipment and tendencies decided by genetics, which cause certain conditioned stimuli and unconditioned stimuli to be more or less associable. Therefore, the organism is more or less prepared by evolution to relate the two stimuli. Seligman classifies these tendencies towards association into three categories: Prepared or easily able to associate two stimuli, unprepared or somewhat difficult to associate two stimuli, and contraprepared or unable to associate two stimuli. The problem with behaviorists, he argues, is that
they have mainly concentrated their experiments on unprepared sets of stimuli such as lights and shock. They provide the small amount of input needed for the unprepared association to take place and then create laws that generalize unprepared behavior to all types behavior. Thus, although the behaviorist laws may hold true for the unprepared sets of stimuli tested in labs, they have trouble explaining behaviors that are prepared (Seligman, 1970, pp. 406-408).

In order to prove his theory, Seligman gives an example of an experiment conducted by Rozin and Garcia (1971) in which rats were fed saccharine tasting water while bright light flashed and noise sounded. At the same time, the rats were treated with X-ray radiation to cause nausea and illness. When the rats became ill a few hours later, they acquired an aversion to saccharine tasting water but not to light or noise. According to Seligman (1970), evolution had prepared the rats to associate taste with illness, but had contraprepared the association between noise/light and illness (pp. 411-412).

When Seligman's theory of preparedness is applied to the language problem, it gives a plausible solution. Language is simply composed of well-prepared stimuli that are easily able to create relationships between verbal words and ideas or objects. In fact, they are so easy that often there is extremely little input needed for the associations to be made. But if this theory is taken as the truth, which it cannot be without further research, then this implies that there is a genetic factor that along with the environment creates personality. This rejects the comprehensive behaviorism theory so espoused by Skinner and his collaborators (Seligman, 1970, pp. 416-417).

Applications of a Valid Behaviorist Theory

The evidence shown, particularly that of language, points to the failure of behaviorism as a comprehensive theory. However, there is nothing that denies behaviorism is valid when limited to certain areas of psychology. Given that numerous experiments have shown there is merit in the behaviorist theory, certain ideas of this theory can be used in the treatment of disorders.

With the ideas of behaviorism, vast improvements can be made in the treatment of neurosis and phobias. Rather than focusing on the root of the
problem like a traditional psychopathologist, a behaviorist could focus on eliminating the symptom by bringing classical and operant conditioning into play. By reinforcing the extinction of the symptom, the psychopathological illness of the patient could be eliminated (Schwartz & Lacy, 1982, pp. 194-196).

Vast improvements could also be made in the areas of treating alcoholism and nicotine addiction. Using Pavlovian principles, addiction occurs because of both the pleasurable physiological effects of nicotine and alcohol, unconditioned stimuli, and the taste of nicotine and alcohol, conditioned stimuli. When one stops ingesting the substance, as in traditional treatment procedures, it is extremely easy to become addicted again. After all, "simply not presenting a conditioned stimulus does not eliminate the relation between it and the unconditioned stimuli" (Schwartz & Lacy, 1982, p. 197). With just one use, the taste and unconditioned pleasurable effects become associated with each other again. However, if the taste of nicotine or alcohol, the conditioned response, is paired with a new unpleasant effect such as nausea and vomiting, the result will be a negative aversion to the substances in question. Such was the case when both an old alcoholic man and a young chain smoking adolescent were given apomorphine paired with alcohol and nicotine, respectively. The drug apomorphine induced severe feelings of nausea and vomiting which caused both of them to give up these addictive substances for life. This process is called counterconditioning and has had remarkable success in curing addictions (Schwartz & Lacy, 1982, pp. 196-200).

**Conclusion: On the Theory of Behaviorism**

The criticisms posed by this paper have long plagued the theory of behaviorism and prevented it from being truly acceptable by most scientists. In fact, today there are very few scientists who believe that the behaviorist theory is as comprehensive as it was once thought to be. In spite of the holes in the theory, there can be no doubt as to the usefulness of the research done in the field of behaviorism. One cannot totally dismiss the effect the environment has on behavior nor the role it plays in developing personality as shown through this research. Indeed, when the theory of behaviorism is applied to combat certain disorders, the results have shown it to be remarkably effective. Therefore, although comprehensive behaviorism must be abandoned, its ideas cannot be
Peer Commentary

Behaviorism: More Than a Failure to Follow in Darwin's Footsteps

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In "Behaviorism as a Theory of Personality: A Critical Look," Naik raises many valid arguments against the merits of behavioral theory as a theory of personality. On the whole, I am in agreement with Naik's rejection of behaviorism as a comprehensive theory. Like Naik, I believe that behaviorism's rejection of mental processes invalidate its ability to adequately explain human behavior and personality. By touching upon the problems behaviorism has in explaining language and memory, Naik makes a good argument against behaviorism's ability to account for the complexities of human behavior. I also agree wholeheartedly with Naik's proposal concerning the inadequacy of animal experiments' application to human behavior. I too feel that human behavior is too complex to be explained solely through animal models. Naik's criticism citing the Seligman (1970) article is valid in that behaviorism has largely tried to apply unprepared stimuli experiments to behavior in general. Naik also makes a good argument for the use of behavioral techniques in curing addiction.

Although I reiterate that I am in agreement with Naik's general argument, I believe some of the article's arguments could be stronger. Using Skinner's desire to align himself with Darwin may not be invalid; however, just because Skinner fails to gain acceptance in Darwinesque fashion does not immediately render his theory invalid. Surely, Skinner probably hoped to gain the acceptance Darwin's theory has enjoyed in the scientific community. But even though his theory has not gained such widespread acceptance, I do not believe that Skinner tried to ride Darwin's proverbial coattails. Instead, Skinner's comparison to Darwin's theory should be seen more as illustrative rather than as a basis for proving the theory's worth. Skinner tries to pick up where Darwin left off; I do not think Skinner
relied as heavily on the acceptance of Darwinian theory as Naik suggests.

I also take exception to the argument Naik makes using the Wyrwicka (1984) article for support. Positive reinforcement is not solely concerned with sensory gratification. Positive reinforcement can play an important role in social relationships, and given that humans are social beings, successful relationships can be very important.

Finally, I have trouble accepting behaviorism's effectiveness as a treatment for psychopathology. Perhaps if examples had been provided to elucidate this idea I would be more accepting. However, psychopathology by its very name implies the inner workings of the brain, something Naik has asserted that behaviorism denies. Therefore, I fail to see how behavioral techniques could cure psychopathological disorders. Perhaps people with these disorders could be conditioned to act contrary to their problems, but I do not believe conditioning would eliminate the roots of those problems.

I believe that Naik has made a cogent argument against behaviorism as a comprehensive theory, with the exceptions I have noted. Rather than focusing on the Darwinian aspect of Skinner's theory, Naik would do well to go into further depth concerning behaviorism's denial of the mind and inability to explain language, where I believe the true roots of behaviorism's failure lie.

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Peer Commentary

Accepting an Invalid Theory and Flaws in the Flaws of Behaviorism

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Naik's assessment of behaviorism, in the broader sense, is both correct and logical. There are definite problems with the theory of behaviorism, with its infamous "black box" (which Naik addresses indirectly in her discussion on the failure of behaviorism to explain the development of language), and the attempts by behaviorists to extrapolate animal behavior
to humans. However, Naik also devotes a lengthy section of her paper to the applications of what she calls a "valid" behaviorist theory. Naik's explanation of the failure of behaviorism to explain the development of human language (not the broader "black box," but specifically the development of language) cites a potentially flawed argument that is easiest to refute by counterexample.

The sections of Naik's paper on the flaws of behaviorism and on the applications of a valid behaviorist theory betray her conclusion. Naik's conclusion is that behaviorism is an invalid theory in personality because of the flaws inherent in behaviorist theory. The correlation between Naik's criticisms of behaviorism and her conclusion is obvious: Behaviorism is not a "great" or valid theory in personality. This is a logical conclusion given the cited flaws in the theory.

The problem in the logic of Naik's paper stems from her description of the applications of behaviorism. According to Naik, these applications validate behaviorism. Naik cites examples of the applications of behaviorism. These are not theoretical uses for behaviorist theory, but applications that are proven effective and are currently in use. Naik claims that although behaviorism fails to meet the criteria of greatness in the broad sense, behaviorism can still be valid in certain situations. Essentially, this is like claiming that behaviorism is not a great theory, except for the times that it is a great theory.

The second major shortcoming in Naik's paper (though no fault of her own) is the citation of a common argument against behaviorism that involves the failure of behaviorism to describe the development of language. This does not refer to the process of an infant learning to talk (as behaviorism is actually a very convenient way of describing this process) but rather the original development of language in the human race.

This argument is basically based on the concept that the very first humans to attempt to develop a language (this was, in all likelihood, not an active attempt, but rather something that just sort of happened) had no previous examples on which to base their actions and speech. In other words, they had no behavior after which to pattern their own. In this argument, however, counterexample can be used to show that, to an extent, this is untrue.
Naik's example of the phrase, "I'm hungry," is very useful for illustrating this phenomenon of the development of language. Imagine, before language had developed, a group of early humans are about to eat. One of these humans makes a noise, then begins to eat. The original noise is of no consequence whatsoever. However, this random action has established a precedent.

According to behaviorism, a repetition of this noise by the other humans before eating would make sense. It is only logical to assume that this noise, after several iterations, would just naturally come to mean, "I'm hungry," or, "Let's eat." Through this behavioristic process, it is not difficult to imagine how language would proceed to develop.

Naik cites the major accepted flaws in behaviorism. If these are relevant, her conclusion that behaviorism is not a valid theory in personality is correct. However, she also needs to look for another possible explanation for what she calls applications of a valid behaviorist theory.

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**Peer Commentary**

**Behaviorism: A More Inclusive Approach**

**Timothy Tasker**

**Northwestern University**

In "Behaviorism as a Theory of Personality: A Critical Look," Naik takes a close look at the field of personality known as behaviorism. This is accomplished in an effective manner with a substantial base of support. However, more importantly, Naik's portrayal of behaviorism lacks some key concepts that I shall discuss later in this review. First, let us start with the strong points this author puts forth.

Contrary to popular belief, behaviorism was not developed by Pavlov, but by Descartes much earlier in France. This factual information concerning the origin of behaviorism has been reflected effectively in the paper by Naik. The ideas put forth are quite solid and one is hard pressed to argue with the evidence cited or the arguments made. I feel that the acceptance of the limitations of behaviorism is of great credit to the author. Naik does
not blindly support behaviorism, but can find the limitations inherent here and finds that parts of this theory are more applicable than ideas contained in this theory.

What I find most convincing is the choice of theorists that have been cited. Naik chose to reflect the vast number of ideas and amount of research contained in the theory of behaviorism by citing a varied group of authors. All of these have their own separate ideas as to what is important to behaviorism, and their contributions to the theory as it stands today are effectively noted. As a result of writing the paper in a chronological sequence, Naik has given us an evolution of behaviorism. The ideas submitted by one researcher are built upon well in the next section by citing the work of another. What we end up with is a structure that, however unstable the materials with which it was built, was built up pragmatically.

The problems that are intrinsic here are more a result of this theory's inability to withstand the criticisms others have put forth. The faults for which I do hold Naik accountable are the lack of inclusive information that has been well documented throughout the development of the theory of behaviorism. There is a blatant neglect of the ideas of generalization, discrimination, extinction, and spontaneous recovery.

The idea of generalization was touched upon in this article, but not paid the full respects that it deserves. Naik noted the famous experiment of baby Albert and his eventual aversion to all furry objects/animals. This can be fully explained by generalization. When an organism is presented with a stimulus that will cause some degree of a response, the response will be found, under certain conditions, to be "generalized" for other similar stimuli. In other words, when baby Albert eventually developed an aversion for all furry objects, specifically a cat, the principle that explains his aversion to the cat is generalization. Although Naik discussed its existence, I believe that it is necessary to name and further evaluate this principle that behaviorists deem so important.

Discrimination is another important factor that I believe has been dealt with in an incorrect manner by this article. Discrimination is essentially the idea that opposes generalization. It can be seen when an organism will respond to a certain stimulus, but fails to produce the same response when presented with a similar stimulus. A good example of this that could have
been suggested is a pet that at first may respond to all noises, then learns to respond only to the human voice, and will then respond solely to the voice of its owner. For humans, discrimination is key for our survival. We need to constantly screen out stimuli and discriminate between like stimuli for us to be effective and survive.

The last factor of this theory that I feel has been unattended to is the principle of extinction. When Naik discusses the varying schedules of reinforcement, she hints at the existence of the extinction principle. Extinction is the idea that organisms will show a rapid decrease in their response to a stimulus if the response is not rewarded or is rewarded less frequently than when introduced. According to this idea an organism will eventually lose or "forget" its response to a conditioned stimulus if the reinforcement is not provided.

The exception to the extinction principle can be seen in spontaneous recovery. When the organism is not presented with the conditioned stimulus for quite some time and then the stimulus is suddenly presented, the organism will generally respond accordingly. In Naik's article this idea is nowhere to be found. I find fault with the article overall for its non-inclusiveness.

Author Response

Concepts Need Clarification, Not Renovation

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I would like to thank the peer commentators for their valuable suggestions and critiques. A perfect paper is an extremely rare thing, and if anything, the words of my reviewers have shown me that my paper has plenty of flaws. Yet, at the same time, I feel that these flaws are not due to problems with the content or ideology of my paper but rather a lack of clarification or explanation of my ideas. Thus, taking into account the suggestions of my peers, I will attempt to clarify what my paper is saying.

In her commentary, Eischens explains Skinner's comparison of Darwin's
natural selection and his own selection by consequences as illustrative and not a fundamental part of his theory. Yet, by mentioning his comparison in my paper, I was not attempting to show this comparison to be a fundamental part of the theory, but rather to point out that there are contradictions between the two theories. These contradictions hinder the acceptability of behaviorism because Darwinism has already been accepted as fact and any contradictions are therefore false. By bringing Darwinism and behaviorism together, Skinner is simply making the contradiction obvious.

Also, Eischens states that psychopathology "by its very name implies the inner workings of the brain" and thus cannot be treated with a behaviorist approach. This is a very good point and I must confess that as it stands in my paper, it is a major flaw. Instead of claiming behaviorism can treat psychopathological problems, I should assert that behaviorism can treat symptoms that have been associated with psychopathological problems in the past. After all, behaviorists only want to eliminate the problem and do not care about discovering the source.

On the other hand, Popkins seems to argue in favor of behaviorism and its uses. He states that by showing the success in the application of behaviorism, I am proving the validity of behaviorism. Yet, although I agree that these applications prove that behaviorism is sometimes valid in our present world, a comprehensive behavioristic theory has not been validated. In effect, I am saying that comprehensive behaviorism is not a great theory because it fails to answer some key concepts. One of these concepts is language. Popkins also feels that behaviorism can account for the development of language. I am not saying that it does not account for the development of language but rather that it does not account for the easy conditioning of language. However, if behaviorism is combined with a theory on genetic preparedness, these key concepts are answered and the applications still hold true.

Tasker focuses on the lack of an explanation of certain concepts included in the theory of behaviorism. These include generalization, discrimination, extinction, and spontaneous recovery. I can only say that I did in fact include generalization, discrimination, and extinction. Although I agree that I make these explanations brief, these concepts are not essential to my argument. Thus, the compact ideas have no real consequence on the paper. If I included the full explanations for them, I would just be adding
unnecessary details, and the majority of the paper would be devoted to the explanation of the theory and not the criticism.

Once again, I would like to reiterate that the suggestions of the peer commentators are greatly appreciated. Their criticisms have pinpointed some of the weaknesses in my paper. However, whereas they have stated that these flaws stem from the content of the paper, I believe that the problem is in lack of clarification and proper communication of my ideas. Nevertheless, I still stand by the validity of my paper and the concepts and criticism it contains.

References


