RESEARCH STARTERS
ACADEMIC TOPIC OVERVIEWS

Social Learning Theory

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Abstract

Most often associated with the work of Albert Bandura, social learning theory incorporates principles of both behaviorism and cognitive theories of learning. In its simplest form, social learning theory explains how people learn by observing the behavior of others. Bandura suggests that this process has four component parts - attention, retention, motor reproduction and motivation. Environmental and cognitive factors can influence the process as well. The theory has many practical applications for understanding behavior in the classroom, and in society more generally. However, despite its far-reaching impact, social learning theory is not without its critics.

Overview

Social learning theory is often characterized as a stepping stone between two diametrically opposed theories of learning (Ormrod, 1990). By defining human learning as a function of both the environment and mental processes, social learning theory blended behaviorism – the dominant theory of learning in the 1950s and 1960s – and cognitive theories of learning, which gained prominence in the 1970s and have remained popular today. Although many individuals contributed to the development of social learning theory, Albert Bandura – a Stanford professor whose career has spanned more than 60 years – is most often recognized as its creator. The following summary will outline Bandura's work, showing that what began as a blending of behaviorism and cognition, has shifted more heavily toward the latter, following the lead of larger trends in psychology and education (Ormrod, 1990).

History

Bandura's shift toward a more cognitive orientation, however, began very late in his career. When he first started as a professor at Stanford in 1953, behaviorism was in its heyday. In many ways, then, social learning theory developed in reaction to behaviorism – or to what Bandura perceived as its limitations in explaining human learning. Bandura observed, for example, that human learning occurred much more rapidly than behaviorists had proposed. Whereas behaviorists suggested that learning occurs gradually – through trial and error and with the aid of reinforcement– Bandura believed learning could take place all at once, without any practice or reinforcement whatsoever, simply by observing other people (Crain, 2000). Bandura also wanted to leave room for individual agency, and found behaviorists' emphasis on the role of the environment limiting (Bandura,

1977). Emphasizing certain factors – like the environment – to the exclusion of others – like cognition, led to what he called "a truncated image of the human potential" (Bandura, 1977, p. vi).

Operant Conditioning

More specifically, Bandura didn't believe observational learning – that is, learning that occurs by observing a model exhibit a particular behavior, and then imitating that behavior oneself – could be explained by operant conditioning, the mechanism behaviorists suggest explains most changes in behavior. According to the operant conditioning paradigm, voluntary behaviors exhibited by either an animal or a human are modified by the consequences that follow; reinforcement increases the frequency of a behavior, whereas punishment decreases the frequency. The voluntary behavior, or response, typically occurs in the presence of a discriminative stimulus, and the consequence, either reinforcement or punishment – immediately follows. According to behaviorists, observational learning fits neatly into this paradigm (Mazur, 1994); the behavior to be imitated (the model) serves as the discriminative stimulus, and the imitation of the behavior is the response itself. Whereas a rat might learn to press a lever in the presence of a red light, and is then rewarded with food, for example, a young boy might imitate the behavior of his father, when in his father's presence, and receive a reward, such as verbal praise.

Examples of operant conditioning in the classroom, write Lineros and Hinojosa (2012), might include the instructor's granting a higher grade for quality writing and a lower one for the inverse. Or, the authors write, the instructor's "consistently smiling [at] and asking easier questions of the left side of a classroom. As the left side contributes to class discussion, the positive instructor reinforcement tends to push students towards that side" (Lineros & Hinojosa, 2012).

Lineros and Hinojosa add that instructors can also inadvertently create these behaviors through subconscious positive and negative reinforcement. "This can insidiously harm diversity as instructors unknowingly reward through positive body language or speech tone those who mirror their espoused beliefs," they write (2012).

Why did Bandura feel operant conditioning was an insufficient theory for explaining observational learning? Why did he feel it was an adequate model for explaining some types of behavior, and not others? Bandura's criticisms were threefold (Ormrod, 1990). Because operant conditioning suggests a behavior must be emitted first, and then shaped by the subsequent reinforcement or punishment, Bandura wondered how it could explain behaviors that are emitted correctly the first time. As Ormrod (1990) writes, "The learning of an entirely novel response – responses that an individual has seen but never previously emitted in any form – is difficult to explain from a Skinnerian perspective" (p. 164). Secondly, according to behaviorists, the discriminative stimulus, response, and reinforcement occur immediately after one another; Bandura pointed out, however, that imitation of behavior and subsequent reinforcement is often delayed. Such delayed imitation suggests that learning occurs at the time the discriminative stimulus – in this case, at the time the individual observes the model –and importantly, occurs even in absence of reinforcement. Thus, unlike behaviorists, Bandura didn't believe reinforcement was a necessary component of learning. He also demonstrated that learning and behavior are distinct from one another. Finally, Bandura pointed out that people often imitate behavior for which they are never reinforced; simply watching other people reinforced for their behaviors is often enough incentive for an individual to exhibit the behavior herself. Again, operant conditioning falls short in explaining this phenomenon, too.

Principles of Social Learning Theory

Given the limitations of behaviorism, and operant conditioning more specifically, Bandura's theory of social learning – which he first called a theory of observational learning - began to take shape. Before delving into the specific mechanisms through which people learn by observing others, the key elements of social learning theory – as discussed by Ormrod (1990) – are outlined below.

- People can learn by observing the behavior of others, as well as from the consequences of those behaviors.
- Learning and performance are not necessarily the same thing; people can learn behaviors at the time they observe them, but not perform them until a later time, or not at all.
- Reinforcement plays a role in learning, although is not a necessary component of the learning process.
- Cognitive processes play a role in learning. As Crain (2000) elaborates, "When new behavior is acquired through observation alone, the learning appears to be cognitive. Thus, Bandura, unlike Skinner, believes that learning theory must include internal cognitive variables" (p. 194).

Bandura (1977) identifies four components to observational learning:

- Attention
- Retention
- Motor reproduction
- Motivation / Reinforcement

Bandura writes, "people cannot learn much by observation unless they attend to, and perceive accurately, the significant features of the modeled behavior" (p. 24). Secondly, the observer must remember what was observed. Thus, the behavior observed must be retained, and this occurs, Bandura argues, by using two different symbolic systems – by representing the behavior in image form, as a visual picture, or by representing it in verbal form, as

a series of instructions. If a child is learning how to play tennis, for example, she may retain an image of her instructor demonstrating the proper forehand technique, and she might also retain a series of instructions, such as "I step forward with my left foot, turning my body perpendicular to…" Next, as the previous example suggests, one must be able to replicate the behavior. In other words, the individual must have the motor reproduction skills to enact the behavior she observed. If the tennis student doesn't have the strength to swing a racquet, she might not be able to reproduce the behavior. The final component of observational learning is motivation; people do not imitate all the behavior they learn but rather must be motivated to do so. Two points deserve emphasis; again, the distinction between learning and performance – people don't perform all behaviors they have learned, only those they are motivated to perform. And secondly, expectation of reward can be as motivating as the reward itself. Bandura (1977) writes, "Reinforcement does play a role in observational learning, but mainly as an antecedent rather than a consequent influence. Anticipation of reinforcement is one of several factors that can influence what is observed and what goes unnoticed" (p. 37). It also influences what is performed, and what is not.

Models

Why do some people pay attention to certain models and not others? Why do people imitate the same behavior differently? These are the questions Bandura (1977) attempted to answer in identifying some of the variables that influence the modeling process. Characteristics of the model, for example, determine to some extent whether or not they will be imitated (Ormrod, 1990). Models who are more similar to the person observing the behavior are more likely to be imitated, thus girls tend to imitate others of their same gender, and boys, vice versa. Models who are competent--perceived to have power and prestige--are also more likely to be imitated. Movie stars and athletes, as a result, often find their behavior and appearance imitated. Finally, when the model's behavior is relevant to the observer, the model is more likely to be imitated (Ormrod, 1990). Characteristics of the observer can also influence the process; younger children tend to imitate others more often, as do those who are more uncertain of their own behavior (Mazur, 1994).

The characteristics of models and learners certainly affect the modeling process, but the consequences to both the model and learner play an equally important role. As the following discussion suggests, reinforcement is both an environmental and cognitive variable. Consider the following ways in which the environment reinforces modeling. An observer might be reinforced directly by the model she is imitating, as when the tennis instructor praises the student for demonstrating proper technique in swinging a forehand. Alternatively, an observer might be reinforced by a third party. The girls' teammates, for example, might reward her improved skills by asking her to play with them more often. The modeled behavior itself might be rewarding; if the young student gets more tennis balls across the net, and wins more points, for example, she will continue to model the behavior of her instructor. And finally, the instructor might be rewarded, which could be reinforcing for the observer as well. As Ormrod (1990) explains, "if a model is reinforced for a response, chances are greater that the observer will also show an increase in that response, a phenomenon known as vicarious reinforcement" (p. 162).

To some degree, vicarious reinforcement is effective because people's behavior is influenced by expectations. If an individual observes a model being rewarded for a certain behavior, they could reasonably expect to be rewarded for similar behavior. Expectation is a cognitive process, and as described earlier, illustrates the major difference between operant conditioning and Bandura's theory. "In operant conditioning, reinforcement influences the learning of the behavior it follows. In social learning, on the other hand, an expectation of reinforcement influences the learning of a behavior it precedes" (p. 167). Similarly, people must first be aware of response-reinforcement contingencies in order for them to influence future behavior (Ormrod, 1990); awareness, like expectations, is a cognitive function. Finally, Bandura has placed increasing emphasis on the role of self-regulation of behavior. As people learn which behaviors are appropriate and which are not – through both direct and vicarious reinforcement and punishment – they begin to develop and internalize standards of their own. By developing such standards, individuals become self-reinforcing, and rely less on external rewards and punishments. As Bandura (1977) writes, "the development of self-reactive functions thus gives humans a capacity for self-direction" (p. 142).

Reciprocal Determinism

Before turning to the many ways in which social learning theory has been applied in the classroom, and toward understanding human development more generally, it is apropos to conclude with Bandura's notion of reciprocal determinism. Bandura introduced the notion of reciprocal determinism to represent the interaction of environment, person, and behavior. Importantly, Bandura conceptualized these interactions as two-way interactions. Thus, the environment might influence a person's behavior, for example, but behavior can also change the environment. Modeling itself – an environmental factor – influences both the person (e.g. her expectations) and her behavior (e.g. what she chooses to perform). In sum, each factor is capable of influencing the other two factors, as well as being influenced by them in return. Through the notion of reciprocal determinism, Bandura was able to meld together both behaviorist and cognitive principles.

Applications

As Crain (2000) explains, "On a broader level, one of Bandura's primary, if sometimes implicit, concerns has been the socialization process – the process by which societies induce their members to behave in socially acceptable ways" (p. 197). Similarly, Bandura was equally as interested in personality

development as he was the learning process (Mazur, 1994). He wanted to know why some people become aggressive, others peaceful, for example. Or why some were introverted, others more outgoing. According to Bandura, personality differences could be explained by learning experiences as well as heredity. As a result, the applications of his theory are far-reaching, and while relevant to learning that takes place in the classroom, they extend far beyond these boundaries.

Aggression

What became known as the "bobo doll study" (Bandura, 1965) is arguably one of the most famous studies conducted under the guise of social learning theory. Through it, Bandura demonstrated that aggression could be learned by observing aggressive behavior in others (as cited in Mazur, 1994). This study also underscored the distinction between acquisition and performance of new behaviors. In this experiment, children watched a short film of an adult acting aggressively – punching, kicking, shouting, etc. – toward a large, inflatable rubber doll. The children were then assigned to three groups – the first group saw the model rewarded for his aggressive behavior, the second group saw the model punished, and the third group saw the model receive no consequences. When the children were then given an opportunity to play with a similar doll, the children who saw the model rewarded or the model who received no consequences, exhibited the most aggressive behavior, while the children who saw the model punished exhibited the least. That the latter group showed the least aggressive behavior demonstrated the principle of vicarious punishment. In a second phase of the study, the same children were told they would be rewarded if they exhibited the behavior of the model; all the children were able to imitate the aggressive behavior, suggesting that all had originally learned the behavior, but not all had demonstrated it (depending on which type of consequence they observed).

As a result of the "Bobo doll study" and other similar studies, educators and parents became concerned about the influence of television and media. If children learned aggression by observing it in others firsthand, could they also learn it by watching TV characters, cartoon or otherwise? Bandura, Ross, and Ross (1963) believed the answer was 'yes' (as cited in Ormrod, 1990, p. 177). They demonstrated that children who observed aggressive behavior by an adult or a cartoon character in a film exhibited just as much aggression as those who had witnessed the live model. As Ormrod (1990) concludes, "even cartoons that display violent behaviors, including such classics as 'Tom and Jerry' and 'Roadrunner,' may not be as harmless as they appear" (p. 177). Others have criticized such conclusions, however, arguing that such studies show correlation between aggression and watching violent TV, but do not prove causation (Mazur, 1994).

Achievement Motivation

Just as modeling can sometimes result in negative behaviors, modeling can also be used to help children develop positive ones. Bandura and Kupers (1964) conducted an experiment to determine if modeling could help explain self-discipline and achievement motivation (as cited in Mazur, 1994, p. 297). In the first phase of the experiment, children observed adults playing a bowling game. Some children observed adults reward themselves after scoring 20 points, while some observed adults rewarding themselves after scoring just 10 points. When they were then given an opportunity to play the game themselves, the children selected the same criteria for rewarding themselves as they had observed in the adults. As Mazur (1994) concludes, "this study showed that children can learn to apply either strict or lenient standards of self-discipline by observing a model" (p. 297).

Pro-Social Behavior

In a similar vein, others have conducted experiments to determine if modeling can help children develop pro-social behaviors, such as sharing, helping, cooperation, and altruism. Crain (2000) describes one such experiment conducted by Rushton (1975) in which children observed an adult donate some of his winnings to a charity after playing a bowling game. Children who witnessed the altruistic model – compared to a control group who did not see the model – donated their winnings to charity to a far greater extent when given an opportunity to play the same game. Importantly, when observed 2 months later, those who had observed the generous behavior were still more generous themselves. As Crain (2000) concludes, "Evidently, even a relatively brief exposure to a generous model exerts a fairly permanent effect on children's sharing" (p. 200). Crain (2000) reviews studies that suggest pro-social behavior is learned best by observation, rather than by command. Children who are told to 'share,' for example, are much more influenced by what the adult actually does than what the model says to do. In other words, 'practicing what you preach' will help children learn.

Moral Development

Bandura believed that people's judgments about good and bad are largely learned by observing other people (Mazur, 1994). In order to prove his hypothesis, he replicated a moral reasoning task first developed by Piaget. Children were told a series of stories, in some of which the protagonist had good intentions but caused a great deal of damage, and in some of which the protagonist had poor intentions, but caused little damage. In one such story, for example, a young boy accidentally broke several cups as he entered the kitchen in response to his mother's call; his intentions were good – he obeyed his mother – but the amount of damage was large. By contrast, another young boy broke just one cup, but did so while climbing on the counter to reach the cookie jar when his mom looked the other way. Typically, children judge whether or not an act is 'bad' by the consequences, not the intention. Bandura, however, was able to show that after observing an adult model make the opposite judgment (regardless of the direction of the child's initial judgment), children's own judgments easily shifted. Such changes were maintained over time, and applied in new situations. Bandura concluded that moral reasoning was learned through observation, and was not the result of maturational development that occurred in fixed stages, as Piaget had suggested (Crain, 2000, p. 207).

Elimination of Phobias

Just as modeling can be used to encourage positive behaviors, it can also be used to eliminate unwanted behaviors. As a result, modeling has had a significant impact in the field of behavior therapy. Bandura, Grusec and Menlove (1967) demonstrated, for example, that children's fear of dogs could be eliminated by observing other children interacting positively with dogs, regardless of whether the model was rewarded for such behavior or not (as cited in Mazur, 1994, p. 306). Others have used modeling to counteract hyperactivity in children in the classroom environment. By modeling self-instructive behavior, teachers were able to eliminate the careless performance caused by a student's lack of attention and erratic behavior (Mazur, 1994).

Viewpoints

The Behaviorist Response

Bandura's social learning theory generated a significant amount of healthy academic debate among psychologists and educators. When he first proposed his theory, not everyone agreed with its principles and some even argued it was an unnecessary addition to learning theory. Behaviorists, for example, insist that observational learning can be explained by operant conditioning – or what they refer to in the case of modeling as generalized operant conditioning. Novel responses, they argue, are nothing more than variations of previously emitted responses that were reinforced in the past. That is, reinforcement can generalize to an entire of class of responses, strengthening not just a single behavior, but similar behaviors as well. Behaviorists also claim they have recognized the distinction between performance and learning since the Tolman and Honzik (1930) experiment (as cited in Mazur, 1994); some have even "concluded that reinforcement is not essential for learning but it is essential for the performance of learned behaviors" (p. 294).

The Developmentalist Response

In addition to behaviorists, developmental psychologists also took Bandura's ideas to task. As Crain (2000) writes, "among the developmentalists, it has been the Piagetians who have become most embroiled in debates with Bandura" (p. 210). In fact, "Bandura and his colleagues conducted some classic studies that were designed to demonstrate the superiority of their theory [over Piaget's]" (Crain, 2000, p. 206). Their disagreements were twofold. Piagetians believe children learn due to intrinsic interest in novel events; Bandura believes children learn in order to obtain reinforcements, and that intrinsic interest doesn't develop until after children surpass their own achievement standards (Crain, 2000). Furthermore, he argues, if children were motivated to learn in the presence of novel events, they would be learning all the time, which he observes, is not the case. Nevertheless, some believe Bandura's own studies contradict his findings, for children in the Bobo doll experiment displayed what appear to be intrinsically satisfying behaviors, in the absence of rewards (Crain, 2000).

Secondly, Bandura dismisses Piaget's notion that children develop according to fixed and invariant stages. Piaget believed, for example, that children could not learn the concept of conservation until a particular age, due to maturational deficits. Social learning theorists have attempted to show, however, that cognitive skills can be learned through modeling. Rosenthal and Zimmerman (1972, 1978) demonstrated that four- and five-year-old children who observed an adult perform the conservation task correctly improved their own performance. These children were younger than children who typically master this task, and their learning generalized to other types of conservation tasks and across time.

Self-Efficacy

Despite the criticisms, it is perhaps the evolution in Bandura's own thinking that has resulted in significant changes to his theories over time. Increasingly cognitive in focus, Bandura's theories now place less emphasis on the role of modeling and more on what he calls self-efficacy – beliefs and judgments about our abilities (Crain, 2000). Self-efficacy, he believes, has a significant impact on motivation, such that an individual will work hard when she believes she is good at a task – such as math – even in the face of obstacles, but will put forth less effort and be more likely to give up when she doubts her abilities. Studies have demonstrated that students who believe they are good at a subject will perform better than those who don't, even when actual ability levels are equal (Collins, 1982, as cited in Crain, 2000, p. 203). Although people might overestimate their abilities, Bandura believes "optimistic self-efficacy is beneficial," especially in life that often presents "disappointments, setbacks, impediments, and inequities" (Crain, 2000, p. 203).

Arslan (2013) found “significant relationships between students’ opinions about sources of self-efficacy related to learning and performance and their gender, academic achievement, socioeconomic status, grade level, and learning style.” He offers these recommendations for educators, among others, based on his study: Mastery experiences and vicarious experiences are effective for boys and girls, so should be used to increase self-efficacy of both; mastery experiences and vicarious experiences are effective for both high and low achievers, so should be used to increase self-efficacy of both; and mastery experience and social persuasion are effective for medium achievers (2013).

Corkett, Hatt, and Benevides (2011) examined the relationship between teacher self-efficacy, student self-efficacy, and student ability. Their findings were that teachers’ perceptions of the students’ self-efficacy was significantly correlated with students’ abilities; however, “student literacy self-efficacy was not correlated with their literacy ability. Additionally, there was no correlation between the teachers’ perception of the students’ literacy self-efficacy and the students’ literacy self-efficacy.” Furthermore, the teachers’ self-efficacy was significantly correlated with their perception of the students’ self-efficacy (Corkett, Hatt, and Benevides, 2011).

Along with his interest in self-efficacy, Bandura has put forth equal effort in studying human agency – our ability to control our personal destinies (Bandura, 2001).

Terms & Concepts

Behaviorism: Social learning theory developed in reaction to behaviorism, or its perceived limitations in explaining human learning. According to behaviorists, learning is the equivalent of a change in behavior, and is determined by factors in the environment. Behaviorists do not recognize unobservable mental processes. Social learning theory incorporated both behaviorists and cognitivist principles.

Cognition Theory: Cognitive theorists believe that what happens inside the mind – the mental processing of information – is an important part of learning. Humans are active learners; what students do with information once they receive it determines how much they learn.

Modeling: Social learning theory explains how individuals learn by observing others, or, more specifically, by modeling the behavior of others. There are four components to the modeling process: attention, retention, motor reproduction, and motivation. Many factors impact the modeling process, including both characteristics of the model and learner.

Operant Conditioning: The mechanism by which learning occurs according to behaviorist principles. In operant condition, an animal or person elicits a response in the presence of a discriminative stimulus. The response is immediately followed by reinforcement. Behaviorists believe operant conditioning can explain learning by observation, whereas Bandura believes such explanations fall short.

Reciprocal Determinism: Reciprocal determinism represents the idea that behavior, person, and environment are all interdependent. The environment might impact behavior, for example, through the presence of reinforcement. A person's behavior might influence her future expectations. Reciprocal determinism helps emphasize the important role both cognitive and environmental variables play in the learning process.

Self-Efficacy: A person's beliefs or judgments about their abilities. Bandura's most recent work has focused on self-efficacy and the notion of individual agency, or the ability to direct one's personal destiny. A person's self-efficacy has been shown to significantly impact motivation and performance.

Self-Regulation: As children learn which behaviors are appropriate and which are not - through both direct and vicarious reinforcement and punishment – they begin to develop and internalize standards of their own. By developing such standards, individuals become self-reinforcing, and rely less on external rewards and punishments.

Vicarious Reinforcement: If a model is reinforced for a particular behavior, there is a greater likelihood the observer will imitate that behavior herself. This phenomenon – known as vicarious reinforcement – demonstrates that watching another person rewarded for a behavior can be as powerful as direct reinforcement – having one's own behavior rewarded. Vicarious reinforcement was first demonstrated in Bandura's classic "Bobo doll" study. The same principles apply to vicarious punishment.

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